Voluntary Remediation Program
Status Report
City of Albuquerque Rail Yards
VRP Site No. 53161007

Prepared for: NMED Ground Water Quality Bureau

Prepared by: Environmental Services Division
Albuquerque Environmental Health Department

July 2019

Table of Contents

Abbreviations

ACZ	ACZ Laboratories Inc.
As	Asbestos
bgs	below ground surface
C&D	Construction and Demolition
CERL	CERL Inc., Environmental Consultants
DRO	Diesel Range Organics
ESD	Environmental Services Division
GIS	Global Information Systems
GRO	Gasoline Range Organics
IEUBK	Integrated Exposure Uptake Biokinetic Model
ICP-AES	inductively coupled plasma – atomic emission spectrometry
ICP-MS	inductively coupled plasma – mass spectrometry
IVBA	in-vitro bioaccessibility analysis
LBP	Lead Based Paint
Mn	manganese
µg/dL	microgram per deciliter
µg/g	microgram per gram
µg/l	microgram per liter
mg/l	milligram per liter
MRO	motor oil range
NMED	New Mexico Environment Department
ppm	part per million
Pb	lead
QAPP	Quality Assurance Project Plan
RBA	in vitro relative bioavailability
SSL	Soil Screening Level
SWB	Solid Waste Bureau
TCLP	Toxicity Characteristic Leaching Procedure
VRP	Voluntary Remediation Program
XRF	X-Ray Fluorescence

1. Introduction

The City of Albuquerque (City) submitted a Rail Yards Voluntary Remediation Program (VRP) application on January 19, 2019. Final eligibility was approved on May 25, the Voluntary Remediation Agreement (VRA) was signed by all parties on June 5, and the final work plan was submitted to the New Mexico Environment Department (NMED) on June 28, 2019. The final work plan's site wide map is presented below as Figure 1.

The VRP application identified in part, asbestos (As) and lead based paint (LBP) as contaminants of concern at the site. The VRP preliminary work plan in section 5.4 identified specific As and LBP assessment plans and presented these in Appendix E. Section 6.0 identified specific buildings to be demolished that required abatement of As and LBP abatement prior to demolition.

The preliminary work plan also included a proposal to remove existing known soil contamination from two areas in the northern section of the Rail Yards; the battery storage and the sand blasting areas. Sections 5.5 and 6.1 of the preliminary work plan describes the contaminated soil characterization and disposal and the proposed remediation activities, respectively.

During the time interval between the Rail Yards VRP application and the signage of the VRA, the City conducted As and LBP abatement as part of the demolition of two buildings and soil remediation in the two known areas to expedite site re-development. This status report provides a description of these two activities with accompanying documentation. This status report also provides the City's Health and Safety Plan for the site (Appendix A).

2. Demolition

The two buildings demolished were the Sheet Metal House and the North Washroom as identified in the preliminary and final work plan in Section 6.0. The City utilized a demolition and abatement contract (Appendix B.1) with Earthtech, who conducted the abatement, sampling, and verification, prior to demolition of these two buildings as described in the specific building As and LBP abatement plans (Appendix B.2 and B.3).

2.1 Sheet Metal House

The Sheet Metal House was demolished in February and March. The As and LBP abatement assessment reports are presented in Appendix E of the preliminary work plan and Appendix B of this report; specifically Parcel 10 (Appendix B.4). This report did not identify any As in this building. The LBP was identified on the standard wood door and the wood entry door. Abatement measures were followed by the contractor according to the abatement plans. The contractor provided a certificate of destruction for the LBP doors (Appendix B.5). The contractor also had the option to re-use any non-LBP wood or landfill the wood in a construction and demolition (C&D) landfill. Prior to the possibility of landfilling the wood, the City was concerned with potential creosote concentrations in the treated wood. The City contacted DC Environmental to collect a composite wood sample and submit for creosote analysis. DC submitted a report (Appendix B.6) that indicated the presence of creosote at a concentration of 876.86 milligrams per kilogram (mg/kg). The City then contacted NMED's Solid Waste Bureau (SWB) which required additional analytical analysis for cresols (aka methylphenols). Analytical results were non-detect for cresols (Appendix B.7) and the SWB provided an email approval for disposal of any wood at a C&D landfill (Appendix B.8).

Upon demolition and removal of all wood from the Sheet Metal House, the contractor informed the City that all wood was re-used and none was disposed at a C&D landfill.

2.2 North Wash Room

The North Wash Room was demolished in March. The Parcel 10 report also contains the As and LBP assessment reports for this building. This report identified window putty containing <1% As in this building. The LBP was identified throughout the building as: white paint from the ceiling, beige paint from window sill, red paint exterior window, and red paint interior floor. Abatement measures were followed by the contractor according to the abatement plans (Appendix B.3). The contractor hired an independent party (CERL) to sample the LBP contaminated material prior to demolition. CERL collected a composite sample of the building and submitted it for toxicity characteristic leachate procedure (TCLP) for lead to determine disposal. The TCLP results showed a concentration of 1.9 milligrams per liter "at a level below the US EPA definition of lead-contaminated hazardous waste". This report is presented in Appendix B.9. Based on these findings, the C&D waste was disposed of at the approved Southwest C&D Landfill. The bills of lading for disposal are presented in Appendix B.10.

3. Soil Excavation

Following the demolition of the two buildings, the City decided to re-configure the front north area of the site by increasing parking and develop a court yard where the buildings were between the Flue and Tender Repair Shop. As a consequence, the City decided to excavate the two known soil contamination areas prior to further site development. During the second week of May the City began soil excavation and by the beginning of July all excavation and appropriate disposal of contaminated soil was complete. Methods as described in Sections 5.5 and 6.1 of the preliminary work plan were followed during the course of the excavation.

The two areas of known soil contamination, battery storage area and sand blasting area were first addressed in 2005 and presented in a Terracon report (Appendix C.1). Lead (Pb) was the primary contaminant identified. Past assessment reports, as described in Section 2.5 and Table 1 of the final work plan, indicate that remediation of Pb contaminated soils would also address other metal soils contamination. Further, past assessment reports did not fully identify the source of the Pb contamination. It was presumed that LBP was associated with the locomotive sand blasting area and storage of Pb acid batteries was associated with the battery storage area. Analytical results from past assessment reports did indicate high levels of Pb in these two areas.

Selective assessment and soil excavation of these two areas was conducted in 2005 and described in the Terracon report on page 12 as:

> "The sand blasting excavation area is generally rectangular in shape and extends an average of 25 feet (east to west) by an average 60 feet (north to south), comprising an approximate total area of 1,500 square feet. The excavation is approximately 2.5 feet in depth, resulting in an initial soil excavation volume of approximately 140 cubic yards. Confirmation soil testing indicates that soils with lead concentrations above commercial/industrial SSLs have been excavated from this location.
>
> The battery storage excavation area is L-shaped and extends approximately 85 feet (east to west) by approximately 85 feet (north to south), comprising an approximate total area of 5,045 square feet. The excavation currently extends to approximately a

depth of 1.5 feet, resulting in an initial soil excavation volume of approximately 280 cubic yards. However, since lead concentrations in portions of this area are still greater than the commercial/industrial SSL, it is estimated that limited addition excavation will be required in four discrete areas within the excavation. The final excavation in these areas will be about 5 feet deep resulting in a total soil excavation volume of approximately 400 cubic yards."

Figure 5 of that report identifies the two areas of concern. Figures B and C of the same report identify soil testing and sampling locations. Tables 1 and 2 identify locations, depths, and results of these testing and sampling locations. Note that soil borings were also installed and samples were taken below the excavation to delineate the depth of Pb contaminated soil. Also note that the stockpiled contaminated soil was not properly disposed of in 2005, and NMED's Brownfields Program provided the funding and oversight to dispose of these soils in an appropriate manor. Even though the City did not own the Rail Yards at that time, the City is appreciative and thankful for NMED's involvement.

The City used the 2005 locations and results as a base-line for the present contaminated soil excavation and disposal. Figure 2 shows the current excavation extent compared to the 2005 excavation, stockpiled locations, and soil measurements and sample locations.

3.1 Soil Excavation Procedures

The City's Environmental Services Division (ESD) was tasked to manage the Pb contaminated soil excavation project. Enviroworks, LLC was contracted to perform the soil excavation and disposal while ESD would perform field measurements, laboratory sample collections, and direct excavation efforts.

ESD utilized an x-ray florescence field (XRF) instrument to measure real time Pb concentrations in soil. ESD followed XRF field measurement procedures as described in NMED's Quality Assurance Project Plan (QAPP) for the Gold King Mine Spill Long-Term Monitoring Plan. That QAPP can be found at https://www.env.nm.gov/wp-ontent/uploads/2016/06/GKM_PXRF_QAPP_FINAL_Rev0.pdf and referenced EPA method 6200 for XRF field portability to determine metal concentrations in soil. ESD summarized measurement specifications for the project and this summary is presented in Appendix C.2. In addition, ESD developed a quick guide for the XRF that provided for instrument blanks,

calibration checks, and duplicate measurements as outlined in EPA method 6200. These quick guide forms were used daily and are presented in Appendix C.3.

ESD's XRF field measurement procedures followed EPA method 6200 and included:

1. Collection of approximately 350 grams of sample following screening through a #10 mesh screen into a Ziploc bag;
2. Documentation of the sample moisture, color, consistency, and texture;
3. Spread sample evenly in bag and analyze with the XRF for a 120 second period; and
4. Record location and result in field book and GIS-Collector.

3.2 Battery Storage Area

On May 13, 2019, ESD and the contractor mobilized to the site and began excavation at the Battery Storage Area. Approximately 1.5 feet of clean fill material placed over the 2005 excavation area was removed and stockpiled separately. Based on the 2005 soil boring data, ESD directed the contractor to excavate to approximately 5 feet below ground surface (bgs) within the northern part and approximately 2.5 feet bgs within the western and southern part of the Battery Storage Area. XRF measurements were taken during the excavation to determine if Pb concentrations were below the residential soil screening level of 400 part per million (ppm). If XRF measurements were above this screening level, further excavation was conducted. If XRF measurements were below this screening level, excavation ceased and soil samples were collected for laboratory analysis. Excavation activities continued in the Battery Storage Area until May 17, 2019. Sixty one XRF measurements were taken in this area and 14 samples were submitted for laboratory analysis. XRF measurements indicated continued Pb contamination towards the north under the handicapped concrete pad parking area and west under the former North Wash Room.

On May 22, test pits were dug with a back hoe and XRF measurements were taken to delineate the western and southern extent of contamination. On May 30, additional excavation along the western side of the Battery Storage Area continued until XRF measurements indicated that concentrations were below the residential soil screening levels.

On May 31, the handicapped parking area was partially excavated following removal of part of the handicapped parking area. XRF equipment was not available and following excavation sidewall and bottom of excavation samples were submitted for laboratory analysis. These

results were report on June 12 that indicated Pb contamination remained in two areas. These results are presented in Appendix C.4. On June 18, the remaining concrete of the handicapped parking area was removed and further excavation of contaminated soil occurred. XRF measurements indicated all contaminated soil had been excavated in this area. Analytical results of sidewall and bottom of the excavation samples were below soil screening levels and are presented in Appendix C.5.

Figure 3 provides the final excavation area and shows all sidewall and bottom of excavation XRF measurements and analytical results. All other analytical results from samples taken at the Battery Storage Area are presented in Appendix C.6. Please note that the laboratory report stated: "low recoveries for several elements which are marked with an "S" flag. The low recoveries are likely due to a heterogeneous sample matrix." Specifically the matrix spike and the matrix spike duplicate had negative % recoveries attributed to the heterogeneity of the soil sample used (SS-01) and all results from that series of samples are still considered valid.

Table 1 presents all site wide XRF measurements and analytical results. Laboratory analysis results included all RCRA 8 metals. Table 2 provides all site wide XRF bottom of excavation and sidewall measurements. Table 3 provides all site wide analytical results for Pb. Please note that XRF 14 analytical result of 500 ppm Pb may not be representative of the bottom of the excavation since two different samples were collected but labelled the same and one was erroneously submitted for analysis.

3.3 Sand Blasting Area

On May 20, 2019 excavation began in the Sand Blasting Area. Based on the 2005 soil boring data, ESD directed the contractor to excavate to approximately 2-3 feet bgs within the southern area of the 2005 excavated area. XRF results were all below the residential screening levels until reaching the chain link fence. Excavation continued south of the fence line on May 31 and June 19 for approximately 40 feet to a depth of 2-3 feet bgs based on XRF results. Figure 4 provides the final excavation area and shows all sidewall and bottom of excavation XRF and analytical results. XRF measurements and analytical results were below the soil screening levels for Pb and all RCRA 8 metals. Analytical results are presented in Appendix C.7

Test pits were excavated between the Sand Blasting Area and the Battery Storage Area within the parking area and XRF soil measurements (79 through 90) were taken to delineate any further Pb contaminated soil. Figure 5 provides the test pit locations and shows all sidewall and bottom of excavation XRF measurements. Results ranged from non-detect to 501 ppm Pb.

In Appendix B.4, Parcel 10 final report soil boring SB-25 was installed in 2016 to a depth of 3 feet bgs. A composite sample from 0-3 feet bgs was collected and analyzed for metals (See Table 2 of the report) that showed a Pb concentration of 3,900 ppm. On May 20, 2019 during excavation of the Sand Blasting Area, the back hoe was mobilized to the SB-25 location and a radius of approximately 10 feet and a depth of 2-3 feet was excavated. An XRF measurement (XRF 73) was taken of the exposed and excavated soil with results of 164 ppm Pb. Based on that measurement, the radius of excavation, and the results indicating low concentrations of Pb, no further delineation and excavation occurred.

Field notes for the site are presented in appendix C.8. Photographs of the soil excavation are presented in Appendix F.

4. Bioavailability Tests

NMED's Soil Screening Guidance for Human Health Risk Assessments Section 2.3.3 shows a Pb residential level of 400 ppm and 800 ppm industrial and commercial, respectively. This same section allows for the blood-lead modeling with the Integrated Exposure Uptake Biokinetic Model (IEUBK). Specifically,

> "If the screening levels for lead are exceeded, it is recommended that site-specific bioavailability of lead using the US EPA's in-vitro bioaccessibility assay for lead be used to refine the screening levels. Note that if site-specific screening levels are defined, the exposure to a typical/hypothetical child resident must not have an estimated risk exceeding 5%, or a resulting blood lead level of more than 10 µg/dL (US EPA 2016h)."

Based on this, ESD collected soil samples from Pb contaminated soil and submitted them to ACZ Laboratories for Pb in-vitro bioaccessibility analysis (IVBA). Please note that these

samples were taken from soil contaminated areas that were subsequently excavated and samples were intentionally taken to represent worse case scenarios. ACZ describes this analysis as, "IVBA analysis measures the potential hazard from ingestion of metals in soil, dust or other solid waste material." Results are provided as Lead (IVBA) in mg/l, Lead IVBA% (in vitro relative bioavailability [RBA]), Lead RBA (in vivo) %, and total Pb concentrations.

Both the Pb IVBA and total Pb results are per EPA method M6020B inductively coupled plasma – mass spectrometry (ICP-MS). Of note, the Pb concentrations from bottom and sidewall excavation samples submitted to the local laboratory for Pb analysis use EPA method 6010B ICP-atomic emission spectrometry (ICP-AES). Even though these two methods are acceptable Pb analysis methods, the results are not fully comparable and ICP-MS results may be higher than the ICP-AES.

The Lead RBA (in vivo) method analysis is "used to estimate the RBA of lead in a particular test material compared to lead in a reference material (lead acetate) is based on the principle that equal absorbed doses of lead will produce equal increases in lead concentration in the tissues of exposed animals (EPA 2007)." The Pb RBA (in vivo) analysis, expressed as percent, is an equal absorbed dose and is the value used in the IEUBK model to estimate the blood Pb levels in children.

EPA's User Guide for the IEUBK model for lead in children (EPA 2007) estimates blood Pb levels in children exposed to Pb contaminated media. "The model is a four-step process that mathematically and statistically links environmental lead exposure to blood lead concentrations for a population of children (0-84 months of age)." Multiple values are taken into account in this model and most are default values. Site specific values were used for soil Pb concentrations using EPA method M6020b, Pb RBA (in vivo) %, and Pb water concentrations of 1 ppm. The water Pb concentration is derived from the Albuquerque Bernalillo County Water Utility Authority annual report (WUA 2019).

The seven soil samples collected throughout the site and submitted for IVBA analysis are presented in the following table that provides the sample name, location, Pb concentration, XRF measurement, IVBA results and IEUBK modeled blood level. The laboratory results are presented in Appendix D.1. IEUBK model results per sample are presented in Appendix

D.2. Section 2.2.4.2 of the IEUBK model user guidelines describes Pb in dust. This section allows for site specific dust measurements. Site specific XRF Pb measurements were taken of composite road dust and stockpiled contaminated soil during site excavation activities. Some of the stockpiled soil was a result of trenching conducted for the installation of a storm drain line and XRF measurements were taken of these different stockpiles. The measurements ranged from 55 to 348 (see field notes in Appendix C.8) ppm Pb and are indicative of site dust measurements. The IEUBK user guidelines allow three options for Pb in dust. One is use of "an alternate site-specific constant value in place of the default value (200 µg/g)." Given the site specific XRF Pb measurements, this value was used to calculate blood Pb levels in children for all bioavailability samples.

The model results presents blood Pb levels in children with ages ranging from half a year old to 7 years old. Typically the child's age with the highest modeled blood Pb level from the samples taken is 1-2 years old. This maximum blood Pb value is presented in the table below. As stated above, any modeled blood Pb level above 10 µg/dL surpasses the screening levels.

Sample Name	Sample Location	Pb (ppm)	Pb XRF Measurement (ppm)	Pb RBA (%)	IEUBK Max Blood Lead (µg/dL)
SS 78	Test pit S and E of Sand Blasting Excavation	979	1,387	61.0	12.7
SS 92	Test pit E of Sand Blasting Excavation	500	571	61.0	8.3
SS 50	Sidewall S end of handicapped parking	4400	1,292	72.0	34.6
SS 82	Test pit central area of parking lot	422	410	57.0	7.1
SS 104	Test Pit SW of Battery Storage Area	721	605	61.0	10.4
SS 96	Sidewall western excavation Battery Storage Area	1660	913	57.0	11.7
SS 58	east sidewall, 4ft from NE corner of Flue Shop	745	558	62.0	10.8

IEUBK Table

Per Section 2.3.3 of NMED's Soil Screening Guidance for Human Health Risk Assessments, refinement of the site specific screening levels for Pb were modeled to achieve the resulting blood Pb level of less than or equal to 10 µg/dL. Using the mean IVBA Pb RBA (in vivo) % of 61.57% from bioavailability site specific samples, a water concentration of 1 ppm Pb, and soil dust value of 200 ppm Pb, model results show (Appendix D.3) that a soil concentration of 650 ppm Pb would result in a site specific blood Pb value for children 1-2 years old of 9.8 µg/dL.

5. Additional Soil Excavation Documentation

During soil excavation activities ESD utilized a drone survey to document site activities and estimate soil stockpiles. An interactive site conceptual model developed during excavation and stockpiling operations can be viewed at https://sketchfab.com/3d-models/railyard-excavtion-may-2019-e30ecb9603724f42b4d02253c11ed55b

Also, soil samples and XRF measurements were collected in the interactive GIS Collector and can be viewed at: http://cabq.maps.arcgis.com/apps/InteractiveLegend/index.html?appid=43ef610be4b24909a94c33539089d936

6. Stockpile and Disposal

All excavated soil for the Battery Storage Area was stockpiled on the demolished Sheet Metal Shop's concrete pad and covered with visqueen plastic sheeting to prevent dust migration. All excavated soil from the Sand Blasting Area was stockpiled north of the excavation area and also covered with visqueen until June 30 when this pile was moved to the Battery Storage Area pile to allow for other site activities.

Upon soil excavation completion volume estimates of excavated soil was approximately 900 cubic yards. Consequently, nine composite soil samples were taken throughout the stockpiled material; one sample for every 100 cubic yards of soil. Each sample was analyzed for TCLP for metals using EPA method 6010B, and for volatile and semi-volatile organic compounds using EPA methods 8260B and 8270C TCLP, respectively. Analytical results are presented in Appendix E.1 and all results were non-detect.

On June 24, ESD collected eight composite samples throughout the stockpile for total petroleum analysis per a Cerro Colorado Landfill request. Samples were analyzed for diesel range organics (DRO) and motor oil range organics (MRO) per EPA method 8015M/D, and gasoline range organics (GRO) per EPA method 8015D. Analytical results are presented in Appendix E.2. DRO results ranged from 35 to 120 mg/kg. MRO results ranged from 110 to 710 mg/kg. All GRO results were non-detect.

Based on these analytical results, Cerro Colorado Landfill was able to accept the stockpiled soil for placement in the landfill. On July 1 transportation of the stockpiled soil began and was completed on July 3. Sixty-five truck loads were delivered to the landfill for a total of 1,341.31 tons. Copies of the manifests are presented in Appendix E.3 and the weight tickets are presented in Appendix E.4.

Clean base course material was used to fill all excavated areas over a three week time period. This base course was tested for physical properties and classification and results are presented in Appendix E.5.

7. Monitor Well MW-09

Monitor well MW-09 was last sampled in 2010 and has since been "lost" due to past site activities. MW-09 is located in the far north by the property boundary of the Rail Yards (see figure 2-5 in the Final VRP Work Plan). Around 2013, the Blacksmith Shop was re-purposed to allow for tenants to use the building for parties, social events, and the Rail Yards Market. Please see Section 4.2 of the VRP Final Work Plan. At that time it is believed that MW-09 was either destroyed or paved over. During the Sand Blasting Area excavation during an equipment downtime, ESD excavated approximately a 20 foot diameter area around the location of MW-09. The well was not found. On July 11, ESD met with City personnel to search further for the well. An additional excavation of around 40 foot diameter to a depth of 1-2 feet was conducted and the well was not found.

Based on historical analytical results from this well all volatile or semi-volatile organic compounds were below laboratory detection limits or below the State groundwater standards with the exception of Manganese (Mn). The access database (previously provided to NMED VRP) of all historical sample results shows a Mn results of 0.64 mg/l in 2010. Of importance, based on historic and current groundwater flow directions and MW-09's location, this well could have served as an upgradient/background well. Replacement of this well is not proposed at this time.

8. Conclusions

- The City demolished the Sheet Metal House and North Washroom.
- Demolished creosote wood from the Sheet Metal Shop was re-used and the LBP door was appropriately destroyed.
- As and LBP was abated in the North Wash Room according to the abatement plan by the City's contractor.
- The City excavated approximately 900 cubic yards of Pb contaminated soil from two primary locations under three mobilization events between May 13 and June 19, 2019.
- XRF measurements were taken at multiple locations and depths during the excavation events.

- Multiple soil samples from the bottom and sidewalls of the excavations were submitted for analytical results.
- Almost all bottom and sidewall XRF measurements and analytical results were below 400 ppm Pb.
- Site specific Pb bioavailability modeling indicates a site specific residential soil screening level of 650 ppm.
- Approximately 900 cubic yards (1,341 tons) of excavated soil was placed in Cerro Colorado Landfill.
- Based course was used to fill excavated areas.
- MW-09 was not found and does not need to be replaced.

9. Recommendations

- The City request VRP approval for the appropriate demolition and removal of the Sheet Metal House and North Wash Room buildings.
- The City request VRP approval of the Pb contaminated soil excavation and disposal form the Battery Storage Area and Sandblasting Area.
- The City request VRP approval for a site-specific soil Pb residential level of 650 ppm based on the bioavailability sampling and modeling.
- The City request VRP concurrence that replacement of MW-09 is not warranted.

Figures

Tables

Appendices (CD)

Appendix A - HASP

Appendix B - Demolition Documents

B.1 – Earthech
B.2 – Sheet Metal House Abatement Plan
B.3 – North Washroom Abatement Plan
B.4 – Parcel 10 Report
B.5 – Certificate of Destruction
B.6 – Creosote Sampling, Sheet Metal House
B.7 – Cresol Phenol 8270 Results
B.8 – SWB Approval
B.9 – North Washroom Pb TCLP Results
B.10 – Bills of Lading, North Washroom

Appendix C – Excavation Documents

C.1 – Terracon 2005 Report
C.2 – XRF Specifications
C.3 – XRF Quick Guide Logs
C.4 – Analytical Results, SS106-116
C.5 – Other Analytical Results
C.6 – Battery Storage Area Analytical Results
C.7 – Sand Blasting Area Analytical Results
C.8 – Field Notes

Appendix D – IEUBK

D.1 – ACZ Bioavailability Results
D.2 – IEUBK Modeled Results
D.3 – Modeled Site Residential Level

Appendix E – Disposal

E.1 – TCLP Stockpile Results
E.2 – TPH Stockpile Results
E.3 – Waste Manifests
E.4 – Waste Weight Tickets
E.5 – Fill Material Certification

Photos (CD)

Source(s): Aerial – BERNCO GIS website, dated 2016.

Figure 2
Site Plan
Albuquerque Rail Yards, Albuquerque, Bernalillo County, New Mexico

Document Path: S:\ABQ\COA On-Call 2014\Task_17_Railyard_VRP\Graphics\GIS\MapDocs\WorkPlan_2018\02_sitePlan.mxd 12/18/2018

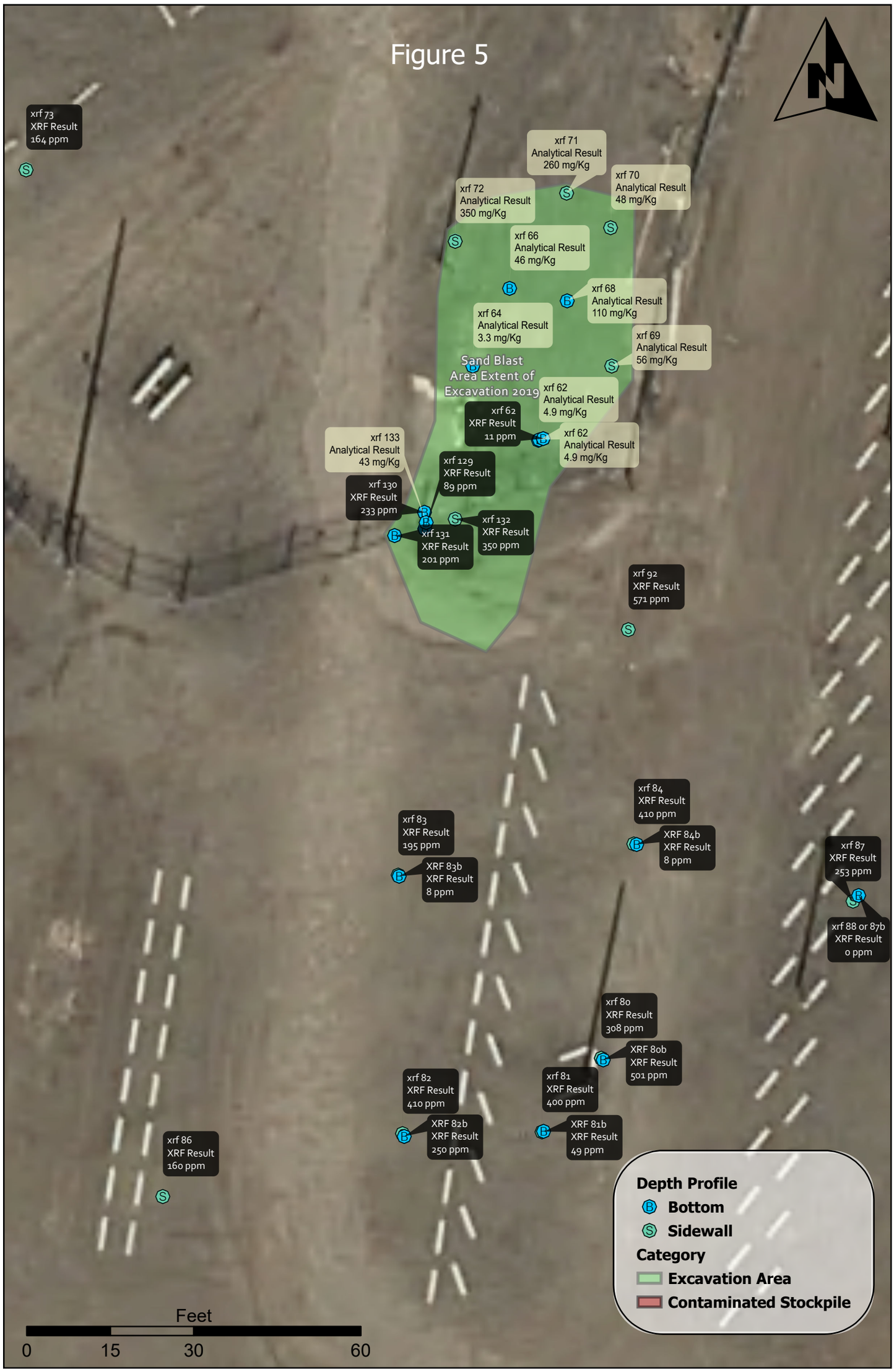
Albuquerque Rail Yards Soil Excavation

Figure 2

Albuquerque Rail Yards Soil Excavation
Battery Storage Area

Albuquerque Rail Yards Soil Excavation
Sandblast Area

Albuquerque Rail Yards Soil Excavation
Potholes between Sandblast and Battery Storage Areas



Name	Location	Date	XRF Results (mg/l)	Plus/Minus	Analytical Results (mg/l)	Depth of Sample (ft)	Soil Description	Soil Moisture	Comments	Temperature (F)	Weather
SS112	north side wall handicap area	5/31/2019 19:28			380	2.5	mixed industrial	damp			
SS113	west sidewall handicap area	5/31/2019 19:32			780	2	mixed industrial	moist			
SS114	bottom handicap parking area	5/31/2019 19:27			940	6	clay				
SS115	bottom Westside handicap	5/31/2019 19:29			800	3	mix industrial	moist			
SS116	handicap area east sidewall	5/31/2019 19:27			340	2	mixed idustrial	damp			
stockpile 1		5/13/2019 16:51	234	8			stockpile	moist	234 +-8	65	clear
TLCSP1		6/18/2019 15:57									
xrf 10		5/13/2019 21:56	1209				industrial mix	dry	1209 ppm pb	84	clear
xrf 100	test pit	5/22/2019 16:52	208	5		2.5	industrial mix				
xrf 101	test pit	5/22/2019 16:54	262	6		2.5	industrial mix				
xrf 102	test pit	5/22/2019 17:29	217	5		1	industrial mix	dry			
xrf 103	test pit 38ft w of flue shop	5/22/2019 17:33	490	8		1	industrial mix				
xrf 104	test pit	5/22/2019 17:58	605	9		2	industrial mix				
xrf 105	test pit	5/22/2019 18:12	363	7		2.5	industrial mix				
xrf 106	Western excavation of battery storage area North side wall	5/30/2019 17:40			320	2	Industrial mix	dry			
xrf 107	Western excavation of battery storage west side wall	5/30/2019 17:50			240	2	mixed industrial	dry			
xrf 108	s sidewall Western excavation battery area	5/30/2019 18:03			400	2	mixed industrial	dry		73	clear breezy
xrf 120	bottom of handicap parking area	6/18/2019 17:02	11.1	2	9.2	7	native	moist			
XRF 121	bottom of handicap area 20ft west of side wall	6/18/2019 18:30	43	2		7	clay mix	moist damp			
xrf 129	south sandblasting	6/19/2019 15:42	89	2		3	industrial mix	low			
XRF 13	below XRF 9	5/14/2019 6:00	89	4	68	4	brown red clay				
xrf 130	south sandblasting	6/19/2019 15:54	233	3		2	industrial mix	damp			
xrf 131	south west sandblasting	6/19/2019 16:04	201	3		2.5	industrial mix	med			
xrf 132	e sidewall sw sandblasting	6/19/2019 16:19	350	4		2.5	industrial mix				
xrf 133	floor sw sandblasting	6/19/2019 16:20	52	2	43	3	red sandy clay	med			
xrf 134	Sidewall East in Sandblasting Area	6/19/2019 16:26	149	3	130	3	industrial mix	med			
xrf 21	bottom of excavation	5/14/2019 18:47	21		11	4	red sandy loam	10%	21 ppm Pb	80	clear
XRF 42		5/16/2019 6:00	375	7		2.5					clear, warm
xrf 45	south end of south area in middle	5/16/2019 17:25	41	3	54	3	industrial mix	10%	sample analysis	77	warm cloudy
xrf 46	sidewall north west side of south area	5/16/2019 17:35	650	9		1.5	industrial mix	5%		78	warm cloudy
xrf 52	sidewalls	5/16/2019 19:49	366	7		1.5	industrial mix	5%		79	warm cloudy breezy
xrf 53	south sidewall	5/16/2019 20:05	315	7		1.5	industrial mix	5%		78	cloudy warm
xrf 54	north side west sidewall, south area	5/16/2019 21:08	455	7		1.5					
xrf 55	south sidewall south area	5/16/2019 21:12	334	7							
xrf 62	bottom of excavation,	5/20/2019 16:49	11	3	4.9	2	tan clean sand	moist			
xrf 62		5/20/2019 16:53	11	3	4.9	2	tan sand		bottom of excavation	62	cloudy and cool
xrf 62		5/20/2019 17:10	11	3		2	tan sandy soil			62	cool, windy, coudy
xrf 64	bottom of excavation	5/20/2019 16:50	0	8	3.3	2.5	tan clean sand			62	cool, windy, cloudy
xrf 65	sidewall at fence s side	5/20/2019 17:26	503	8		1.5	industrial mix				
xrf 66	bottom of excavation	5/20/2019 20:04	48	3	46	2	industrial mix dark				
xrf 67	west sidewall	5/20/2019 20:02	418	7		1.5	industrial mix				
xrf 68	bottom of excavation	5/20/2019 18:42	69	3	110	1.5	industrial mix				
xrf 69	east sidewall	5/20/2019 18:58	69	3	56	2	industrial mix				
xrf 70	east sidewall	5/20/2019 19:14	52	3	48	1.5	industrial mix				
xrf 71	n wall	5/20/2019 19:31	286	6	260	1.5	industrial mix				
xrf 72	West sidewall, north of pole	5/20/2019 19:44	230	5	350		industrial mix				
xrf 73	pothole	5/20/2019 20:30	164	5		2	industrial mix dark				
xrf 74	south of fence line	5/20/2019 21:08	444	8		1.5	mixed industrial	5%		55	cloudy breezy
xrf 75	south sidewall s of excqvation	5/21/2019 15:44	613	9		1.5	mixed industrial	dry		46	cool breezy partly cloudy
xrf 76	west sidewall s excavation s of frnce	5/21/2019 15:53	1044	13		1.5	mixed industrial	dry		53	partly cloudy breezy
xrf 77	west sidewall west pothole battery storage	5/21/2019 16:07	547	9		2	mixed industrial	dry		54	partly cloudy breezy
xrf 78	S sidewall of S pot hole	5/21/2019 6:00	1387	19		2	mixed industrial	dry		54	partly cloudy breezy
xrf 79	pot hole 50 ft s of south fence line	5/21/2019 16:33	482	9		2	mixed industrial	moist		54	windy cool
xrf 80	se pothole	5/21/2019 17:24	308	7		2	mixed industrial	dry		55	partly cloudy breezy
XRF 80b	bottom of pothole	5/21/2019 6:00	501	8		3					
xrf 81	center south pothole	5/21/2019 18:12	400	7		2	mixed industrial	moist dark		56	cloudy breezy
XRF 81b	bottom of pothole	5/21/2019 6:00	49	3		3					
xrf 82	sw pothole	5/21/2019 18:14	410	7		2	mixed	moist		56	cloudy breezy
XRF 82b	bottom of pothole	5/21/2019 6:00	250	5		3					
xrf 83	Central west pothole	5/21/2019 18:15	195	5		2	sand and mixed industrial	dry		56	cloudy breezy
XRF 83b	bottom of pothole	5/21/2019 6:00	8	3		3	clean sand				
xrf 84	central east pothole	5/21/2019 18:17	410	7		2	mixed industrial	moist		56	cloudy breezy
XRF 84b	bottom pothole	5/21/2019 6:00	8	3		2.5	clean clay				
xrf 85	south central pothole by handicap parking south sidewall	5/21/2019 6:00	340	7		2	mixed industrial	dry		54	cloudy breezy
XRF 85b	bottom of pothole	5/21/2019 6:00	11	3		3					
xrf 86	sw pothole	5/21/2019 18:32	160	5		1	mixed industrial	dry		54	cloudy
xrf 87	NE side pothole	5/21/2019 18:53	253	1		2	mixed industrial	moist		56	cloudy breezy
xrf 88 or 87b	bottom of XRF87	5/21/2019 18:56	0	3		3.5	clay loam	moist		56	
xrf 89	Due just SW of shed pothole	5/21/2019 20:39	250	6		2.5	mixed industrial	moist			
xrf 90	pot hole west of gate	5/21/2019 6:00	200	5							
XRF 90b	bottom of pothole	5/21/2019 6:00	9	2		3	clay				
xrf 92	sidewall,	5/21/2019 6:00	571	9		1.5					
xrf 93	E sidewall	5/21/2019 6:00	1006	13		1.5					
xrf 94	W sidewall	5/21/2019 6:00	517	8							
xrf 96	south wall	5/22/2019 16:46	913	12		2	industrial mix				
xrf 97	N sidewall	5/22/2019 16:46	829	11		2	industrial mix				
xrf 98	floor	5/22/2019 16:48	252	6		3	concrete				
xrf 99	test pit/pothole	5/22/2019 16:51	594	9		1.5	industrial mix				
: TEMP CLEAN STOCKF	stockpile composite	5/14/2019 17:53	72	4			mixed	dryer than moist	72+-4	72	clear
XRF1		5/13/2019 16:41	197	7	200	3	mixed soil	moist	197 +-7	65	clear
XRF109	Northside wall of South section of sandblasting area south of fence	5/30/2019 19:01			980	2	mix industrial	dry			
xrf11	2	5/13/2019 21:59	907			3.5	industrial mix	dry	907 ppm pb	81	clear
XRF110	Westside side wall of South sand blas area South of fence	5/30/2019 19:03			250	2	mixed industrial	dry			
XRF111	bottom excavation South Sand blast area	5/30/2019 19:04			23	3.5	sandy clay	dry			
xrf122	bottom of handicap area 30 feet west of sidewall	6/18/2019 19:10	108	3		6.5	clay	moist			
XRF123	25 feet east of small building	6/18/2019 19:40	314	5		1.5	mixed industrial	dry			
XRF124	north side wall	6/18/2019 20:01	13.7	2	7.4	7	clay	moist			
xrf125	handicap parking area	6/18/2019 20:21	294	4		2	mixed industrial	dry			
Xrf126	bottom of excavation 15 feet west of storage building. northern part of excavatic	6/18/2019 20:57	41.2	2		4	clay mixed	moist			
XRF127	sidewall northern portion of handicap area halfway between restroom and stora	6/18/2019 21:04	437	5		4	mixed industrial	dry			
xrf128	Eastern most sidewall of handicap excavation area 10 feet east of storage buildir	6/18/2019 21:12	343	5	310	4	mixed	dry to damp			

XRF13	4 feet bgs	5/14/2019 14:50	89	4	68	4	brown sandy clay	10-15%			clear
XRF14	3.5-4 ft bgs	5/14/2019 15:10	167	5	500	4	brown sandy clay	15%	2 samples w/same name		
xrf15	3.5 feet bgs	5/14/2019 15:36	670			3.5	mixed	moist dry	670	65	clear
xrf16	4 feet	5/14/2019 16:03	287	6	240	4	mixed	moist 15-20%	287 +-6	65	clear
xrf17	3.5 feet	5/14/2019 16:19	316	6		3.5	mixed	slightly moist	316+-6	68	clear
XRF18	6 inches	5/14/2019 17:27	250	6		0.5	mixed industrial	dry 5	250+-6	72	clear
XRF19	1 foot	5/14/2019 17:41	461	6		1	mixed industrial	dry	461+-6	72	clear
xrf2		5/13/2019 17:04	449			2.4	mixed, dark	moist	449 ppm Pb at 2.4 ft		
XRF20	2.5	5/14/2019 18:06	433	7		2.5	mixed industrial	dry	433+-7	75	clear
XRF22	4 feet bgs	5/14/2019 20:30	0		3.7	4	native sandy silt loam	moist	ND	83	partly cloudy
XRF23	sidewall	5/15/2019 15:40	687	11		3	mixed industrial	dry. less than 10%		66	clear
XRF24	bottom	5/15/2019 16:11	10	3	3.7	4.5	sandy clay loam	20		67	clear
xrf25	bottom	5/15/2019 16:42	12	3		3.5	silt loam	10%		68	clear
xrf26	bottom	5/15/2019 16:50	248	6		3.75	slightly mix native and fill			68	
xrf27	mid depth of fill	5/15/2019 17:04	821	15		2.5		dry		68	
xrf28	bottom sloping up	5/15/2019 17:48	55	3	42	3	moist			72	
xrf29	bottom	5/15/2019 18:04	507	9		4	native s one mix	dry		80	
xrf3	fence line 20ft west 3 ft deep	5/13/2019 17:46	385			3		moist	385		
XRF30	bottom	5/15/2019 18:53	231	6	220	4	mixed and native clay	dry		82	
XRF31		5/15/2019 19:13	532	9		1	mixed	dry		83	clear
XRF32		5/15/2019 19:29	624	10		1	mixed	moist		83	clear
XRF33		5/15/2019 19:35	517	9		1	mixed	most		83	clear
XRF34		5/15/2019 19:36	463	8		1	mixed	moist		83	clear
XRF35		5/15/2019 19:58	293	6		1	mixed	moist		85	part cloudy
XRF36		5/15/2019 20:07	275	6		4	mixed	moist		86	part Cloudy
XRF37		5/15/2019 20:24	470	8		4	mixed	moist		86	part cloudy breezy
XRF38			269	6		2	mixed	dry		86	part cloudy breezy
XRF39		5/15/2019 21:10	515	8		3	mixed	dry		86	part cloudy breezy
xrf4		5/13/2019 19:19	857					dry	857	76	clear
XRF40A		5/15/2019 21:37	382	8		1	mixed	dry		87	clear
XRF40B		5/15/2019 21:40	12	3	3.5	3	sandy loam	slightly moist		87	clear
XRF40C		5/15/2019 21:42	28	3		4.5	industrial fill	dry		87	part cloudy
XRF41A		5/15/2019 21:47	393	7		2.5	mixed industrial	dry		86	
XRF41B		5/15/2019 21:47	23	3	14	3.5	tan sand	dry		87	
XRF41C		5/15/2019 6:00	28			4.5	dark klinger	dry			
xrf44	same as XRF42 but deeper	5/16/2019 17:10	25	3	18	3	fill native interface	moist			overcast
XRF47	south sidewall west side south area	5/16/2019 17:39	673	10		1.5	industrial mix	5%		78	warm cloudy
XRF48	sidewall	5/16/2019 18:12	460	8		1.5	mixed	dry		80	cloudy
XRF49	sidewall, 2 ft west of XRF48	5/16/2019 18:21	343	7		2	mixed	dry		80	cloudy
xrf5		5/13/2019 19:46	1622					dry 5%	1622 pm pb	76	clear
XRF50	sidewall	5/16/2019 19:03	1292	16		3	mixed	moist			
XRF51	sidewall	5/16/2019 19:06	999	13		3.5	mixed	moist		82	cloudy windy
XRF56	sidewall	5/16/2019 21:44	452	8		3	mixed	dry			
xrf57	sidewall	5/17/2019 16:08	390	7		1.5	mixed	dry		65	clear,breezy
XRF58	east sidewall, 4ft from NE corner of Flue Shop	5/17/2019 6:00	558	13		1.5					
XRF59	south sidewall, 6 ft E of NE corner of Flue Shop	5/17/2019 6:00	482	8		2					
XRF60		5/17/2019 6:00	315	6	270	1.5					
Xrf61		5/17/2019 6:00	421	8		4					
xrf7		5/13/2019 20:26	22	3			mixed	dry	22 ppm pb	76	clear
xrf8		5/13/2019 21:18	170		190		mixed industrial	dry	170 ppm Pb	81	clear
xrf9			355				mixed industrial below overburden	dry	355 ppm Pb	81	clear
XRF91	Bottom XRF86	5/21/2019 6:00	52	4		3					

Name XRF	Location	Sidewall/Bottom	Date	XRF Results (mg/l)	Plus/Minus	Analytical Results (mg/l)	Depth of Sample (ft)	Soil Description
1	3ft from east fence N Flue shop	B	5/13/2019 16:41	197	7	200	3	mixed soil
7	bottom	B	5/13/2019 20:26	22	3			mixed
8	16 ft from NE fence corner, battery storage	B	5/13/2019 21:18	170		190		mixed industrial
9	24 ft from NE fence corner, battery storage	B	5/13/2019 15:30	355				mixed industrial below overburden
13	below XRF 9	B	5/14/2019 8:50	89	4	68	4	brown red clay
13	4 feet bgs	B	5/14/2019 14:50	89	4	68	4	brown sandy clay
14	3.5-4 ft bgs	B	5/14/2019 15:10	167	5	500	4	brown sandy clay
16	4 feet	B	5/14/2019 16:03	287	6	240	4	mixed
21	bottom of excavation	B	5/14/2019 18:47	21	3	11	4	red sandy loam
22	4 feet bgs	B	5/14/2019 20:30	0	<8	3.7	4	native sandy silt loam
24	bottom	B	5/15/2019 16:11	10	3	3.7	4.5	sandy clay loam
30	bottom	B	5/15/2019 18:53	231	6	220	4	mixed and native clay
35	S end and W side of Flue shop	B	5/15/2019 19:58	293	6		1	mixed
36	25 ft west of flue shop and 25 ft N of excavation	B	5/15/2019 20:07	275	6		4	mixed
38	Near SB-10 from Terracon Report, W of Northern excavation	B	5/15/2019 14:59	269	6		2	mixed
42	25 ft W of NW Flue shop corner	B	5/16/2019 6:00	375	7		2.5	
44	same as XRF42 but deeper	B	5/16/2019 17:10	25	3	18	3	fill native interface
49	sidewall, 2 ft west of XRF48	S	5/16/2019 18:21	343	7		2	mixed
52	sidewalls	S	5/16/2019 19:49	366	7		1.5	industrial mix
53	south sidewall	S	5/16/2019 20:05	315	7		1.5	industrial mix
55	south sidewall south area	S	5/16/2019 21:12	334	7			
56	sidewall	S	5/16/2019 21:44	452	8		3	mixed
58	east sidewall, 4ft from NE corner of Flue Shop	S	5/17/2019 6:00	558	13		1.5	
59	south sidewall, 6 ft E of NE corner of Flue Shop	S	5/17/2019 6:00	482	8		2	
60	10ft S of NE Flue shop corner	B	5/17/2019 6:00	315	6	270	1.5	
61	N of Flue shop, 4 ft S of fence	B	5/17/2019 6:00	421	8		4	
62	bottom of excavation,	B	5/20/2019 16:49	11	3	4.9	2	tan clean sand
64	bottom of excavation	B	5/20/2019 16:50	0	8	3.3	2.5	tan clean sand
66	bottom of excavation	B	5/20/2019 20:04	48	3	46	2	industrial mix dark
68	bottom of excavation	B	5/20/2019 18:42	69	3	110	1.5	industrial mix
69	east sidewall	S	5/20/2019 18:58	69	3	56	2	industrial mix
70	east sidewall	S	5/20/2019 19:14	52	3	48	1.5	industrial mix
71	n wall	S	5/20/2019 19:31	286	6	260	1.5	industrial mix
72	West sidewall, north of pole	S	5/20/2019 19:44	230	5	350		industrial mix
73	pothole	S	5/20/2019 20:30	164	5		2	industrial mix dark
80	se pothole	S	5/21/2019 17:24	308	7		2	mixed industrial
81	center south pothole	S	5/21/2019 18:12	400	7		2	mixed industrial
82	sw pothole	S	5/21/2019 18:14	410	7		2	mixed
83	Central west pothole	S	5/21/2019 18:15	195	5		2	sand and mixed industrial
84	central east pothole	S	5/21/2019 18:17	410	7		2	mixed industrial
85	south central pothole by handicap parking south sidewall	S	5/21/2019 6:00	340	7		2	mixed industrial
86	sw pothole	S	5/21/2019 18:32	160	5		1	mixed industrial
87	NE side pothole	S	5/21/2019 18:53	253	1		2	mixed industrial
88	bottom of XRF87	B	5/21/2019 18:56	0	3		3.5	clay loam
89	Due just SW of shed pothole	S	5/21/2019 20:39	250	6		2.5	mixed industrial
91	Bottom XRF86	B	5/21/2019 6:00	52	4		3	
92	sidewall,	S	5/21/2019 6:00	571	9		1.5	
98	floor	B	5/22/2019 16:48	252	6		3	concrete
100	test pit	S	5/22/2019 16:52	208	5		2.5	industrial mix
101	test pit	S	5/22/2019 16:54	262	6		2.5	industrial mix
102	test pit	S	5/22/2019 17:29	217	5		1	industrial mix
104	test pit	S	5/22/2019 17:58	605	9		2	industrial mix
105	test pit	S	5/22/2019 18:12	363	7		2.5	industrial mix
120	bottom of handicap parking area	B	6/18/2019 17:02	11.1	2	9.2	7	native
121	bottom of handicap area 20ft west of side wall	B	6/18/2019 18:30	43	2		7	clay mix
122	bottom of handicap area 30 feet west of sidewall	B	6/18/2019 19:10	108	3		6.5	clay
123	25 feet east of small building	B	6/18/2019 19:40	314	5		1.5	mixed industrial
124	north side wall	S	6/18/2019 20:01	13.7	2	7.4	7	clay
125	handicap parking area	B	6/18/2019 20:21	294	4		2	mixed industrial
126	bottom of excavation 15 feet west of storage building. northern pa	B	6/18/2019 20:57	41.2	2		4	clay mixed
128	Eastern most sidewall of handicap excavation area 10 feet east of s	S	6/18/2019 21:12	343	5	310	4	mixed
129	south sandblasting	B	6/19/2019 15:42	89	2		3	industrial mix
130	south sandblasting	B	6/19/2019 15:54	233	3		2	industrial mix
131	south west sandblasting	B	6/19/2019 16:04	201	3		2.5	industrial mix
132	e sidewall sw sandblasting	S	6/19/2019 16:19	350	4		2.5	industrial mix

133	floor sw sandblasting	B	6/19/2019 16:20	52	2	43	3	red sandy clay
134	Sidewall East in Sandblasting Area	S	6/19/2019 16:26	149	3	130	3	industrial mix
40b	NW sidewall battery storage	S	5/15/2019 21:40	12	3	3.5	3	sandy loam
41a	west wall center battery storage	S	5/15/2019 21:47	393	7		2.5	mixed industrial
41b	west wall center battery storage	S	5/15/2019 21:47	23	3	14	3.5	tan sand
41c	west wall center battery storage	S	5/15/2019 6:00	28	3		4.5	dark klinger
80b	bottom of pothole	B	5/21/2019 6:00	501	8		3	
81b	bottom of pothole	B	5/21/2019 6:00	49	3		3	
82b	bottom of pothole	B	5/21/2019 6:00	250	5		3	
83b	bottom of pothole	B	5/21/2019 6:00	8	3		3	clean sand
84b	bottom pothole	B	5/21/2019 6:00	8	3		2.5	clean clay
85b	bottom of pothole	B	5/21/2019 6:00	11	3		3	

Name	Location	Sidewall/Bottom	Date	XRF Results (mg/l)	Plus/Minus	Analytical Results (mg/l)	Depth of Sample (ft)	Soil Description
1	E. fence line center of battery storage area, N flue shop	B	5/13/2019 16:41	197	7	200	3	mixed soil
8	NE corner of battery storage, ~16 feet from NE fence corner	B	5/13/2019 21:18	170		190		mixed industrial
13	below XRF 9	B	5/14/2019 6:00	89	4	68	4	brown red clay
13	4 feet bgs	B	5/14/2019 14:50	89	4	68	4	brown sandy clay
14	3.5-4 ft bgs	B	5/14/2019 15:10	167	5	500	4	brown sandy clay
16	4 feet	B	5/14/2019 16:03	287	6	240	4	mixed
21	bottom of excavation	B	5/14/2019 18:47	21		11	4	red sandy loam
22	4 feet bgs	B	5/14/2019 20:30	0		3.7	4	native sandy silt loam
24	bottom	B	5/15/2019 16:11	10	3	3.7	4.5	sandy clay loam
28	bottom sloping up	B	5/15/2019 17:48	55	3	42	3	moist
30	bottom	B	5/15/2019 18:53	231	6	220	4	mixed and native clay
44	same as XRF42 but deeper	B	5/16/2019 17:10	25	3	18	3	fill native interface
45	south end of south area in middle	B	5/16/2019 17:25	41	3	54	3	industrial mix
60	sidewall eastern most from E corner Flue shop	S	5/17/2019 6:00	315	6	270	1.5	
62	bottom of excavation, ~10ft N of S fence line and 25ft W of E fence line	B	5/20/2019 16:49	11	3	4.9	2	tan clean sand
66	bottom of excavation	B	5/20/2019 20:04	48	3	46	2	industrial mix dark
68	bottom of excavation	B	5/20/2019 18:42	69	3	110	1.5	industrial mix
69	east sidewall	S	5/20/2019 18:58	69	3	56	2	industrial mix
70	east sidewall	S	5/20/2019 19:14	52	3	48	1.5	industrial mix
71	n wall	S	5/20/2019 19:31	286	6	260	1.5	industrial mix
72	West sidewall, north of pole	S	5/20/2019 19:44	230	5	350		industrial mix
106	Western excavation of battery storage area North side wall	S	5/30/2019 17:40			320	2	Industrial mix
107	Western excavation of battery storage west side wall	S	5/30/2019 17:50			240	2	mixed industrial
108	s sidewall Western excavation battery area	S	5/30/2019 18:03			400	2	mixed industrial
109	Northside wall of South section of sandblasting area south of fence	S	5/30/2019 19:01			980	2	mix industrial
110	Westside side wall of South sand blas area South of fence	S	5/30/2019 19:03			250	2	mixed industrial
111	bottom excavation South Sand blast area	B	5/30/2019 19:04			23	3.5	sandy clay
112	north side wall handicap area	S	5/31/2019 19:28			380	2.5	mixed industrial
113	west sidewall handicap area	S	5/31/2019 19:32			780	2	mixed industrial
114	bottom handicap parking area	B	5/31/2019 19:27			940	6	clay
115	bottom Westside handicap	B	5/31/2019 19:29			800	3	mix industrial
116	handicap area east sidewall	S	5/31/2019 19:27			340	2	mixed idustrial
120	bottom of handicap parking area	B	6/18/2019 17:02	11.1	2	9.2	7	native
124	north side wall	S	6/18/2019 20:01	13.7	2	7.4	7	clay
128	Eastern most sidewall of handicap excavation area 10 feet east of storage buildin	S	6/18/2019 21:12	343	5	310	4	mixed
133	floor sw sandblasting	B	6/19/2019 16:20	52	2	43	3	red sandy clay
134	Sidewall East in Sandblasting Area	S	6/19/2019 16:26	149	3	130	3	industrial mix
40b	W. sidewall, center excavation, ~30ft S of handicap parking fence	S	5/15/2019 21:40	12	3	3.5	3	sandy loam
41b	W. sidewall, center excavation, ~30ft S of handicap parking fence	S	5/15/2019 21:47	23	3	14	3.5	tan sand

Name	Location	Date	XRF Results (mg/l)	Plus/Minus	Analytical Results (mg/l)	Depth of Sample (ft)	Soil Description	Soil Moisture	Comments	Temperature (F)	Weather
SS112	north side wall handicap area	5/31/2019 19:28			380	2.5	mixed industrial	damp			
SS113	west sidewall handicap area	5/31/2019 19:32			780	2	mixed industrial	moist			
SS114	bottom handicap parking area	5/31/2019 19:27			940	6	clay				
SS115	bottom Westside handicap	5/31/2019 19:29			800	3	mix industrial	moist			
SS116	handicap area east sidewall	5/31/2019 19:27			340	2	mixed idustrial	damp			
stockpile 1		5/13/2019 16:51	234	8			stockpile	moist	234 +-8	65	clear
TLCSP1		6/18/2019 15:57									
xrf 10		5/13/2019 21:56	1209				industrial mix	dry	1209 ppm pb	84	clear
xrf 100	test pit	5/22/2019 16:52	208	5		2.5	industrial mix				
xrf 101	test pit	5/22/2019 16:54	262	6		2.5	industrial mix				
xrf 102	test pit	5/22/2019 17:29	217	5		1	industrial mix	dry			
xrf 103	test pit 38ft w of flue shop	5/22/2019 17:33	490	8		1	industrial mix				
xrf 104	test pit	5/22/2019 17:58	605	9		2	industrial mix				
xrf 105	test pit	5/22/2019 18:12	363	7		2.5	industrial mix				
xrf 106	Western excavation of battery storage area North side wall	5/30/2019 17:40			320	2	Industrial mix	dry			
xrf 107	Western excavation of battery storage west side wall	5/30/2019 17:50			240	2	mixed industrial	dry			
xrf 108	s sidewall Western excavation battery area	5/30/2019 18:03			400	2	mixed industrial	dry		73	clear breezy
xrf 120	bottom of handicap parking area	6/18/2019 17:02	11.1	2	9.2	7	native	moist			
XRF 121	bottom of handicap area 20ft west of side wall	6/18/2019 18:30	43	2		7	clay mix	moist damp			
xrf 129	south sandblasting	6/19/2019 15:42	89	2		3	industrial mix	low			
XRF 13	below XRF 9	5/14/2019 6:00	89	4	68	4	brown red clay				
xrf 130	south sandblasting	6/19/2019 15:54	233	3		2	industrial mix	damp			
xrf 131	south west sandblasting	6/19/2019 16:04	201	3		2.5	industrial mix	med			
xrf 132	e sidewall sw sandblasting	6/19/2019 16:19	350	4		2.5	industrial mix				
xrf 133	floor sw sandblasting	6/19/2019 16:20	52	2	43	3	red sandy clay	med			
xrf 134	Sidewall East in Sandblasting Area	6/19/2019 16:26	149	3	130	3	industrial mix	med			
xrf 21	bottom of excavation	5/14/2019 18:47	21		11	4	red sandy loam	10%	21 ppm Pb	80	clear
XRF 42		5/16/2019 6:00	375	7		2.5					clear, warm
xrf 45	south end of south area in middle	5/16/2019 17:25	41	3	54	3	industrial mix	10%	sample analysis	77	warm cloudy
xrf 46	sidewall north west side of south area	5/16/2019 17:35	650	9		1.5	industrial mix	5%		78	warm cloudy
xrf 52	sidewalls	5/16/2019 19:49	366	7		1.5	industrial mix	5%		79	warm cloudy breezy
xrf 53	south sidewall	5/16/2019 20:05	315	7		1.5	industrial mix	5%		78	cloudy warm
xrf 54	north side west sidewall, south area	5/16/2019 21:08	455	7		1.5					
xrf 55	south sidewall south area	5/16/2019 21:12	334	7							
xrf 62	bottom of excavation,	5/20/2019 16:49	11	3	4.9	2	tan clean sand	moist			
xrf 62		5/20/2019 16:53	11	3	4.9	2	tan sand		bottom of excavation	62	cloudy and cool
xrf 62		5/20/2019 17:10	11	3		2	tan sandy soil			62	cool, windy, coudy
xrf 64	bottom of excavation	5/20/2019 16:50	0	8	3.3	2.5	tan clean sand			62	cool, windy, cloudy
xrf 65	sidewall at fence s side	5/20/2019 17:26	503	8		1.5	industrial mix				
xrf 66	bottom of excavation	5/20/2019 20:04	48	3	46	2	industrial mix dark				
xrf 67	west sidewall	5/20/2019 20:02	418	7		1.5	industrial mix				
xrf 68	bottom of excavation	5/20/2019 18:42	69	3	110	1.5	industrial mix				
xrf 69	east sidewall	5/20/2019 18:58	69	3	56	2	industrial mix				
xrf 70	east sidewall	5/20/2019 19:14	52	3	48	1.5	industrial mix				
xrf 71	n wall	5/20/2019 19:31	286	6	260	1.5	industrial mix				
xrf 72	West sidewall, north of pole	5/20/2019 19:44	230	5	350		industrial mix				
xrf 73	pothole	5/20/2019 20:30	164	5		2	industrial mix dark				
xrf 74	south of fence line	5/20/2019 21:08	444	8		1.5	mixed industrial	5%		55	cloudy breezy
xrf 75	south sidewall s of excqvation	5/21/2019 15:44	613	9		1.5	mixed industrial	dry		46	cool breezy partly cloudy
xrf 76	west sidewall s excavation s of frnce	5/21/2019 15:53	1044	13		1.5	mixed industrial	dry		53	partly cloudy breezy
xrf 77	west sidewall west pothole battery storage	5/21/2019 16:07	547	9		2	mixed industrial	dry		54	partly cloudy breezy
xrf 78	S sidewall of S pot hole	5/21/2019 6:00	1387	19		2	mixed industrial	dry		54	partly cloudy breezy
xrf 79	pot hole 50 ft s of south fence line	5/21/2019 16:33	482	9		2	mixed industrial	moist		54	windy cool
xrf 80	se pothole	5/21/2019 17:24	308	7		2	mixed industrial	dry		55	partly cloudy breezy
XRF 80b	bottom of pothole	5/21/2019 6:00	501	8		3					
xrf 81	center south pothole	5/21/2019 18:12	400	7		2	mixed industrial	moist dark		56	cloudy breezy
XRF 81b	bottom of pothole	5/21/2019 6:00	49	3		3					
xrf 82	sw pothole	5/21/2019 18:14	410	7		2	mixed	moist		56	cloudy breezy
XRF 82b	bottom of pothole	5/21/2019 6:00	250	5		3					
xrf 83	Central west pothole	5/21/2019 18:15	195	5		2	sand and mixed industrial	dry		56	cloudy breezy
XRF 83b	bottom of pothole	5/21/2019 6:00	8	3		3	clean sand				
xrf 84	central east pothole	5/21/2019 18:17	410	7		2	mixed industrial	moist		56	cloudy breezy
XRF 84b	bottom pothole	5/21/2019 6:00	8	3		2.5	clean clay				
xrf 85	south central pothole by handicap parking south sidewall	5/21/2019 6:00	340	7		2	mixed industrial	dry		54	cloudy breezy
XRF 85b	bottom of pothole	5/21/2019 6:00	11	3		3					
xrf 86	sw pothole	5/21/2019 18:32	160	5		1	mixed industrial	dry		54	cloudy
xrf 87	NE side pothole	5/21/2019 18:53	253	1		2	mixed industrial	moist		56	cloudy breezy
xrf 88 or 87b	bottom of XRF87	5/21/2019 18:56	0	3		3.5	clay loam	moist		56	
xrf 89	Due just SW of shed pothole	5/21/2019 20:39	250	6		2.5	mixed industrial	moist			
xrf 90	pot hole west of gate	5/21/2019 6:00	200	5							
XRF 90b	bottom of pothole	5/21/2019 6:00	9	2		3	clay				
xrf 92	sidewall,	5/21/2019 6:00	571	9		1.5					
xrf 93	E sidewall	5/21/2019 6:00	1006	13		1.5					
xrf 94	W sidewall	5/21/2019 6:00	517	8							
xrf 96	south wall	5/22/2019 16:46	913	12		2	industrial mix				
xrf 97	N sidewall	5/22/2019 16:46	829	11		2	industrial mix				
xrf 98	floor	5/22/2019 16:48	252	6		3	concrete				
xrf 99	test pit/pothole	5/22/2019 16:51	594	9		1.5	industrial mix				
: TEMP CLEAN STOCKF	stockpile composite	5/14/2019 17:53	72	4			mixed	dryer than moist	72+-4	72	clear
XRF1		5/13/2019 16:41	197	7	200	3	mixed soil	moist	197 +-7	65	clear
XRF109	Northside wall of South section of sandblasting area south of fence	5/30/2019 19:01			980	2	mix industrial	dry			
xrf11	2	5/13/2019 21:59	907			3.5	industrial mix	dry	907 ppm pb	81	clear
XRF110	Westside side wall of South sand blas area South of fence	5/30/2019 19:03			250	2	mixed industrial	dry			
XRF111	bottom excavation South Sand blast area	5/30/2019 19:04			23	3.5	sandy clay	dry			
xrf122	bottom of handicap area 30 feet west of sidewall	6/18/2019 19:10	108	3		6.5	clay	moist			
XRF123	25 feet east of small building	6/18/2019 19:40	314	5		1.5	mixed industrial	dry			
XRF124	north side wall	6/18/2019 20:01	13.7	2	7.4	7	clay	moist			
xrf125	handicap parking area	6/18/2019 20:21	294	4		2	mixed industrial	dry			
Xrf126	bottom of excavation 15 feet west of storage building. northern part of excavatic	6/18/2019 20:57	41.2	2		4	clay mixed	moist			
XRF127	sidewall northern portion of handicap area halfway between restroom and stora	6/18/2019 21:04	437	5		4	mixed industrial	dry			
xrf128	Eastern most sidewall of handicap excavation area 10 feet east of storage buildir	6/18/2019 21:12	343	5	310	4	mixed	dry to damp			

XRF13	4 feet bgs	5/14/2019 14:50	89	4	68	4	brown sandy clay	10-15%			clear
XRF14	3.5-4 ft bgs	5/14/2019 15:10	167	5	500	4	brown sandy clay	15%	2 samples w/same name		
xrf15	3.5 feet bgs	5/14/2019 15:36	670			3.5	mixed	moist dry	670	65	clear
xrf16	4 feet	5/14/2019 16:03	287	6	240	4	mixed	moist 15-20%	287 +-6	65	clear
xrf17	3.5 feet	5/14/2019 16:19	316	6		3.5	mixed	slightly moist	316+-6	68	clear
XRF18	6 inches	5/14/2019 17:27	250	6		0.5	mixed industrial	dry 5	250+-6	72	clear
XRF19	1 foot	5/14/2019 17:41	461	6		1	mixed industrial	dry	461+-6	72	clear
xrf2		5/13/2019 17:04	449			2.4	mixed, dark	moist	449 ppm Pb at 2.4 ft		
XRF20	2.5	5/14/2019 18:06	433	7		2.5	mixed industrial	dry	433+-7	75	clear
XRF22	4 feet bgs	5/14/2019 20:30	0		3.7	4	native sandy silt loam	moist	ND	83	partly cloudy
XRF23	sidewall	5/15/2019 15:40	687	11		3	mixed industrial	dry. less than 10%		66	clear
XRF24	bottom	5/15/2019 16:11	10	3	3.7	4.5	sandy clay loam	20		67	clear
xrf25	bottom	5/15/2019 16:42	12	3		3.5	silt loam	10%		68	clear
xrf26	bottom	5/15/2019 16:50	248	6		3.75	slightly mix native and fill			68	
xrf27	mid depth of fill	5/15/2019 17:04	821	15		2.5		dry		68	
xrf28	bottom sloping up	5/15/2019 17:48	55	3	42	3	moist			72	
xrf29	bottom	5/15/2019 18:04	507	9		4	native s one mix	dry		80	
xrf3	fence line 20ft west 3 ft deep	5/13/2019 17:46	385			3		moist	385		
XRF30	bottom	5/15/2019 18:53	231	6	220	4	mixed and native clay	dry		82	
XRF31		5/15/2019 19:13	532	9		1	mixed	dry		83	clear
XRF32		5/15/2019 19:29	624	10		1	mixed	moist		83	clear
XRF33		5/15/2019 19:35	517	9		1	mixed	most		83	clear
XRF34		5/15/2019 19:36	463	8		1	mixed	moist		83	clear
XRF35		5/15/2019 19:58	293	6		1	mixed	moist		85	part cloudy
XRF36		5/15/2019 20:07	275	6		4	mixed	moist		86	part Cloudy
XRF37		5/15/2019 20:24	470	8		4	mixed	moist		86	part cloudy breezy
XRF38			269	6		2	mixed	dry		86	part cloudy breezy
XRF39		5/15/2019 21:10	515	8		3	mixed	dry		86	part cloudy breezy
xrf4		5/13/2019 19:19	857					dry	857	76	clear
XRF40A		5/15/2019 21:37	382	8		1	mixed	dry		87	clear
XRF40B		5/15/2019 21:40	12	3	3.5	3	sandy loam	slightly moist		87	clear
XRF40C		5/15/2019 21:42	28	3		4.5	industrial fill	dry		87	part cloudy
XRF41A		5/15/2019 21:47	393	7		2.5	mixed industrial	dry		86	
XRF41B		5/15/2019 21:47	23	3	14	3.5	tan sand	dry		87	
XRF41C		5/15/2019 6:00	28			4.5	dark klinger	dry			
xrf44	same as XRF42 but deeper	5/16/2019 17:10	25	3	18	3	fill native interface	moist			overcast
XRF47	south sidewall west side south area	5/16/2019 17:39	673	10		1.5	industrial mix	5%		78	warm cloudy
XRF48	sidewall	5/16/2019 18:12	460	8		1.5	mixed	dry		80	cloudy
XRF49	sidewall, 2 ft west of XRF48	5/16/2019 18:21	343	7		2	mixed	dry		80	cloudy
xrf5		5/13/2019 19:46	1622					dry 5%	1622 pm pb	76	clear
XRF50	sidewall	5/16/2019 19:03	1292	16		3	mixed	moist			
XRF51	sidewall	5/16/2019 19:06	999	13		3.5	mixed	moist		82	cloudy windy
XRF56	sidewall	5/16/2019 21:44	452	8		3	mixed	dry			
xrf57	sidewall	5/17/2019 16:08	390	7		1.5	mixed	dry		65	clear,breezy
XRF58	east sidewall, 4ft from NE corner of Flue Shop	5/17/2019 6:00	558	13		1.5					
XRF59	south sidewall, 6 ft E of NE corner of Flue Shop	5/17/2019 6:00	482	8		2					
XRF60		5/17/2019 6:00	315	6	270	1.5					
Xrf61		5/17/2019 6:00	421	8		4					
xrf7		5/13/2019 20:26	22	3			mixed	dry	22 ppm pb	76	clear
xrf8		5/13/2019 21:18	170		190		mixed industrial	dry	170 ppm Pb	81	clear
xrf9			355				mixed industrial below overburden	dry	355 ppm Pb	81	clear
XRF91	Bottom XRF86	5/21/2019 6:00	52	4		3					

OBJECTID	Name	Category	Location	Date	Comments
1	sandblasting			5/2/2019 19:42	
2	battery storage	2		5/2/2019 20:19	
5	Sand Blasting	2		5/2/2019 21:32	
6	south battery storage	1		5/3/2019 16:34	
7	battery storage north	1		5/3/2019 16:46	
8	battery storage stockpile	5		5/16/2019 20:10	approx 6 fe

GlobalID	Shape__Ar	Shape__Le	CreationDa	Creator	EditDate	Editor
968ff2e0-e	214.4766	69.6125	########	ehd_krzieg	########	ehd_krziegler
8ac11bb9-(	439.8945	83.23756	########	ehd_krzieg	########	ehd_krziegler
90523dc5-l	221.5664	59.08282	########	ehd_krzieg	########	ehd_krziegler
cb91d8c7-e	227.2656	58.0397	########	ehd_krzieg	########	ehd_krziegler
561ffad3-a	65.19531	38.87139	########	ehd_krzieg	########	ehd_krziegler
a117428f-c	490.293	111.7497	########	ehd_krzieg	########	ehd_krziegler

Name	Location	Sidewall/Bottom	Date	XRF Results (mg/l)	Plus/Minus	Analytical Results (mg/l)	Depth of Sample (ft)	Soil Description
1	E. fence line center of battery storage area, N flue shop	B	5/13/2019 16:41	197	7	200	3	mixed soil
8	NE corner of battery storage, ~16 feet from NE fence corner	B	5/13/2019 21:18	170		190		mixed industrial
13	below XRF 9	B	5/14/2019 6:00	89	4	68	4	brown red clay
13	4 feet bgs	B	5/14/2019 14:50	89	4	68	4	brown sandy clay
14	3.5-4 ft bgs	B	5/14/2019 15:10	167	5	500	4	brown sandy clay
16	4 feet	B	5/14/2019 16:03	287	6	240	4	mixed
21	bottom of excavation	B	5/14/2019 18:47	21		11	4	red sandy loam
22	4 feet bgs	B	5/14/2019 20:30	0		3.7	4	native sandy silt loam
24	bottom	B	5/15/2019 16:11	10	3	3.7	4.5	sandy clay loam
28	bottom sloping up	B	5/15/2019 17:48	55	3	42	3	moist
30	bottom	B	5/15/2019 18:53	231	6	220	4	mixed and native clay
44	same as XRF42 but deeper	B	5/16/2019 17:10	25	3	18	3	fill native interface
45	south end of south area in middle	B	5/16/2019 17:25	41	3	54	3	industrial mix
60	sidewall eastern most from E corner Flue shop	S	5/17/2019 6:00	315	6	270	1.5	
62	bottom of excavation, ~10ft N of S fence line and 25ft W of E fence line	B	5/20/2019 16:49	11	3	4.9	2	tan clean sand
66	bottom of excavation	B	5/20/2019 20:04	48	3	46	2	industrial mix dark
68	bottom of excavation	B	5/20/2019 18:42	69	3	110	1.5	industrial mix
69	east sidewall	S	5/20/2019 18:58	69	3	56	2	industrial mix
70	east sidewall	S	5/20/2019 19:14	52	3	48	1.5	industrial mix
71	n wall	S	5/20/2019 19:31	286	6	260	1.5	industrial mix
72	West sidewall, north of pole	S	5/20/2019 19:44	230	5	350		industrial mix
106	Western excavation of battery storage area North side wall	S	5/30/2019 17:40			320	2	Industrial mix
107	Western excavation of battery storage west side wall	S	5/30/2019 17:50			240	2	mixed industrial
108	s sidewall Western excavation battery area	S	5/30/2019 18:03			400	2	mixed industrial
109	Northside wall of South section of sandblasting area south of fence	S	5/30/2019 19:01			980	2	mix industrial
110	Westside side wall of South sand blas area South of fence	S	5/30/2019 19:03			250	2	mixed industrial
111	bottom excavation South Sand blast area	B	5/30/2019 19:04			23	3.5	sandy clay
112	north side wall handicap area	S	5/31/2019 19:28			380	2.5	mixed industrial
113	west sidewall handicap area	S	5/31/2019 19:32			780	2	mixed industrial
114	bottom handicap parking area	B	5/31/2019 19:27			940	6	clay
115	bottom Westside handicap	B	5/31/2019 19:29			800	3	mix industrial
116	handicap area east sidewall	S	5/31/2019 19:27			340	2	mixed idustrial
120	bottom of handicap parking area	B	6/18/2019 17:02	11.1	2	9.2	7	native
124	north side wall	S	6/18/2019 20:01	13.7	2	7.4	7	clay
128	Eastern most sidewall of handicap excavation area 10 feet east of storage buildin	S	6/18/2019 21:12	343	5	310	4	mixed
133	floor sw sandblasting	B	6/19/2019 16:20	52	2	43	3	red sandy clay
134	Sidewall East in Sandblasting Area	S	6/19/2019 16:26	149	3	130	3	industrial mix
40b	W. sidewall, center excavation, ~30ft S of handicap parking fence	S	5/15/2019 21:40	12	3	3.5	3	sandy loam
41b	W. sidewall, center excavation, ~30ft S of handicap parking fence	S	5/15/2019 21:47	23	3	14	3.5	tan sand

Name XRF	Location	Sidewall/Bottom	Date	XRF Results (mg/l)	Plus/Minus	Analytical Results (mg/l)	Depth of Sample (ft)	Soil Description
1	3ft from east fence N Flue shop	B	5/13/2019 16:41	197	7	200	3	mixed soil
7	bottom	B	5/13/2019 20:26	22	3			mixed
8	16 ft from NE fence corner, battery storage	B	5/13/2019 21:18	170		190		mixed industrial
9	24 ft from NE fence corner, battery storage	B	5/13/2019 15:30	355				mixed industrial below overburden
13	below XRF 9	B	5/14/2019 8:50	89	4	68	4	brown red clay
13	4 feet bgs	B	5/14/2019 14:50	89	4	68	4	brown sandy clay
14	3.5-4 ft bgs	B	5/14/2019 15:10	167	5	500	4	brown sandy clay
16	4 feet	B	5/14/2019 16:03	287	6	240	4	mixed
21	bottom of excavation	B	5/14/2019 18:47	21	3	11	4	red sandy loam
22	4 feet bgs	B	5/14/2019 20:30	0	<8	3.7	4	native sandy silt loam
24	bottom	B	5/15/2019 16:11	10	3	3.7	4.5	sandy clay loam
30	bottom	B	5/15/2019 18:53	231	6	220	4	mixed and native clay
35	S end and W side of Flue shop	B	5/15/2019 19:58	293	6		1	mixed
36	25 ft west of flue shop and 25 ft N of excavation	B	5/15/2019 20:07	275	6		4	mixed
38	Near SB-10 from Terracon Report, W of Northern excavation	B	5/15/2019 14:59	269	6		2	mixed
42	25 ft W of NW Flue shop corner	B	5/16/2019 6:00	375	7		2.5	
44	same as XRF42 but deeper	B	5/16/2019 17:10	25	3	18	3	fill native interface
49	sidewall, 2 ft west of XRF48	S	5/16/2019 18:21	343	7		2	mixed
52	sidewalls	S	5/16/2019 19:49	366	7		1.5	industrial mix
53	south sidewall	S	5/16/2019 20:05	315	7		1.5	industrial mix
55	south sidewall south area	S	5/16/2019 21:12	334	7			
56	sidewall	S	5/16/2019 21:44	452	8		3	mixed
58	east sidewall, 4ft from NE corner of Flue Shop	S	5/17/2019 6:00	558	13		1.5	
59	south sidewall, 6 ft E of NE corner of Flue Shop	S	5/17/2019 6:00	482	8		2	
60	10ft S of NE Flue shop corner	B	5/17/2019 6:00	315	6	270	1.5	
61	N of Flue shop, 4 ft S of fence	B	5/17/2019 6:00	421	8		4	
62	bottom of excavation,	B	5/20/2019 16:49	11	3	4.9	2	tan clean sand
64	bottom of excavation	B	5/20/2019 16:50	0	8	3.3	2.5	tan clean sand
66	bottom of excavation	B	5/20/2019 20:04	48	3	46	2	industrial mix dark
68	bottom of excavation	B	5/20/2019 18:42	69	3	110	1.5	industrial mix
69	east sidewall	S	5/20/2019 18:58	69	3	56	2	industrial mix
70	east sidewall	S	5/20/2019 19:14	52	3	48	1.5	industrial mix
71	n wall	S	5/20/2019 19:31	286	6	260	1.5	industrial mix
72	West sidewall, north of pole	S	5/20/2019 19:44	230	5	350		industrial mix
73	pothole	S	5/20/2019 20:30	164	5		2	industrial mix dark
80	se pothole	S	5/21/2019 17:24	308	7		2	mixed industrial
81	center south pothole	S	5/21/2019 18:12	400	7		2	mixed industrial
82	sw pothole	S	5/21/2019 18:14	410	7		2	mixed
83	Central west pothole	S	5/21/2019 18:15	195	5		2	sand and mixed industrial
84	central east pothole	S	5/21/2019 18:17	410	7		2	mixed industrial
85	south central pothole by handicap parking south sidewall	S	5/21/2019 6:00	340	7		2	mixed industrial
86	sw pothole	S	5/21/2019 18:32	160	5		1	mixed industrial
87	NE side pothole	S	5/21/2019 18:53	253	1		2	mixed industrial
88	bottom of XRF87	B	5/21/2019 18:56	0	3		3.5	clay loam
89	Due just SW of shed pothole	S	5/21/2019 20:39	250	6		2.5	mixed industrial
91	Bottom XRF86	B	5/21/2019 6:00	52	4		3	
92	sidewall,	S	5/21/2019 6:00	571	9		1.5	
98	floor	B	5/22/2019 16:48	252	6		3	concrete
100	test pit	S	5/22/2019 16:52	208	5		2.5	industrial mix
101	test pit	S	5/22/2019 16:54	262	6		2.5	industrial mix
102	test pit	S	5/22/2019 17:29	217	5		1	industrial mix
104	test pit	S	5/22/2019 17:58	605	9		2	industrial mix
105	test pit	S	5/22/2019 18:12	363	7		2.5	industrial mix
120	bottom of handicap parking area	B	6/18/2019 17:02	11.1	2	9.2	7	native
121	bottom of handicap area 20ft west of side wall	B	6/18/2019 18:30	43	2		7	clay mix
122	bottom of handicap area 30 feet west of sidewall	B	6/18/2019 19:10	108	3		6.5	clay
123	25 feet east of small building	B	6/18/2019 19:40	314	5		1.5	mixed industrial
124	north side wall	S	6/18/2019 20:01	13.7	2	7.4	7	clay
125	handicap parking area	B	6/18/2019 20:21	294	4		2	mixed industrial
126	bottom of excavation 15 feet west of storage building. northern pa	B	6/18/2019 20:57	41.2	2		4	clay mixed
128	Eastern most sidewall of handicap excavation area 10 feet east of s	S	6/18/2019 21:12	343	5	310	4	mixed
129	south sandblasting	B	6/19/2019 15:42	89	2		3	industrial mix
130	south sandblasting	B	6/19/2019 15:54	233	3		2	industrial mix
131	south west sandblasting	B	6/19/2019 16:04	201	3		2.5	industrial mix
132	e sidewall sw sandblasting	S	6/19/2019 16:19	350	4		2.5	industrial mix

133	floor sw sandblasting	B	6/19/2019 16:20	52	2	43	3	red sandy clay
134	Sidewall East in Sandblasting Area	S	6/19/2019 16:26	149	3	130	3	industrial mix
40b	NW sidewall battery storage	S	5/15/2019 21:40	12	3	3.5	3	sandy loam
41a	west wall center battery storage	S	5/15/2019 21:47	393	7		2.5	mixed industrial
41b	west wall center battery storage	S	5/15/2019 21:47	23	3	14	3.5	tan sand
41c	west wall center battery storage	S	5/15/2019 6:00	28	3		4.5	dark klinger
80b	bottom of pothole	B	5/21/2019 6:00	501	8		3	
81b	bottom of pothole	B	5/21/2019 6:00	49	3		3	
82b	bottom of pothole	B	5/21/2019 6:00	250	5		3	
83b	bottom of pothole	B	5/21/2019 6:00	8	3		3	clean sand
84b	bottom pothole	B	5/21/2019 6:00	8	3		2.5	clean clay
85b	bottom of pothole	B	5/21/2019 6:00	11	3		3	

City of Albuquerque

Albuquerque Rail Yards Redevelopment

Health and Safety Plan (HASP)

October 30, 2018

TABLE OF CONTENTS

1.0 ORGANIZATIONAL STRUCTURE

(in compliance with 29 CFR 1910.120(b)(2))

This chapter of the Health and Safety Plan describes lines of authority, responsibility, and communication as they pertain to health and safety functions at this site. The purpose of this chapter is to identify the personnel who impact the development and implementation of the site health and safety plan and to describe their roles and responsibilities. This chapter also identifies other contractors and subcontractors involved in work operations and establishes the lines of communication among them for safety and health matters.

The organizational structure of this site's safety and health program is consistent with OSHA requirements in 29 CFR 1910.120(b)(2) and provides the following site-specific information:

* the general supervisor who has the responsibility and authority to direct all hazardous waste operations
* the site safety and health officer who has the responsibility and authority to develop and implement this HASP and verify compliance
* other personnel needed for hazardous waste operations and emergency response and their general functions and responsibilities
* the lines of authority, responsibility, and communication for safety and health functions

This section is reviewed and updated as necessary to reflect the current organizational structure at this site.

1.1 Roles and Responsibilities

All personnel and visitors on this site must comply with the requirements of this HASP. The specific responsibilities and authority of management, safety and health, and other personnel on this site are detailed in the following paragraphs. A site organizational chart illustrating the hierarchy of personnel and lines of communication within this company and with additional contractors on site is found in Figure 1-1.

Project Manager (PM)

The Project Manager (PM) for this site is Karen Iverson. The PM has responsibility and authority to direct all work operations. The PM coordinates safety and health functions with the Site Safety and Health Officer (SSHO), has the authority to oversee and monitor the performance of the SSHO, and bears ultimate responsibility for the proper implementation of this HASP. The specific duties of the PM are:

Preparing and coordinating the site work plan; providing site supervisor(s) with work assignments and overseeing their performance; coordinating safety and health efforts with the SSHO; ensuring effective emergency response through coordination with the Emergency Response Coordinator (ERC); serving as primary site liaison with public agencies and officials and site contractors.

Site Safety and Health Officer (SSHO)

The Site Safety and Health Officer (SSHO) for this site is Peter Ennen. The SSHO has full responsibility and authority to develop and implement this HASP and to verify compliance. The SSHO reports to the Project Manager. The SSHO is on site or readily accessible to the site during all work operations and has the authority to halt site work if unsafe conditions are detected. The specific responsibilities of the SSHO are:

Managing the safety and health functions on this site; serving as the site's point of contact for safety and health matters; ensuring site monitoring, worker training, and effective selection and use of PPE; assessing site conditions for unsafe acts and conditions and providing corrective action; assisting the preparation and review of this HASP; maintaining effective safety and health records as described in this HASP; coordinating with the Emergency Response Coordinator (ERC), Site Supervisor(s), and others as necessary for safety and health efforts.

The qualified alternate Site Safety and Health Officer (SSHO) for this site is Theresa Alling.

Emergency Response Coordinator (ERC)

The Emergency Response Coordinator (ERC) for this site is Albuquerque Fire Department. The ERC is responsible for assessing site conditions and directing and controlling emergency response activities in accordance with the Site Emergency Response Plan. The ERC reports to the Project Manager (PM). The ERC will ensure the evacuation, emergency transport, and treatment of site personnel and will notify the appropriate emergency response units and management staff in accordance with the emergency response plan of this HASP. Specific duties of the ERC include:

Developing and reviewing the emergency response plan; conducting emergency response rehearsals; ensuring effective emergency response to and evacuation of the site; coordinating emergency response functions with the Site Safety and Health Officer (SSHO), and integrating site emergency response plans with the disaster, fire, and/or emergency response plans of local, state, and federal organizations and agencies.

Site Supervisor

The Site Supervisor for this site is Gabe Rivera. The Site Supervisor is responsible for field operations and reports to the Project Manager (PM). The Site Supervisor ensures the implementation of the HASP requirements and procedures in the field. The specific responsibilities of the Site Supervisor are:

Executing the work plan and schedule as detailed by the PM; coordination with the Site Safety and Health Officer (SSHO) on safety and health; ensuring site work compliance with the requirements of this HASP.

The qualified alternate Site Supervisor for this site is Bart Faris.

1.2 Identification of Other Site Contractors

The other contractors and subcontractors on this site who could be affected by the tasks and operations associated with this workplan and HASP are listed in Table 1-2 below.

Table 1-2 Other Site Contractors and Subcontractors

Company	Function
Gordon Environmental	As and LBP Abatement
Intera Inc.	Develop environmental work plan

Safety and health lines of communication with these contractors are illustrated in Figure 1-1.

1.3 Other local/State/Federal Agency Representatives and Their Roles Responsibilities

Remedial Contacts (REM)

The Remedial Contacts (REM) for this site is Intera Inc.. The REM contractors are responsible for data collection activities solely for the remedial investigation (RI). REM contractors are also responsible for feasibility studies (FS), which culminate in RI/FS reports in support of EPA's remedial programs.

The qualified alternate Remedial Contacts (REM) for this site is Joe Tracy.

Figure 1-1 Organizational Chart

Insert the site organizational chart here, showing S&H lines of authority and communication among site contractors.

2.0 JOB HAZARD ANALYSIS

(in compliance with 29 CFR 1910.120(b)(4)(ii)(A),and 1910.120(i))

This chapter of the HASP describes the safety and health hazards associated with site work and the control measures selected to protect workers. The purpose of a job hazard analysis (JHA) is to identify and quantify the health and safety hazards associated with each site task and operation, and to evaluate the risks to workers. Using this information, appropriate control methods are selected to eliminate the identified risks if possible, or to effectively control them. The control methods are documented in each task-specific JHA. The information contained in this chapter is essential to effective preparation of all other chapters of the HASP. This section of the HASP includes:

* a site description
* job hazard analysis
* hazardous substance information
* employee notification of hazards

The person responsible for ongoing job hazard analysis at this site is Bart Faris.

2.1 Site History

The following text describes the site and its conditions as they relate to the need to perform hazardous substance clean-up operations.

The Site is located between 2nd Street and Commercial Street in downtown Albuquerque, New Mexico, and comprises approximately 27 acres located within the former Atchison, Topeka and Santa Fe (ATSF)/Burlington Northern Santa Fe (BNSF) Central Works Equipment Facility Railyard that operated from the 1880s to the early 1990s. As a result of previous operations, the Site sustained environmental impacts from both petroleum hydrocarbon and metal contamination. Contamination is present in both the Site vadose/unsaturated zone (Site soils and soil vapor) and in the saturated zone (Site groundwater), metals adsorbed to soil particles, organic vapors, and organic and inorganic solutes dissolved in groundwater. In addition, the existing buildings contain asbestos (As) and lead based paint (LBP).

The sources used to provide the above description include:

Phase II Site Assessment
Site Characterization Summary Report
Master Development Plan

2.2 Job Hazard Analysis

Each site-specific JHA appears on a separate copy of Table 2-2. Each JHA lists a task or operation required during site clean-up and the location(s) where that task or operation is performed. A single JHA may be used for a task/operation performed in multiple locations if the hazards, potential exposures, and controls are the same in each location.

Each JHA lists the chemical hazards associated with that task and their known or anticipated airborne concentrations during performance of the task. Each JHA also identifies anticipated physical and biological hazards and potential exposure levels or the likelihood of exposure. The final section of each JHA lists the control measures implemented to protect employees from exposure to the identified hazards. The information provided here is designed to satisfy the job hazard analysis requirements of 1910.120(b)(4)(ii)(A) and the workplace hazard assessment requirements of 1910.132(d).

Health hazard information for all chemical substance identified in site JHAs appears in hazard data sheets attached to this chapter.

Bart Faris modifies site-specific JHAs and the accompanying data sheets when:

* the scope of work is changed by adding, eliminating, or modifying tasks
* new methods of performing site tasks are selected
* observation of the performance of site tasks results in a revised characterization of the hazards
* new chemical, biological, or physical hazards are identified
* exposure data indicate changes in the concentration and/or likelihood of exposure
* new/different control measures are selected

When JHAs are modified, related provisions in other chapters of this HASP are modified as needed.

Table 2-2: Site-Specific Job Hazard Analysis			
Operational Phase	**Phase No**	**Task/Operation**	**Location Where Task/Operation Performed**
As LBP Abatment Plan	1	As LBP Abatement Plan	Fire Station
Date(s) this JHA Conducted	**Employee Certifying this JHA**		
	Print Name		**Signature**
10/15/2018	Gabe Rivera		

Chemical Hazards			
Chemical Name	**Source**	**Concentration**	**Exposure Limit**
ASBESTOS - CHRYSOTILE	roof mastic	ppm	0.1 ppm PEL-TWA OSHA
LEAD (INORGANIC, DUSTS & FUMES), as Pb	turqouise paint	ppm	0.05 ppm PEL-TWA OSHA
** Chemicals added by user*			

Physical Hazards			
Name of Physical Hazard	**Source**	**Exposure Level/ Potential**	**Exposure Limit**
Heat (ambient)		Likely	N/A
Inclement Weather - Lightning and High Winds		Likely	N/A
Inclement Weather - Snow, rain, and other precipitation		Likely	N/A
Slips/Trips/Falls		Likely	N/A
Working at Elevations		Likely	N/A
Cold Weather Operations		Likely	N/A

Biological Hazards		
Name of Biological Hazard	**Source**	**Exposure Potential**
Histoplasmosis - Bird Droppings/Bat Guana		Likely
Insect bites and stings		Likely

Control Measures Used
Work Practices: Access to the Boiler Shop and Machine Shop is restricted due to falling roofing material hazard potential. Access to these two buildings is limited to authorized personnel required to peform job duties. Authorized personnel must wear hard hats, protective clothing, and covered shoes while performing duties within the Rail Yards.

Level of PPE: D	Respirator Cartridge/Canister: Not Applicable
	Service Life: Not Applicable
PPE Upgrade: No	
PPE Downgrade: No	

Table 2-2: Site-Specific Job Hazard Analysis			
Operational Phase	**Phase No**	**Task/Operation**	**Location Where Task/Operation Performed**
As LBP Abatment Plan	1	As LBP Abatement Plan	Flue Workshop
Date(s) this JHA Conducted	**Employee Certifying this JHA**		
	Print Name		**Signature**
10/15/2018	Gabe Rivera		

Chemical Hazards			
Chemical Name	**Source**	**Concentration**	**Exposure Limit**
ASBESTOS - CHRYSOTILE	floor mastic, window caulking	ppm	0.1 ppm PEL-TWA OSHA
LEAD (INORGANIC, DUSTS & FUMES), as Pb	white paint on floor	ppm	0.05 ppm PEL-TWA OSHA
** Chemicals added by user*			

Physical Hazards			
Name of Physical Hazard	**Source**	**Exposure Level/ Potential**	**Exposure Limit**
See previous hazard		Likely	N/A

Biological Hazards		
Name of Biological Hazard	**Source**	**Exposure Potential**
Histoplasmosis - Bird Droppings/Bat Guana		Likely
Insect bites and stings		Likely

Control Measures Used
Work Practices: Access to the Boiler Shop and Machine Shop is restricted due to falling roofing material hazard potential. Access to these two buildings is limited to authorized personnel required to peform job duties. Authorized personnel must wear hard hats, protective clothing, and covered shoes while performing duties within the Rail Yards.

Level of PPE: D	Respirator Cartridge/Canister: Not Applicable
	Service Life: Not Applicable
PPE Upgrade: No	
PPE Downgrade: No	

Table 2-2: Site-Specific Job Hazard Analysis			
Operational Phase	**Phase No**	**Task/Operation**	**Location Where Task/Operation Performed**
As LBP Abatment Plan	1	As LBP Abatement Plan	Cab Paint House
Date(s) this JHA Conducted	**Employee Certifying this JHA**		
	Print Name		**Signature**
10/15/2018	Gabe Rivera		

Chemical Hazards			
Chemical Name	**Source**	**Concentration**	**Exposure Limit**
LEAD (INORGANIC, DUSTS & FUMES), as Pb		ppm	0.05 ppm PEL-TWA OSHA
ASBESTOS - CHRYSOTILE		ppm	0.1 ppm PEL-TWA OSHA
** Chemicals added by user*			

Physical Hazards			
Name of Physical Hazard	**Source**	**Exposure Level/ Potential**	**Exposure Limit**
same a previous		Likely	N/A

Biological Hazards		
Name of Biological Hazard	**Source**	**Exposure Potential**
Histoplasmosis - Bird Droppings/Bat Guana		Likely
Insect bites and stings		Likely

Control Measures Used
Work Practices: Access to the Boiler Shop and Machine Shop is restricted due to falling roofing material hazard potential. Access to these two buildings is limited to authorized personnel required to peform job duties. Authorized personnel must wear hard hats, protective clothing, and covered shoes while performing duties within the Rail Yards.

Level of PPE: D	Respirator Cartridge/Canister: Not Applicable
	Service Life: Not Applicable
PPE Upgrade: No	
PPE Downgrade: No	

Table 2-2: Site-Specific Job Hazard Analysis			
Operational Phase	**Phase No**	**Task/Operation**	**Location Where Task/Operation Performed**
As LBP Abatment Plan	1	As LBP Abatement Plan	Pattern House
Date(s) this JHA Conducted	**Employee Certifying this JHA**		
	Print Name		**Signature**
10/15/2018	Gabe Rivera		

Chemical Hazards			
Chemical Name	**Source**	**Concentration**	**Exposure Limit**
ASBESTOS - CHRYSOTILE	door frame caulking, roof mastic	ppm	0.1 ppm PEL-TWA OSHA
LEAD (INORGANIC, DUSTS & FUMES), as Pb	gray wall paint	ppm	0.05 ppm PEL-TWA OSHA
** Chemicals added by user*			

Physical Hazards			
Name of Physical Hazard	**Source**	**Exposure Level/ Potential**	**Exposure Limit**
See previous hazard		Likely	N/A

Biological Hazards		
Name of Biological Hazard	**Source**	**Exposure Potential**
Insect bites and stings		Likely
Histoplasmosis - Bird Droppings/Bat Guana		Likely

Control Measures Used
Work Practices: Access to the Boiler Shop and Machine Shop is restricted due to falling roofing material hazard potential. Access to these two buildings is limited to authorized personnel required to peform job duties. Authorized personnel must wear hard hats, protective clothing, and covered shoes while performing duties within the Rail Yards.

Level of PPE: D	Respirator Cartridge/Canister: Not Applicable
	Service Life: Not Applicable
PPE Upgrade: No	
PPE Downgrade: No	

Table 2-2: Site-Specific Job Hazard Analysis			
Operational Phase	**Phase No**	**Task/Operation**	**Location Where Task/Operation Performed**
As LBP Abatment Plan	1	As LBP Abatement Plan	Sheet Metal House and North Washroom
Date(s) this JHA Conducted	**Employee Certifying this JHA**		
10/15/2018	**Print Name** Gabe Rivera		**Signature**

Chemical Hazards			
Chemical Name	**Source**	**Concentration**	**Exposure Limit**
ASBESTOS - CHRYSOTILE	window caulking, floor seam and roof mastic,	ppm	0.1 ppm PEL-TWA OSHA
LEAD (INORGANIC, DUSTS & FUMES), as Pb	wall paint, white ceiling paint, turquoiuse paint	ppm	0.05 ppm PEL-TWA OSHA
** Chemicals added by user*			

Physical Hazards			
Name of Physical Hazard	**Source**	**Exposure Level/ Potential**	**Exposure Limit**
Cold Weather Operations		Likely	N/A
Heat (ambient)		Likely	N/A
Inclement Weather - Snow, rain, and other precipitation		Likely	N/A
Inclement Weather - Lightning and High Winds		Likely	N/A
Slips/Trips/Falls		Likely	N/A
Working at Elevations		Likely	N/A

Biological Hazards		
Name of Biological Hazard	**Source**	**Exposure Potential**
Insect bites and stings		Likely
Histoplasmosis - Bird Droppings/Bat Guana		Likely

Control Measures Used
Work Practices: Access to the Boiler Shop and Machine Shop is restricted due to falling roofing material hazard potential. Access to these two buildings is limited to authorized personnel required to peform job duties. Authorized personnel must wear hard hats, protective clothing, and covered shoes while performing duties within the Rail Yards.

Level of PPE: D	Respirator Cartridge/Canister: Not Applicable
	Service Life: Not Applicable
PPE Upgrade: No	
PPE Downgrade: No	

Table 2-2: Site-Specific Job Hazard Analysis			
Operational Phase	**Phase No**	**Task/Operation**	**Location Where Task/Operation Performed**
As LBP Abatement	2	Abatement	See order in Phase 1
Date(s) this JHA Conducted	**Employee Certifying this JHA**		
10/16/2018	**Print Name** Gabe Rivera		**Signature**

Chemical Hazards			
Chemical Name	**Source**	**Concentration**	**Exposure Limit**
ASBESTOS - CHRYSOTILE		ppm	0.1 ppm PEL-TWA OSHA
LEAD (INORGANIC, DUSTS & FUMES), as Pb		ppm	0.05 ppm PEL-TWA OSHA
** Chemicals added by user*			

Physical Hazards			
Name of Physical Hazard	**Source**	**Exposure Level/ Potential**	**Exposure Limit**
Earth Moving Equipment Operations		Likely	N/A
Heavy Equipment Operation		Likely	N/A
Motion of Machinery (Struck by hazards)		Likely	N/A
Lifting Equipment Operation - Cranes		Likely	N/A
Lifting Equipment Operation - Manlifts		Likely	N/A
See previous hazards		Likely	N/A

Biological Hazards		
Name of Biological Hazard	**Source**	**Exposure Potential**
Histoplasmosis - Bird Droppings/Bat Guana		Likely
Insect bites and stings		Likely

Control Measures Used
Work Practices: Access to the Boiler Shop and Machine Shop is restricted due to falling roofing material hazard potential. Access to these two buildings is limited to authorized personnel required to peform job duties. Authorized personnel must wear hard hats, protective clothing, and covered shoes while performing duties within the Rail Yards.

Level of PPE: D	Respirator Cartridge/Canister: Not Applicable
	Service Life: Not Applicable
PPE Upgrade: No	
PPE Downgrade: No	

Table 2-2: Site-Specific Job Hazard Analysis			
Operational Phase	**Phase No**	**Task/Operation**	**Location Where Task/Operation Performed**
Demolition	3	Demolition of buildings	See order of demolition per Phase 1
Date(s) this JHA Conducted	**Employee Certifying this JHA**		
10/15/2018	**Print Name** Gabe Rivera		**Signature**

Chemical Hazards			
Chemical Name	**Source**	**Concentration**	**Exposure Limit**
ASBESTOS - CHRYSOTILE		ppm	0.1 ppm PEL-TWA OSHA
LEAD (INORGANIC, DUSTS & FUMES), as Pb		ppm	0.05 ppm PEL-TWA OSHA
** Chemicals added by user*			

Physical Hazards			
Name of Physical Hazard	**Source**	**Exposure Level/ Potential**	**Exposure Limit**
See previous hazard		Likely	N/A
Demolition Operations		Likely	N/A

Biological Hazards		
Name of Biological Hazard	**Source**	**Exposure Potential**
Histoplasmosis - Bird Droppings/Bat Guana		Likely
Insect bites and stings		Likely

Control Measures Used
Work Practices: Access to the Boiler Shop and Machine Shop is restricted due to falling roofing material hazard potential. Access to these two buildings is limited to authorized personnel required to peform job duties. Authorized personnel must wear hard hats, protective clothing, and covered shoes while performing duties within the Rail Yards.

Level of PPE: D	Respirator Cartridge/Canister: Not Applicable
	Service Life: Not Applicable
PPE Upgrade: No	
PPE Downgrade: No	

Table 2-2: Site-Specific Job Hazard Analysis			
Operational Phase	**Phase No**	**Task/Operation**	**Location Where Task/Operation Performed**
VRP Work Plan Implementation	4	Groundwater sampling	Annual in all 10 MWs
Date(s) this JHA Conducted	**Employee Certifying this JHA**		
	Print Name Gabe Rivera		**Signature**

Chemical Hazards			
Chemical Name	**Source**	**Concentration**	**Exposure Limit**
VOCs by EPA method 8260 *	groundwater	ppm	WQCC standards
Semi-volatile by EPA method 8270 *	groundwater	ppm	WQCC standards
Dissolved metals *	groundwater	ppm	WQCC standards
Major ions *	groundwater	ppm	WQCC standards
nitrogen species *	groundwater	ppm	WQCC standards
** Chemicals added by user*			

Physical Hazards			
Name of Physical Hazard	**Source**	**Exposure Level/ Potential**	**Exposure Limit**
Inclement Weather - Lightning and High Winds		Likely	N/A
Cold Weather Operations		Likely	N/A
Inclement Weather - Lightning and High Winds		Likely	N/A
Heavy Manual Lifting/Moving		Likely	N/A
Inclement Weather - Snow, rain, and other precipitation		Likely	N/A
Slips/Trips/Falls		Likely	N/A

Biological Hazards		
Name of Biological Hazard	**Source**	**Exposure Potential**
Insect bites and stings		Likely

Control Measures Used
Work Practices: Access to the Boiler Shop and Machine Shop is restricted due to falling roofing material hazard potential. Access to these two buildings is limited to authorized personnel required to peform job duties. Authorized personnel must wear hard hats, protective clothing, and covered shoes while performing duties within the Rail Yards.

Level of PPE: D	Respirator Cartridge/Canister: Not Applicable
	Service Life: Not Applicable
PPE Upgrade: No	
PPE Downgrade: No	

Table 2-2: Site-Specific Job Hazard Analysis			
Operational Phase	**Phase No**	**Task/Operation**	**Location Where Task/Operation Performed**
VRP Work Plan Implementation	4	Groundwater well installation	As needed in the North Rail Yard
Date(s) this JHA Conducted	**Employee Certifying this JHA**		
	Print Name		**Signature**
10/19/2018	Gabe Rivera		

Chemical Hazards			
Chemical Name	**Source**	**Concentration**	**Exposure Limit**
VOCs	water		
Semi-volatiles	water		
Dissolved metals	water		
Major ions	water		
** Chemicals added by user*			

Physical Hazards			
Name of Physical Hazard	**Source**	**Exposure Level/ Potential**	**Exposure Limit**
See previous hazards		Likely	N/A
Drilling Rig Operations		Likely	N/A

Biological Hazards		
Name of Biological Hazard	**Source**	**Exposure Potential**
Insect bites and stings		Unlikely

Control Measures Used
Work Practices: Access to the Boiler Shop and Machine Shop is restricted due to falling roofing material hazard potential. Access to these two buildings is limited to authorized personnel required to peform job duties. Authorized personnel must wear hard hats, protective clothing, and covered shoes while performing duties within the Rail Yards.

Level of PPE: D	Respirator Cartridge/Canister: Not Applicable
	Service Life: Not Applicable
PPE Upgrade: No	
PPE Downgrade: No	

Table 2-2: Site-Specific Job Hazard Analysis			
Operational Phase	**Phase No**	**Task/Operation**	**Location Where Task/Operation Performed**
VRP Work Plan Implementation	4	Soil excavation	as identified in the soil management plan
Date(s) this JHA Conducted	**Employee Certifying this JHA**		
	Print Name		**Signature**
10/18/2018	Gabe Rivera		

Chemical Hazards			
Chemical Name	**Source**	**Concentration**	**Exposure Limit**
ARSENIC METAL AND INORGANIC COMPOUNDS, as As	soil	ppm	0.01 ppm PEL-TWA OSHA
Arsenic *	soil	ppm	7.07 NMED SSG residential
LEAD (INORGANIC, DUSTS & FUMES), as Pb	soil	ppm	0.05 ppm PEL-TWA OSHA
Lead *	soil	ppm	400 EPA guidance
ANTIMONY METAL AND COMPOUNDS, as Sb	soil	ppm	0.5 ppm PEL-TWA OSHA
Antimony *	soil	ppm	31.3 NMED SSG residential
TPH *	soil	ppm	1000 NMED SSG residential
** Chemicals added by user*			

Physical Hazards			
Name of Physical Hazard	**Source**	**Exposure Level/ Potential**	**Exposure Limit**
See previous hazard		Likely	N/A

Biological Hazards		
Name of Biological Hazard	**Source**	**Exposure Potential**
Insect bites and stings		Unlikely

Control Measures Used
Work Practices: Access to the Boiler Shop and Machine Shop is restricted due to falling roofing material hazard potential. Access to these two buildings is limited to authorized personnel required to peform job duties. Authorized personnel must wear hard hats, protective clothing, and covered shoes while performing duties within the Rail Yards.

Level of PPE: D	Respirator Cartridge/Canister: Not Applicable
	Service Life: Not Applicable
PPE Upgrade: No	
PPE Downgrade: No	

Table 2-2: Site-Specific Job Hazard Analysis			
Operational Phase	**Phase No**	**Task/Operation**	**Location Where Task/Operation Performed**
VRP Work Plan Implementation	4	Soil excavation	former sand blasting area
Date(s) this JHA Conducted	**Employee Certifying this JHA**		
	Print Name		**Signature**
10/18/2018	Gabe Rivera		

Chemical Hazards			
Chemical Name	**Source**	**Concentration**	**Exposure Limit**
Aresenic *	soil	ppm	7.07 NMED SSG residential
CHROMIUM METAL	soil	ppm	1 ppm PEL-TWA OSHA
Antimony *	soil	ppm	31.3 NMED SSG residential
Chromium *	soil	ppm	117000 NMED SSG residential
Cobalt *	soil	ppm	23.4 NMED SSG non-cancer residential
LEAD (INORGANIC, DUSTS & FUMES), as Pb	soil	ppm	0.05 ppm PEL-TWA OSHA
Lead *	soil	ppm	400EPA SSG residential
** Chemicals added by user*			

Physical Hazards			
Name of Physical Hazard	**Source**	**Exposure Level/ Potential**	**Exposure Limit**
See previous hazard		Likely	N/A

Biological Hazards		
Name of Biological Hazard	**Source**	**Exposure Potential**
Insect bites and stings		Likely

Control Measures Used
Work Practices: Access to the Boiler Shop and Machine Shop is restricted due to falling roofing material hazard potential. Access to these two buildings is limited to authorized personnel required to peform job duties. Authorized personnel must wear hard hats, protective clothing, and covered shoes while performing duties within the Rail Yards.

Level of PPE: D	Respirator Cartridge/Canister: Not Applicable
	Service Life: Not Applicable
PPE Upgrade: No	
PPE Downgrade: No	

Table 2-2: Site-Specific Job Hazard Analysis			
Operational Phase	**Phase No**	**Task/Operation**	**Location Where Task/Operation Performed**
VRP Work Plan Implementation	4	Soil excavation	former battery storage area
Date(s) this JHA Conducted	**Employee Certifying this JHA**		
	Print Name		**Signature**
10/16/2018	Gabe Rivera		

Chemical Hazards			
Chemical Name	**Source**	**Concentration**	**Exposure Limit**
Arsenic Inorganic metal *	soil	ppm	7.07 NMED SSG residential
LEAD (INORGANIC, DUSTS & FUMES), as Pb	soil	ppm	0.05 ppm PEL-TWA OSHA
** Chemicals added by user*			

Physical Hazards			
Name of Physical Hazard	**Source**	**Exposure Level/ Potential**	**Exposure Limit**
Cold Weather Operations		Likely	N/A
Earth Moving Equipment Operations		Likely	N/A
Hand Tool Use		Likely	N/A
Inclement Weather - Lightning and High Winds		Likely	N/A
Inclement Weather - Snow, rain, and other precipitation		Likely	N/A
Motion of Machinery (Struck by hazards)		Likely	N/A
Slips/Trips/Falls		Likely	N/A
Utilities (electrical, gas, water, etc.) - Overhead		Likely	N/A
Working at Elevations		Likely	N/A

Biological Hazards		
Name of Biological Hazard	**Source**	**Exposure Potential**
Insect bites and stings		Likely

Control Measures Used
Work Practices: Access to the Boiler Shop and Machine Shop is restricted due to falling roofing material hazard potential. Access to these two buildings is limited to authorized personnel required to peform job duties. Authorized personnel must wear hard hats, protective clothing, and covered shoes while performing duties within the Rail Yards.

Level of PPE: D	Respirator Cartridge/Canister: Not Applicable
	Service Life: Not Applicable
PPE Upgrade: No	
PPE Downgrade: No	

Table 2-2: Site-Specific Job Hazard Analysis			
Operational Phase	**Phase No**	**Task/Operation**	**Location Where Task/Operation Performed**
VRP Work Plan Implementation	4	Soil gas sampling	Annually in sub-slab vapor points for VOCs

Date(s) this JHA Conducted	**Employee Certifying this JHA**	
	Print Name	**Signature**
10/16/2018	Gabe Rivera	

Chemical Hazards			
Chemical Name	**Source**	**Concentration**	**Exposure Limit**
Volatile Organic Compounds per 8260	soil vapor	mg/m3	
trichloroethene *	soil vapor	mg/m3	69.5 NMED SSG VISL
ethylene dibromide *	soil vapor	mg/m3	1.56 NMED SSG VISL

** Chemicals added by user*

Control Measures Used	
Work Practices: Access to the Boiler Shop and Machine Shop is restricted due to falling roofing material hazard potential. Access to these two buildings is limited to authorized personnel required to peform job duties. Soil vapor samples to be collected in the Boiler Shop. Authorized personnel must wear hard hats, protective clothing, and covered shoes while performing duties within the Rail Yards.	
Level of PPE: D	Respirator Cartridge/Canister: Not Applicable
	Service Life: Not Applicable
PPE Upgrade: No	
PPE Downgrade: No	

2.3 Employee Notification of Hazards and Overall Site Information Program

The information in the JHAs and the attached data sheets is made available to all employees who could be affected by it prior to the time they begin their work activities. Modifications to JHAs and the accompanying data sheets are communicated during routine briefings.

Consistent with paragraph (i) of HAZWOPER, we also inform other contractors and subcontractors about the nature and level of hazardous substances at this site, and the likely degree of exposure to workers who participate in site operations.

The person responsible for providing site information, this HASP, and any modifications to the HASP to other contractors and subcontractors working on this site is: Gabe Rivera

CHEMICAL IDENTIFICATION

Chemical Name: ANTIMONY METAL AND COMPOUNDS, as Sb		
CAS #: 7440-36-0	UN No: 2871	Formula: Sb
Synonyms: Antimony metal, Antimony powder, Stibium		

PHYSICAL PROPERTIES

Physical Description: Silver-white, lustrous, hard, brittle solid; scale-like crystals; or a dark-gray, lustrous powder.

BP: 2975ºF	MW: 121.8	LEL: NA	NFPA Fire Rating: NA
MLT: 1202ºF	VP: 0 mmHg (approx)	UEL: NA	NFPA Health Rating: NA
Fl.P: NA	VD: NA		NFPA Reactivity Rating: NA
Sp. Gr.: 6.69	IP: NA		NFPA Sp. Inst.: NA

EXPOSURE GUIDELINES

OSHA	NIOSH	ACGIH	Related Information
PEL-TWA ppm: NA	REL-TWA ppm: NA	TLV-TWA ppm: NA	AIHA Emergency Response Planning Guidelines (ERPGs)EPRG-1/EPRG-2/EPRG-3: NA
PEL-TWA mg/m3: 0.5	REL-TWA mg/m3: 0.5	TLV-TWA mg/m3: 0.5	
PEL-STEL ppm: NA	REL-STEL ppm: NA	TLV-STEL ppm: NA	
PEL-STEL mg/m3: NA	REL-STEL mg/m3: NA	TLV-STEL mg/m3: NA	
PEL-C ppm: NA	REL-C ppm: NA	TLV-C ppm: NA	
PEL-C mg/m3: NA	REL-C mg/m3: NA	TLV-C mg/m3: NA	
Skin Notation: ☐	☐	☐	
Notes: NA	Notes: NA	Notes: NA	Carcinogen Classifications: NA

IDLH Notes: NA	
IDLH ppm: NA	IDLH mg/m3: 50

HEALTH INFORMATION

Symptoms: nose, throat, mouth irritation; coughing; dizziness; headaches; nausea, vomiting, diarrhea; stomach cramps; insomnia; anorexia; skin irritation; inability to smell

Health Effects: chronic (cumulative) toxicity---cumulative heart and lung damage

Target Organ: eyes, skin, respiratory system, cardiovascular system

EMERGENCY RESPONSE INFORMATION

First Aid: EYES: First check the victim for contact lenses and remove if present. Flush victim's eyes with water or normal saline solution for 20 to 30 minutes while simultaneously calling a hospital or poison control center. Do not put any ointments, oils, or medication in the victim's eyes without specific instructions from a physician. IMMEDIATELY transport the victim after flushing eyes to a hospital even if no symptoms (such as redness or irritation) develop. SKIN: IMMEDIATELY flood affected skin with water while removing and isolating all contaminated clothing. Gently wash all affected skin areas thoroughly with soap and water. If symptoms such as redness or irritation develop, IMMEDIATELY call a physician and be prepared to transport the victim to a hospital for treatment. INHALATION: IMMEDIATELY leave the contaminated area; take deep breaths of fresh air. IMMEDIATELY call a physician and be prepared to transport the victim to a hospital even if no symptoms (such as wheezing, coughing, shortness of breath, or burning in the mouth, throat, or chest) develop. Provide proper respiratory protection to rescuers entering an unknown atmosphere. Whenever possible, Self-Contained Breathing Apparatus (SCBA) should be used; if not available, use a level of protection greater than or equal to that advised under Protective Clothing. INGESTION: Some heavy metals are VERY TOXIC POISONS, especially if their salts are very soluble in water (e.g., lead,

chromium, mercury, bismuth, osmium, and arsenic). IMMEDIATELY call a hospital or poison control center and locate activated charcoal, egg whites, or milk in case the medical advisor recommends administering one of them. Also locate Ipecac syrup or a glass of salt water in case the medical advisor recommends inducing vomiting. Usually, this is NOT RECOMMENDED outside of a physician's care. If advice from a physician is not readily available and the victim is conscious and not convulsing, give the victim a glass of activated charcoal slurry in water or, if this is not available, a glass of milk, or beaten egg whites and IMMEDIATELY transport victim to a hospital. If the victim is convulsing or unconscious, do not give anything by mouth, assure that the victim's airway is open and lay the victim on his/her side with the head lower than the body. DO NOT INDUCE VOMITING. IMMEDIATELY transport the victim to a hospital. (NTP, 1992)
Reactivity: CHEMICAL PROFILE: Antimony is spontaneously flammable in fluorine, chlorine, and bromine. With iodine, the reaction produces heat, which can cause flame or even an explosion if the quantities are great enough (Mellor 9:379 1946-47). Even at 10 C. bromine trifluoride reacts with antimony incandescently. Bromine trifluoride reacts similarly with arsenic, boron, bromine, iodine, phosphorus, and sulfur (Mellor 2:113 1946-47). Bromoazide explodes on contact with antimony, arsenic, phosphorus, silver foil, or sodium. It is very shock sensitive. Explosions of chloric acid have been due to the formation of unstable compounds with antimony, bismuth, ammonia, and organic matter (Chem. Abst. 46:2805e 1952). The reaction of finely divided antimony and nitric acid can be violent (Pascal 10:504 1931-34). Powdered antimony mixed with potassium nitrate explodes when heated (Mellor 9:282 1946-47). When antimony or arsenic and solid potassium permanganate are ground together, the metals ignite (Mellor 12:322 1946-47). Sodium peroxide oxidizes antimony, arsenic, copper, potassium, tin, and zinc with incandescence (Mellor 2:490-93 1946-47). (REACTIVITY, 1999)
Nonfire Spill Response: Keep sparks, flames, and other sources of ignition away. Keep material out of water sources and sewers. (AAR, 1999)
Fire Response: Extinguish fire using agent suitable for type of surrounding fire. (Material itself does not burn or burns with difficulty.) Use water in flooding quantities as fog. Use foam, dry chemical, or carbon dioxide. Keep run-off water out of sewers and water sources. (AAR, 1999)

CHEMICAL IDENTIFICATION

Chemical Name: ARSENIC METAL AND INORGANIC COMPOUNDS, as As

CAS #: 7440-38-2	UN No: 1558	Formula: As

Synonyms: Arsenic metal: Arsenia Other synonyms vary depending upon the specific As compound.

PHYSICAL PROPERTIES

Physical Description: Metal: Silver-gray or tin-white, brittle, odorless solid.

BP: Sublimes	MW: 74.9	LEL: NA	NFPA Fire Rating: 2
MLT: NA	VP: NA	UEL: 1135ºF (Sublimes)	NFPA Health Rating: 3
Fl.P: NA	VD: NA		NFPA Reactivity Rating: 0
Sp. Gr.: 5.73 (metal)	IP: NA		NFPA Sp. Inst.: NA

EXPOSURE GUIDELINES

OSHA	NIOSH	ACGIH	Related Information
PEL-TWA ppm: NA	REL-TWA ppm: NA	TLV-TWA ppm: NA	AIHA Emergency Response Planning Guidelines (ERPGs)EPRG-1/EPRG-2/EPRG-3: NA
PEL-TWA mg/m3: 0.01	REL-TWA mg/m3: NA	TLV-TWA mg/m3: 0.01	
PEL-STEL ppm: NA	REL-STEL ppm: NA	TLV-STEL ppm: NA	
PEL-STEL mg/m3: NA	REL-STEL mg/m3: NA	TLV-STEL mg/m3: NA	
PEL-C ppm: NA	REL-C ppm: NA	TLV-C ppm: NA	
PEL-C mg/m3: NA	REL-C mg/m3: 0.002	TLV-C mg/m3: NA	
Skin Notation: ☐	☐	☐	
Notes: as As; TWA=0.5 mg/m3 FOR ORGANIC COMPOUNDS. SEE 29 CFR 1910.1018	Notes: CARCINOGEN (Ca); as As;15 MINUTE CEILING	Notes: BEI	Carcinogen Classifications: IARC-1, NIOSH-Ca*, NTP-K*, OSHA-Ca, TLV-A1, EPA-A, *INORGANIC COMPOUNDS

IDLH Notes: Ca	
IDLH ppm: NA	IDLH mg/m3: 5

HEALTH INFORMATION

Symptoms: ulceration of nasal septum, dermatitis, gastrointestinal disturbances, peripheral neuropathy, respiratory irritation, hyperpigmentation of skin, [potential occupational carcinogen]

Health Effects: NA

Target Organ: liver, kidneys, skin, lungs, lymphatic system

EMERGENCY RESPONSE INFORMATION

First Aid: Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Skin: If this chemical contacts the skin, immediately wash the contaminated skin with soap and water. If this chemical penetrates the clothing immediately remove the clothing and wash the skin with soap and water. Get medical attention promptly. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth resuscitation. Keep the affected person warm and at rest. Get medical attention as soon as possible. Swallow: If this chemical has been swallowed, get medical attention immediately. (NIOSH, 1997)

Reactivity: CHEMICAL PROFILE: Even at 10C, bromine trifluoride reacts with antimony incandescently. Bromine trifluoride reacts similarly with arsenic, boron, bromine, iodine, phosphorus, and sulfur (Mellor 2:113 1946-47). Bromoazide explodes on contact with antimony, arsenic, phosphorus, silver foil or sodium. When antimony or arsenic and solid potassium permanganate are ground together, the metals ignite (Mellor 12:322 1946-47). Sodium peroxide oxidizes antimony, arsenic, copper, potassium, tin, and zinc with incandescence (Mellor 2:490-93 1946-47). A combination of finely divided arsenic with finely

divided bromates (also chlorates and iodates) of barium, calcium, magnesium, potassium, sodium, or zinc can explode by heat, percussion, and friction (Mellor 2:310 1946-47). Bromine pentafluoride reacts readily in the cold with arsenic ignition usually occurs. A few drops of the liquid falling in water produces an explosion. Fluorine vigorously reacts with arsenic and arsenic trioxide at ordinary temperatures (Mellor 9:34 1946-47). (REACTIVITY, 1999)
Nonfire Spill Response: Keep material out of water sources and sewers. Land spill: Dig a pit, pond, lagoon, holding area to contain liquid or solid material. Cover solids with a plastic sheet to prevent dissolving in rain or fire fighting water. Dike surface flow using soil, sand bags, foamed polyurethane, or foamed concrete. Water spill: Use natural barriers or oil spill control booms to limit spill travel. Use natural deep water pockets, excavated lagoons, or sand bag barriers to trap material at bottom. Remove trapped material with suction hoses. (AAR, 1999)
Fire Response: Extinguish fire using agent suitable for type of surrounding fire. (Material itself does not burn or burns with difficulty.) Use water in flooding quantities as fog. Use foam, dry chemical, or carbon dioxide. (AAR, 1999)

CHEMICAL IDENTIFICATION

Chemical Name: ASBESTOS - CHRYSOTILE

CAS #: 12001-29-5	UN No: NA	Formula: Hydrated mineral silicates

Synonyms: NA

PHYSICAL PROPERTIES

Physical Description: White or greenish fibrous, odorless solid

BP: Decomposes	MW: NA	LEL: NA	NFPA Fire Rating: NA
MLT: 1112ºF (Decomposes)	VP: 0 mmHg (approx)	UEL: NA	NFPA Health Rating: NA
Fl.P: NA	VD: NA		NFPA Reactivity Rating: NA
Sp. Gr.: NA	IP: NA		NFPA Sp. Inst.: NA

EXPOSURE GUIDELINES

OSHA	NIOSH	ACGIH	Related Information
PEL-TWA ppm: NA	REL-TWA ppm: NA	TLV-TWA ppm: NA	AIHA Emergency Response Planning Guidelines (ERPGs)EPRG-1/EPRG-2/EPRG-3: NA
PEL-TWA mg/m3: NA	REL-TWA mg/m3: NA	TLV-TWA mg/m3: NA	
PEL-STEL ppm: NA	REL-STEL ppm: NA	TLV-STEL ppm: NA	
PEL-STEL mg/m3: NA	REL-STEL mg/m3: NA	TLV-STEL mg/m3: NA	
PEL-C ppm: NA	REL-C ppm: NA	TLV-C ppm: NA	
PEL-C mg/m3: NA	REL-C mg/m3: NA	TLV-C mg/m3: NA	
Skin Notation: ☐	☐	☐	
Notes: TWA = 0.1 f/cc, STEL = 1 f/cc (30 MINUTES); SEE 29 CFR 1910.1001	Notes: TWA = 0.1 f/cc AS DETERMINED BY A 400-LITER AIR SAMPLE COLLECTED OVER 100 MINUTES (NIOSH ANALYTICAL METHOD #7400); CARCINOGEN (Ca) SEE 29 CFR 1910.1001	Notes: TWA = 0.1 f/cc, RESPIRABLE FIBERS: LENGTH > 5u; ASPECT RATIO >/= 3:1	Carcinogen Classifications: IARC-1, NIOSH-Ca, NTP-K, OSHA-Ca, TLV-A1, EPA-A

IDLH Notes: Ca	
IDLH ppm: NA	IDLH mg/m3: NA

HEALTH INFORMATION

Symptoms: dyspnea; interstitial fibrosis; restricted pulmonary functioning; finger clubbing; (carcinogenic)

Health Effects: cancer; asbestosis

Target Organ: respiratory system, eyes

EMERGENCY RESPONSE INFORMATION

First Aid: Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Breathing: If a person breaths large amounts of this chemical, move the exposed person to fresh air at once. Other measures are usually unnecessary. (NIOSH, 1997)

Reactivity: This compound is incompatible with the following:None reported (NIOSH, 1997)

Nonfire Spill Response: Keep material out of water sources and sewers. Land spill: Cover solids with a plastic sheet to prevent dissolving in rain or fire fighting water. Dike surface flow using soil, sand bags, foamed polyurethane, or foamed concrete. Water spill: Use natural barriers or oil spill control booms to limit spill travel. (AAR, 1999)

Fire Response: Extinguish fire using agent suitable for type of surrounding fire. (Material itself does not burn or burns with difficulty.) Keep run-off water out of sewers and water sources. (AAR, 1999)

CHEMICAL IDENTIFICATION

Chemical Name: CHROMIUM METAL

CAS #: 7440-47-3	UN No: 1759	Formula: Cr

Synonyms: Chrome, Chromium

PHYSICAL PROPERTIES

Physical Description: Blue-white to steel-gray, lustrous, brittle, hard, odorless solid.

BP: 4788ºF	MW: 52.0	LEL: NA	NFPA Fire Rating: NA
MLT: 3452ºF	VP: 0 mmHg (approx)	UEL: NA	NFPA Health Rating: NA
Fl.P: NA	VD: NA		NFPA Reactivity Rating: NA
Sp. Gr.: 7.14	IP: NA		NFPA Sp. Inst.: NA

EXPOSURE GUIDELINES

OSHA	NIOSH	ACGIH	Related Information
PEL-TWA ppm: NA	REL-TWA ppm: NA	TLV-TWA ppm: NA	AIHA Emergency Response Planning Guidelines (ERPGs)EPRG-1/EPRG-2/EPRG-3: NA
PEL-TWA mg/m3: 1	REL-TWA mg/m3: 0.5	TLV-TWA mg/m3: 0.05	
PEL-STEL ppm: NA	REL-STEL ppm: NA	TLV-STEL ppm: NA	
PEL-STEL mg/m3: NA	REL-STEL mg/m3: NA	TLV-STEL mg/m3: NA	
PEL-C ppm: NA	REL-C ppm: NA	TLV-C ppm: NA	
PEL-C mg/m3: NA	REL-C mg/m3: NA	TLV-C mg/m3: NA	
Skin Notation: ☐	☐	☐	
Notes: NA	Notes: NA	Notes: NA	Carcinogen Classifications: IARC-3, TLV-A4

IDLH Notes: as Cr	
IDLH ppm: NA	IDLH mg/m3: 250

HEALTH INFORMATION

Symptoms: sensitization dermatitis

Health Effects: cumulative lung damage; dermatitis

Target Organ: eyes, skin, respiratory system

EMERGENCY RESPONSE INFORMATION

First Aid: EYES: First check the victim for contact lenses and remove if present. Flush victim's eyes with water or normal saline solution for 20 to 30 minutes while simultaneously calling a hospital or poison control center. Do not put any ointments, oils, or medication in the victim's eyes without specific instructions from a physician. IMMEDIATELY transport the victim after flushing eyes to a hospital even if no symptoms (such as redness or irritation) develop. SKIN: IMMEDIATELY flood affected skin with water while removing and isolating all contaminated clothing. Gently wash all affected skin areas thoroughly with soap and water. If symptoms such as redness or irritation develop, IMMEDIATELY call a physician and be prepared to transport the victim to a hospital for treatment. INHALATION: IMMEDIATELY leave the contaminated area; take deep breaths of fresh air. IMMEDIATELY call a physician and be prepared to transport the victim to a hospital even if no symptoms (such as wheezing, coughing, shortness of breath, or burning in the mouth, throat, or chest) develop. Provide proper respiratory protection to rescuers entering an unknown atmosphere. Whenever possible, Self-Contained Breathing Apparatus (SCBA) should be used; if not available, use a level of protection greater than or equal to that advised under Protective Clothing. INGESTION: Some heavy metals are VERY TOXIC POISONS, especially if their salts are very soluble in water (e.g., lead, chromium, mercury, bismuth, osmium, and arsenic). IMMEDIATELY call a hospital or poison control center and locate activated charcoal, egg whites, or milk in case the medical advisor recommends administering one of them. Also locate Ipecac

syrup or a glass of salt water in case the medical advisor recommends inducing vomiting. Usually, this is NOT RECOMMENDED outside of a physician's care. If advice from a physician is not readily available and the victim is conscious and not convulsing, give the victim a glass of activated charcoal slurry in water or, if this is not available, a glass of milk, or beaten egg whites and IMMEDIATELY transport victim to a hospital. If the victim is convulsing or unconscious, do not give anything by mouth, assure that the victim's airway is open and lay the victim on his/her side with the head lower than the body. DO NOT INDUCE VOMITING. IMMEDIATELY transport the victim to a hospital. OTHER: Since this chemical is a known or suspected carcinogen you should contact a physician for advice regarding the possible long term health effects and potential recommendation for medical monitoring. Recommendations from the physician will depend upon the specific compound, its chemical, physical and toxicity properties, the exposure level, length of exposure, and the route of exposure. (NTP, 1992)
Reactivity: REACTIVITY: Reacts violently with NH4NO3, N2O2, Li, NO, KClO3, SO2. (NTP, 1992)
Nonfire Spill Response: SMALL SPILLS AND LEAKAGE: If you spill this chemical, dampen the solid spill material with 5% ammonium hydroxide, then transfer the dampened material to a suitable container. Use absorbent paper dampened with 5% ammonium hydroxide to pick up any remaining material. Your contaminated clothing and the absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with 5% ammonium hydroxide followed by washing with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned.STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)
Fire Response: NA

CHEMICAL IDENTIFICATION

Chemical Name: LEAD (INORGANIC, DUSTS & FUMES), as Pb

CAS #: 7439-92-1	UN No: NA	Formula: Pb

Synonyms: Lead metal, Plumbum

PHYSICAL PROPERTIES

Physical Description: A heavy, ductile, soft, gray solid.

BP: 3164ºF	MW: 207.2	LEL: NA	NFPA Fire Rating: NA
MLT: 621ºF	VP: 0 mmHg (approx)	UEL: NA	NFPA Health Rating: NA
Fl.P: NA	VD: NA		NFPA Reactivity Rating: NA
Sp. Gr.: 11.34	IP: NA		NFPA Sp. Inst.: NA

EXPOSURE GUIDELINES

OSHA	NIOSH	ACGIH	Related Information
PEL-TWA ppm: NA	REL-TWA ppm: NA	TLV-TWA ppm: NA	AIHA Emergency Response Planning Guidelines (ERPGs)EPRG-1/EPRG-2/EPRG-3: NA
PEL-TWA mg/m3: 0.05	REL-TWA mg/m3: 0.1	TLV-TWA mg/m3: 0.05	
PEL-STEL ppm: NA	REL-STEL ppm: NA	TLV-STEL ppm: NA	
PEL-STEL mg/m3: NA	REL-STEL mg/m3: NA	TLV-STEL mg/m3: NA	
PEL-C ppm: NA	REL-C ppm: NA	TLV-C ppm: NA	
PEL-C mg/m3: NA	REL-C mg/m3: NA	TLV-C mg/m3: NA	
Skin Notation: ☐	☐	☐	
Notes: SEE 29 CFR 1910.1025	Notes: AIR CONCENTRATIONS SHOULD BE MAINTAINED SO THAT WORKER BLOOD LEAD REMAINS BELOW 0.06 mg Pb/100 g WHOLE BLOOD	Notes: BEI	Carcinogen Classifications: TLV-A3*, EPA-B2, NTP-R, IARC-2A* *inorganic compounds

IDLH Notes: NA	
IDLH ppm: NA	IDLH mg/m3: 100

HEALTH INFORMATION

Symptoms: weakness, lassitude; insomnia; facial pallor; eye irritation; anorexia, low-weight, malnutrition; constipation; abdominal pain; colic; hypotension, anemia; gingival lead line; tremors, paralysis of wrist, ankles; encephalopathy; neuropathy

Health Effects: cumulative blood effects; cumulative neurologic effects; reproductive hazards

Target Organ: eyes, gastrointestinal tract, central nervous system, kidneys, blood, gingival tissue

EMERGENCY RESPONSE INFORMATION

First Aid: EYES: First check the victim for contact lenses and remove if present. Flush victim's eyes with water or normal saline solution for 20 to 30 minutes while simultaneously calling a hospital or poison control center. Do not put any ointments, oils, or medication in the victim's eyes without specific instructions from a physician. IMMEDIATELY transport the victim after flushing eyes to a hospital even if no symptoms (such as redness or irritation) develop. SKIN: IMMEDIATELY flood affected skin with water while removing and isolating all contaminated clothing. Gently wash all affected skin areas thoroughly with soap and water. If symptoms such as redness or irritation develop, IMMEDIATELY call a physician and be prepared to transport the victim to a hospital for treatment. INHALATION: IMMEDIATELY leave the contaminated area; take deep breaths of fresh air. IMMEDIATELY call a physician and be prepared to transport the victim to a hospital even if no symptoms (such as wheezing, coughing, shortness of Breathing, or burning in the mouth, throat, or chest) develop. Provide proper respiratory protection to rescuers entering an unknown atmosphere. Whenever possible, Self-Contained Breathing Apparatus (SCBA) should be used; if not available, use a level of protection greater than or equal to that advised under Protective Clothing. INGESTION: Some heavy metals are VERY TOXIC POISONS, especially if their salts are very soluble in water (e.g., lead, chromium, mercury, bismuth, osmium, and arsenic). IMMEDIATELY call a hospital or poison control center and

locate activated charcoal, egg whites, or milk in case the medical advisor recommends administering one of them. Also locate Ipecac syrup or a glass of salt water in case the medical advisor recommends inducing vomiting. Usually, this is NOT RECOMMENDED outside of a physician's care. If advice from a physician is not readily available and the victim is conscious and not convulsing, give the victim a glass of activated charcoal slurry in water or, if this is not available, a glass of milk, or beaten egg whites and IMMEDIATELY transport victim to a hospital. If the victim is convulsing or unconscious, do not give anything by mouth, assure that the victim's airway is open and lay the victim on his/her side with the Headache lower than the body. DO NOT INDUCE VOMITING. IMMEDIATELY transport the victim to a hospital. OTHER: Since this chemical is a known or suspected carcinogen you should contact a physician for advice regarding the possible long term health effects and potential recommendation for medical monitoring. Recommendations from the physician will depend upon the specific compound, its chemical, physical and toxicity properties, the exposure level, length of exposure, and the route of exposure. (NTP, 1992)
Reactivity: CHEMICAL PROFILE: In the presence of carbon, the combination of chlorine trifluoride with aluminum, copper, lead, magnesium, silver, tin, or zinc results in a violent reaction (Mellor 2, Supp. 1: 1956). A solution of sodium azide in copper pipe with lead joints formed copper and lead azide, both are detonating compounds (Klotz 1973). (REACTIVITY, 1999)
Nonfire Spill Response: STORAGE PRECAUTIONS: You should store this chemical under refrigerated temperatures, and keep it away from oxidizing materials. (NTP, 1992)
Fire Response: Fires involving this material can be controlled with a dry chemical, carbon dioxide, foam, or Halon extinguisher. (NTP, 1992)

3.0 SITE CONTROL

(in compliance with 29 CFR 1910.120(b)(4)(ii)(F) and 29 CFR 1910.120(d))

This site control program is designed to reduce the spread of hazardous substances from contaminated areas to clean areas, to identify and isolate contaminated areas of the site, to facilitate emergency evacuation and medical care, to prevent unauthorized entry to the site, and to deter vandalism and theft.

The site control program includes the elements specified in 29 CFR 1910.120(d) and provides the following site-specific information:

* a site map, indicating site perimeter and work zones
* site access procedures
* site security
* site work zones including standard operating procedures
* use of the buddy system
* both internal (on-site) and external communications

Peter Ennen is responsible for evaluating site conditions and for verifying that the site control program functions effectively. The site control program is updated regularly to reflect current site conditions, work operations, and procedures.

3.1 Site Map

A map of this site, showing site boundaries, designated work zones, and points of entry and exit is provided in Figure 3-1a and 3-1, at the end of this chapter.

3. 2 Site Access

Access to this site is restricted to reduce the potential for exposure to its safety and health hazards. During hours of site operation, site entry and exit is authorized only at the point(s) identified in Figure 3-1. Entry and exit at these points is controlled by the following: Fencing, Local law enforcement, Security contractor, and Site Personnel. When the site is not operating, access to the site is controlled by the following: Fencing, Local law enforcement, Security contractor, and Site Personnel.

Visitors to the site register with To be determined, and are escorted at all times. Visitors are expected to comply with the requirements of this HASP. Visitors who want to enter contaminated areas of the site must provide documentation that they have the required training and medical evaluation and must receive a site-specific briefing about protecting themselves from site hazards, recognizing site zones demarcations, and following emergency evacuation procedures. PPE for visitors is provided by To be determined.

3.3 Site Security

Security at this site is maintained during both working hours and non-working hours to prevent unauthorized entry; removal of contaminated material from the exclusion zone; exposure of unauthorized, unprotected people to site hazards; and increased hazards due to vandalism and theft.

Security During Working Hours

Contracted w/ADC is responsible for establishing and maintaining site security during working hours. This site takes the following measures for security during working hours:

1. Security is maintained in the Support Zone and at Access Control Points to ensure only authorized entrants access the site.
2. A fence or other physical barrier is erected around the perimeter of the site to prevent unauthorized entry or exit.
3. Signs have been posted around the perimeter of the site to warn of the site dangers and prohibition of unauthorized entry.
4. Site personnel patrol the perimeter of the site.

Security During Non-working Hours

Contracted w/ADC is responsible for establishing and maintaining site security during non-working hours. The following measures have been taken for security during non-working hours:

1. Trained in-house site personnel are used for site surveillance.
2. An outside contractor is used for site surveillance.
3. A local police department is used for site surveillance.
4. All doors to buildings and/or trailers are locked and equipment is secured.

3.4 Site Work Zones

This site is divided into three (3) major zones, described below and shown in Figure 3-1. These zones are characterized by presence or absence of biological and chemical hazards and the activities performed within them.

Zone boundaries are clearly marked at all times and the flow of personnel among the zones is controlled.

The site is monitored for changing conditions that may warrant adjustment of zone boundaries. Zone boundaries are adjusted as necessary to protect personnel and clean areas. Whenever boundaries are adjusted, zone markings are also changed and workers are immediately notified of the change.

The following criteria were considered in establishing the site work zones:

1. Required clean-up activities.
2. Sampling results for air and surface contaminants.
3. Air dispersion calculations.
4. Potential for fire.
5. Physical, chemical, toxicological, and other characteristics of substances present.
6. Physical and topographical features of the site.
7. Weather conditions, particularly the direction of prevailing winds relative to the locations of the support zone and other uncontaminated areas onsite.

Exclusion Zone

The Exclusion Zone is the area where hazardous substance is known or suspected to be present and pose the greatest potential for exposure. Remediation operations (site clean-up) are performed in the Exclusion Zone. At this site, the Exclusion Zone boundaries are marked with the following: Fencing and escort for Boiler Shop and Machine Shop

Personnel and equipment will enter and exit the Exclusion Zone from the designated access points in the Contamination Reduction Zone (CRZ), shown in Figure 3-1.

Personnel in the Exclusion Zone will adhere to the following SOPs:

Exclusion Zone (ExZ) SOPs

1. Check in and out of this zone at the designated access point(s).
2. Use the buddy system at all times.
3. Wear the PPE required for this zone (see PPE section of this HASP).
4. Perform air monitoring as required for this zone (see Exposure Monitoring section of this HASP).
5. No smoking, eating, or drinking.
6. No matches, lighters, or open flame.
7. Monitor self and buddy for signs of heat or cold stress or chemical overexposure.
8. Alert supervisor to signs of changing or unanticipated hazards.
9. No horseplay.
10. Monitor self and buddy for PPE rips, tears, and/or damage.
11. Use monitoring equipment and tools that are safe for the working environment.
12. Use ground-fault circuit interrupters (GFCIs) when necessary to prevent electric shock.
13. Use three-wire grounded extension cords for portable electric tools and appliances.
14. Keep loose-fitting clothing or loose long hair away from moving machinery.
15. Use signaling to direct heavy equipment operating in tight quarters.
16. No refueling engines while equipment is running.
17. No ignition sources within 50 feet of refueling areas.
18. Lower all blades and buckets to the ground and set parking brakes before shutting off vehicles.

19. Never exceed the rated load capacity of a vehicle.

Contamination Reduction Zone (CRZ)

The CRZ is located between the Exclusion Zone and the Support Zone (clean zone). Its primary purpose is for decontamination of workers and equipment. The CRZ also serves as a buffer between the Exclusion Zone and Support Zone, to limit the potential for contamination to spread to the Support Zone and outlying areas. At this site, the CRZ boundaries are marked with Security tape, fencing, signage.

Based on monitoring results, the CRZ boundaries may be adjusted to ensure that the Support Zone remains uncontaminated.

Workers and equipment exit the Exclusion Zone through the designated access point(s) into the CRZ. Workers and equipment are then decontaminated in the CRZ, according to the procedures specified in the Decontamination section of this HASP. Workers and equipment then exit the CRZ into the Support Zone through the designated access points, shown in Figure 3-1.

If necessary, emergency decontamination procedures are implemented. Emergency decontamination procedures are described in the site's emergency response program.

Personnel in the CRZ will adhere to the following SOPs:

Contamination Reduction Zone (CRZ) SOPs

1. Check in and out of this zone at the designated access point(s).
2. Wear the PPE required for this zone (see PPE section of this HASP).
3. Perform air and surface sampling as required for this zone (see Exposure Monitoring section of this HASP).
4. Use monitoring equipment and tools that are safe for the working environment.
5. No smoking, eating, or drinking.
6. No matches, lighters, or open flame.
7. Monitor self and buddy for signs of heat or cold stress or chemical overexposure.
8. Alert supervisor to signs of changing or unanticipated hazards.
9. No horseplay.
10. Monitor self and buddy for PPE rips, tears, and/or damage.

Support Zone

The Support Zone is the clean area of the site, beyond the outer boundary of the CRZ. There should be no contamination in this zone. Administrative, clerical, and other support functions are based in the Support Zone.

The Support Zone is shown in Figure 3-1 and its boundaries are marked by Signage.

Air and surface monitoring are conducted in the Support Zone as needed to ensure that it remains uncontaminated. If contamination is detected, zone boundaries are adjusted until corrective action is taken and monitoring results indicate that this zone is again uncontaminated.

Within the Support Zone, personnel will adhere to the following SOPs:

Support Zone (SZ) SOPs

1. Check in and out of this zone at the designated site access point(s).
2. Alert supervisor to signs of changing or unanticipated hazards.
3. No horseplay.
4. Perform air and surface sampling as required for this zone (see Exposure Monitoring section of this HASP).

3.5 Buddy System

While working in the Exclusion Zone, site workers use the buddy system. The buddy system means that personnel work in pairs and stay in close visual contact to be able to observe one another and summon rapid assistance in case of an emergency. The responsibilities of workers using the buddy system include:

* remaining in close visual contact with partner,
* providing partner with assistance as needed or requested,
* observing partner for signs of heat stress or other difficulties,

* periodically checking the integrity of partner's PPE, and

* notifying the site manager or other site personnel if emergency assistance is needed.

3.6 Site Communications

The following communication equipment is used to support on-site communications:

Telephones at this site are located in the following areas:

Other (specify) cell phones

A current list of emergency contact numbers is posted in the following locations:

Redevelopment and ESD staff

Authorized contractors

Major entries

In addition, site personnel are trained to recognize and use hand signals when visual contact is possible but noise or PPE inhibit voice communication. These hand signals are listed below in Table 3-6

Table 3-6 Site Communication - Hand Signals

Signal	Meaning
Clutching throat	Out of air/cannot breathe
Thumbs down	No
Thumbs up	OK/understood
Both arms waving upright above head	Need assistance/send support
Stand with hands on waist or grab partner's wrist	Exit immediately
One fist raised above head	Stop immediately
Arms horizontal and circling out to sides	Situation under control

3.7 Emergency Medical Assistance

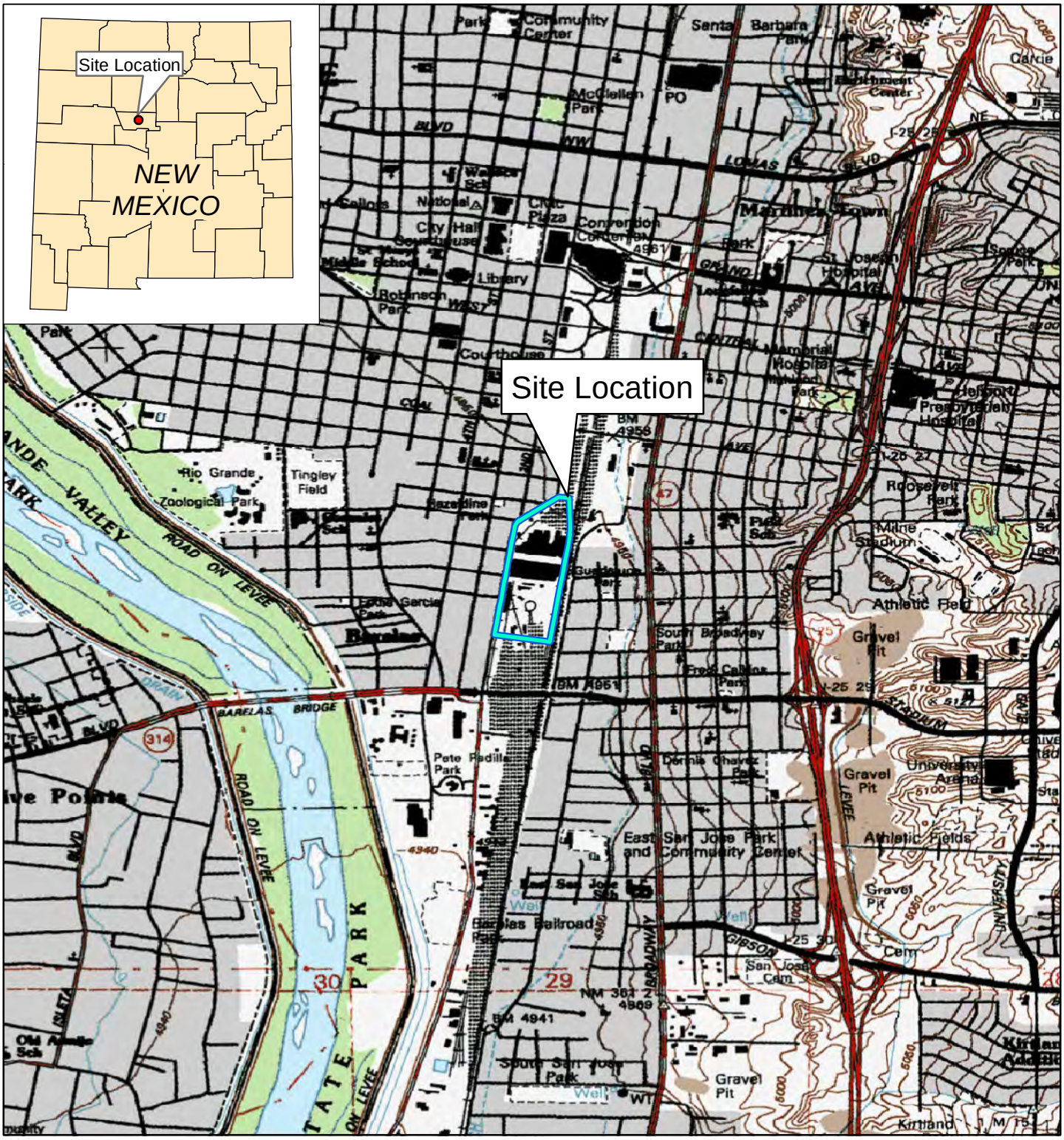
The nearest emergency medical assistance selected to support this site is:

Organization: Albuquerque Fire Department
Contact: 911
Address/Location:
Telephone: 911

A map to this facility is located in the Emergency Response chapter of this HASP, Figure 11-3b.

Figure 3-1 Map of Site Boundaries, Work Zones, and Entry/Exit Points

Insert site map with zone boundaries and access points here.



Source(s): USGS, Albuquerque West Quadrangle, 1996

Figure 1
Site Location
Conceptual Site Model,
Albuquerque Rail Yards, Albuquerque,
Bernalillo County, New Mexico

S:\Projects\COA On-Call 2014\Task_3_COA_railyard_VRP\Graphics\GIS\MapDocs\Task_1_CSM\0101_SiteLocation.mxd 8/5/2015

Legend

- Groundwater Monitoring Well
- Soil Boring
- Surface Soil Sample
- Soil Vapor Monitoring Location
- Excavation Soil Sample
- Field Screening Only
- Subslab Soil Sample
- Sump
- Test Pit
- Water Supply Well
- Wood Floor Sample
- Property Boundary
- A-A' Cross Section Location, dashed where projected on to line)
- Welding Gas Line

N

80 0 80 160

Feet

INTERA

Source(s):

Plate 1
Site Layout
Conceptual Site Model, Albuquerque Rail Yards, Albuquerque, Bernalillo County, New Mexico

Document Path: S:\Projects\COA On-Call 2014\Task_3_COA_railyard_VRP\Graphics\GIS\MapDocs\Task_1_CSM\Plate1_SiteMap.mxd 8/5/2015

4.0 TRAINING PROGRAM

(in compliance with 29 CFR 1910.120(e))

The site training program is designed to ensure that workers receive the training they need to work safely on this site. Site safety and health training requirements are based on the job hazard assessments contained in Chapter 2 of this HASP and relevant OSHA requirements. At this site, Peter Ennen oversees the implementation of this training program and is responsible for ensuring that employees are adequately and currently trained for all tasks they are asked to perform. Employees who have not been trained to a level required by their job function and responsibility are not permitted to participate in or supervise field activities.

This training program is consistent with the requirements of 29 CFR 1910.120(e) and addresses the following site-specific information:

* training for site workers
* site briefings for visitors and workers
* initial HAZWOPER training (40 or 24 hr)
* supervised gield experience
* management and supervisor training
* qualification of trainers
* training certification
* emergency response training ##
* refresher training
* equivalent training
* training records

Emergency response training is addressed in HASP Chapter 11, Emergency Response Plan.

4.1a Training Elements to be Covered for Site Workers:

- names of personnel and alternates responsible for site safety and health
- safety, health and other hazards present on the site
- use of PPE
- work practices by which the employee can minimize risks from hazards
- safe use of engineering controls and equipment on the site
- medical surveillance requirements detailed in Chapter 5 of this HASP
- decontamination procedures detailed in Chapter 10 of this HASP
- the emergency response plan detailed in Chapter 11 of this HASP
- confined space entry procedures detailed in Chapter 13 of this HASP
- the spill containment program detailed in Chapter 9 of this HASP
- the site control plan detailed in Chapter 3 of this HASP

Other training received by workers that is in addition to required training elements described above is detailed below in the following table (Table 4-1a):

Table 4-1a Other Training for Site Workers
to be determined

4.1b Site-Specific Briefings for Visitors

A site-specific briefing is provided to all site visitors who enter this site beyond the site entry point.

For visitors, the site-specific briefing provides information about site hazards, the site lay-out including work zones and places of refuge, the emergency alarm system and emergency evacuation procedures, and other pertinent safety and health requirements as appropriate.

4.1c HASP Information and Site-Specific Briefings for Workers

Site personnel review this HASP and are provided a site-specific briefing prior to the commencement of work to ensure that employees are familiar with this HASP and the information and requirements it contains. Additional briefings are provided as necessary to notify employees of any changes to this HASP as a result of information gathered during ongoing site characterization and analysis. Conditions for which we schedule additional briefings include, but are not limited to: changes in site conditions, changes in the work schedule/plan, newly discovered hazards, and incidents occurring during site work.

4.2 Initial Training

Initial training requirements are based on a worker's potential for exposure and compliance with the requirements of 29 CFR 1910.120(e)(3).

Based on documented exposure levels below permissible exposure limits and published exposure limits, the absence of health

hazards, and the absence of the potential for an emergency at this site, personnel must successfully complete 24-hour initial HAZWOPER training consistent with the requirements of 29 CFR 1910.120(e)(3)(iii) in order to work in contaminated areas. In addition, such personnel provide documentation of having received one day of supervised field experience applicable to this site, or receive one day of supervised field experience at this site.

4.3 Management and Supervisor Training

On-site managers and supervisors who are directly responsible for or who supervise workers engaged in hazardous waste operations receive, in addition to the appropriate level of worker HAZWOPER training described above, 8 additional hours of specialized supervisory training, in compliance with 29 CFR 1910.120(e)(4).

Training received by managers and supervisors is summarized below in the following table (Table 4-3):

Table 4-3 Training for Managers and Supervisors
Management of hazardous waste site cleanup operations

4.4 Qualification of Trainers

Only instructors qualified in accordance with 29 CFR 1910.120(e)(5) are used to train workers for this site. Qualified instructors have either completed a training program for teaching the subjects they are expected to teach or have the academic credentials and instructional experience necessary for teaching the subjects.

4.5 Training Certification

Employees and supervisors that receive and complete the necessary training and field experience are certified when they complete the necessary training. A written certificate is given to each person so certified. Any person who has not been so certified or who does not meet the requirements of equivalent training is prohibited from engaging in hazardous waste operations on this site.

4.6 Emergency Response

Emergency response training is addressed in Chapter 11 of this HASP, Emergency Response Plan.

4.7 Refresher Training

All workers on this site including managers and supervisors receive annual HAZWOPER refresher training consistent with the requirements of 29 CFR 1910.120(e)(8). The following table (Table 4-7) details refresher training:

Table 4-7 Refresher Training Topics

4.8 Equivalent Training

This site accepts prior academic training or job site experience in lieu of HAZWOPER initial training for workers and supervisors, described in paragraphs (e)(1)-(e)(4) of the standard. In accordance with HAZWOPER (e)(9), we certify that the worker has equivalent training and provide a copy of that certification to the worker upon request.

4.9 Training Records

This site maintains written certification of the successful completion of applicable training requirements for each worker. Training records are maintained up-to-date and are retained onsite at the following location: unknown at this time. Written certificates have been given to each person so certified. Additionally, an employee sign off sheet indicating that each worker has received a copy of this HASP and understands its contents is stored at the same location.

5.0 MEDICAL SURVEILLANCE

(in compliance with 29 CFR 1910.120(f) and other substance-specific medical surveillance requirements found in 29 CFR 1910.1001-1052)

The medical surveillance section of the Health and Safety Plan describes how worker health status is monitored at this site. Medical surveillance is used when there is the potential for worker exposure to hazardous substance at levels above OSHA permissible exposure limits or other published limits. The purpose of a medical surveillance program is to medically monitor worker health to ensure that personnel are not adversely affected by site hazards. The provisions for medical surveillance at this site are based on the site characterization and job hazard analysis found in Chapter 2 of this HASP and are consistent with OSHA requirements in 29 CFR 1910.120(f) and the following substance-specific requirements: LEAD (INORGANIC, DUSTS & FUMES), as Pb (1910.1025, 1926.62), ASBESTOS - CHRYSOTILE (1910.1001, 1926.1101), LEAD (INORGANIC, DUSTS & FUMES), as Pb (1910.1025, 1926.62), LEAD (INORGANIC, DUSTS & FUMES), as Pb (1910.1025, 1926.62), LEAD (INORGANIC, DUSTS & FUMES), as Pb (1910.1025, 1926.62), ARSENIC METAL AND INORGANIC COMPOUNDS, as As (1910.1018, 1926.1118), LEAD (INORGANIC, DUSTS & FUMES), as Pb (1910.1025, 1926.62), ASBESTOS - CHRYSOTILE (1910.1001, 1926.1101), LEAD (INORGANIC, DUSTS & FUMES), as Pb (1910.1025, 1926.62), ASBESTOS - CHRYSOTILE (1910.1001, 1926.1101), ASBESTOS - CHRYSOTILE (1910.1001, 1926.1101), LEAD (INORGANIC, DUSTS & FUMES), as Pb (1910.1025, 1926.62), ASBESTOS - CHRYSOTILE (1910.1001, 1926.1101), LEAD (INORGANIC, DUSTS & FUMES), as Pb (1910.1025, 1926.62), ASBESTOS - CHRYSOTILE (1910.1001, 1926.1101), LEAD (INORGANIC, DUSTS & FUMES), as Pb (1910.1025, 1926.62), ASBESTOS - CHRYSOTILE (1910.1001, 1926.1101), LEAD (INORGANIC, DUSTS & FUMES), as Pb (1910.1025, 1926.62).

The medical surveillance program is consistent with 29 CFR 1910.120(f) and addresses the following information:

* provisions of the site medical surveillance program
* communication between the site, physicians, and workers
* medical recordkeeping procedures

The person with responsibility for ensuring this program is implemented and maintained is Peter Ennen.

5.1 Site Medical Surveillance Program

Medical surveillance requirements are based on a worker's potential for exposure as determined by the site characterization and job hazard analysis documented in Chapter 2 of this HASP and on compliance with the requirements of 29 CFR 1910.120(f)(2).

Based on documented exposure levels below permissible exposure limits, limited use of respirators (less than 30 days per year), and the absence of an employee-staffed HAZMAT team, a limited medical surveillance program is required and implemented at this site. The medical surveillance program provides that:

1. workers assigned to tasks requiring the use of respirators receive medical examinations in accordance with 29 CFR 1910.134(e) to ensure they are physically capable to perform the work and use the equipment, and

2. if a worker is injured, becomes ill, or develops signs or symptoms of possible over-exposure to hazardous substance or health hazards, medical examinations are provided to that worker as soon as possible after the occurrence and as required by the attending physician.

These medical examinations and procedures are performed by or under the supervision of a licensed physician and are provided to workers free of cost, without loss of pay, and at a reasonable time and place. In addition, the need to implement a more comprehensive medical surveillance program will be re-evaluated after any apparent over-exposure incident.

5.2 Communication Between the Site, Physicians, and Workers

The medical facility providing medical monitoring and overexposure examinations required by personnel at this site is:

Name: Concentra

Location: 400 Marquette NW

Phone: 5057684610

The licensed attending physician for this site is:

Name:

Phone:

The site has provided information about site hazards and potential exposure levels, work activities, and PPE requirements, and other information as required by OSHA in 29 CFR 1910.120(f)(6) to the above-mentioned facility and physician. The site will also make this information available to site personnel and/or their personal physicians.

A physician's written opinion of the results of these examinations is required for each worker and a copy is maintained on site. The contents of the written opinion is limited to:

* a statement of the worker's health status in relation to his or her job duties and a description of any detected medical condition that could put the worker at increased risk.

* notation of any recommended limitations in work activity or PPE use.

* confirmation that the physician has informed the employee of the examination results and any further examination or treatment required.

5.3 Medical Recordkeeping Procedures

(in compliance with 29 CFR 1910.120(f)(8) and 1910.1020)

Corporate medical recordkeeping procedures are consistent with the requirements of 29 CFR 1910.1020 and are described in the company's overall safety and health program. A copy of that program is available at Concentra - One Civic Plaza.

The following items are maintained in worker medical records:

Physician's medical opinion of fitness for duty (pre-placement, periodic, termination)
Exposure monitoring results

Records required under this medical surveillance program, consistent with 1910.120(f)(8), are kept accurate and updated and are available on site at Concentra - One Civic Plaza.

5.4 Program Review

Every year, the medical program is reviewed to ensure its effectiveness. Concentra Doctors is responsible for this review. At a minimum, this review consists of:

* review of accident and injury records and medical records to determine whether the causes of accidents and illness are promptly investigated and whether corrective measures are taken wherever possible,

* evaluation of the appropriateness of required medical tests on the basis of site exposures, and

* review of emergency treatment procedures and emergency contacts list to ensure they are site-specific, effective, and current.

6.0 PERSONAL PROTECTIVE EQUIPMENT

(in compliance with 29 CFR 1910.120(b)(4)(ii)(C) and 29 CFR 1910.120(g))

This chapter of the HASP describes how personal protective equipment (PPE) is used to protect against employee exposures to hazardous substances and hazardous conditions on this site. Exposure hazards from the decontamination process are also considered. The following topics are addressed in this chapter:

* PPE selection criteria
* Site-specific PPE ensembles
* Criteria for PPE upgrades and downgrades
* Procedures for determining work duration
* Training in use of PPE
* Respiratory protection
* Hearing conservation
* PPE maintenance && storage
* Evaluation of this program

The person with the overall responsibility for the PPE program is Peter Ennen.

6.1 PPE Selection Criteria

Site safety and health hazards are eliminated or reduced to the greatest extent possible through engineering controls and work practices. Where hazards are still present, a combination of engineering controls, work practices, and PPE are used to protect employees.

An initial level of PPE is assigned to each task to provide an adequate barrier to exposure hazards. Initial PPE ensembles are selected based on the anticipated route(s) of entry of the hazardous substances on site and their concentration. Ensemble materials are selected using permeation data supplied by individual manufacturers. Materials providing the greatest duration of protection have been chosen. Tear and seam strength of the PPE are also considered to ensure ensemble durability while work is performed. When necessary, multiple layers of protection are used to accommodate the range of hazards that may be encountered. Where possible, employees are provided with a range of component sizes to ensure properly fitted PPE.

The following criteria are used in selecting PPE levels at this site.

Use of Level D Protection

Employees use Level D protection during tasks that have the following characteristics:

* The atmosphere contains no known or suspected hazardous substances at concentrations that meet or exceed the published exposure limit.
* Contact with hazardous levels of any chemicals through splashes, immersion, or by other means will not occur.
* There is no potential for unexpected inhalation or contact with hazardous levels of any chemical.

6.2 Use of PPE

Site-specific PPE ensembles and materials are identified below in Table 6-2a. These ensembles are consistent with Appendix B of 29 CFR 1910.120. PPE is used in accordance with manufacturers' recommendations.

Table 6-2a Site-Specific PPE Ensembles

Equipment	Model	Material	Employee Purchased
Level D			
Escape Mask: N/A			
Hard hat			No

Criteria for PPE Upgrades and Downgrades

Task-specific criteria for PPE upgrades and downgrades are used at this site. If the need for a PPE upgrade or downgrade is anticipated for a task or operation, the action level(s) and/or conditions that result in a PPE upgrade or downgrade are described on the Job Hazard Analysis form (JHA) in Chapter 2 of this HASP. Since PPE is primarily used as a barrier to hazardous substance exposure, airborne concentrations are monitored routinely, in accordance with Chapter 7, Exposure Monitoring.

Peter Ennen has the authority to upgrade or downgrade PPE in a timely manner to respond to changing site conditions and to protect employee health and safety. Routine evaluation of the effectiveness of the PPE program is conducted as identified in Section 6.7 below.

Procedures for Determining Work Duration

Peter Ennen identifies task-specific work duration based on the following:

* Physiological requirements of the task
* PPE level for the task
* Ambient temperature and humidity
* Respiratory protection capacity (air supply or cartridge change requirements)
* Chemical protective clothing capacity (permeation rate of on-site materials)
* Acclimatization of the work force

Employees are informed about task-specific work duration Pre-entry tail gate safety meeting and review of the HASP

Work duration is consistent with the requirements outlined in Chapter 8, Thermal Stress and the respiratory protection capacity for the assigned PPE. Work duration is continuously re-evaluated in response to changes in working conditions.

6.3 Training

Employees receive general training regarding proper selection, use and inspection of PPE during initial HAZWOPER training (or equivalent) and subsequent refresher training. Site-specific PPE requirements, including task-specific PPE, ensemble components, cartridge/canister service times, and inspection and maintenance procedures are communicated as identified in Chapter 4, Training.

6.4 Respiratory Protection

The type of respiratory protection used on site are identified in Table 6-2a. Respiratory protection is selected, fitted, used, stored and maintained in accordance with the Respiratory Protection Program. A copy of the Respiratory Protection Program is located in/at [fill in location entered on Form 2 of Chapter 6, next to last entry]. The written Respiratory Protection Program is consistent with the other requirements of this HASP.

6.5 Hearing Conservation

Employees must use hearing protection when noise exposures equal or exceed an 8-hour time-weighted average sound level of 85 dBA. Where noise exposure meets or exceeds this level, noise is listed as a physical hazard in the JHA for the tasks/operation, and hearing protection is included as one of the control measures (PPE). Employees required to use hearing protection participate in a Hearing Conservation Program.

Currently, no site tasks have noise exposure that equals or exceeds the 85 dBA limit.

6.6 PPE Maintenance & Storage

In order to ensure that PPE continues to provide the anticipated protection, this site uses specific procedures for PPE inspection, cleaning, maintenance, and storage. Adherence to these procedures is tracked with written inspection records.

6.7 Evaluation of PPE Program

Evaluation of the effectiveness of site PPE selections occurs throughout site activities in response employee exposure monitoring results and employee feedback. Surface samples are collected from the inside surfaces of used PPE to ensure that the equipment provides an adequate barrier throughout the work shift. Surface monitoring procedures are described in Chapter 7 of this HASP, Exposure Monitoring.

Peter Ennen is responsible for modifying initially selected PPE. Affected employees are immediately informed about these modifications and are provided with additional training if necessary. The JHAs in Chapter 2 of the HASP are also updated as needed to reflect current information about job hazards and selected controls.

7.0 EXPOSURE MONITORING

(in compliance with 29 CFR 1910.120(b)(4)(ii)(E) and 29 CFR 1910.120(h))

This chapter of the HASP describes how employee exposures to hazardous substances are monitored. This chapter provides site-specific information about:

* air monitoring procedures,
* surface sampling procedures,
* equipment calibration and maintenance, and
* the handling and management of monitoring data.

Peter Ennen is responsible for implementing site exposure monitoring procedures.

The following personnel are qualified to use the air monitoring instruments at this site and to interpret monitoring results:

Monitoring Instrument
Environmental Consultants
ESD staff

The following personnel are qualified to conduct surface sampling at this site and to interpret surface sampling results:

ESD staff
Environmental consultants

7.1 Air Monitoring

Employee exposures to airborne hazardous substances are fully characterized throughout site operations to ensure that exposure controls are effectively chosen and modified as needed on a timely basis. The approach to air monitoring is consistent with OSHA requirements in HAZWOPER and includes:

* initial monitoring prior to the beginning of site activities to identify conditions that may cause death or serious harm and to permit preliminary selection of site controls,

* personal monitoring after site activities begin so that employee exposures are quantified and fully characterized, and

* periodic monitoring throughout site operations when conditions and employee exposures may change rapidly. This can include, but is not limited to, the following situations

-commencement of work on another portion of the site,

-exposure to or handling of contaminants/hazards not previously identified,

-commencement of a new task/operation,

-change in environmental conditions, and

-commencement of task/operation that is likely to increase airborne concentrations of hazardous substances.

Air monitoring is conducted using direct-reading instruments and by collecting and analyzing personal samples. Consistent with HAZWOPER, personal air samples are collected in the breathing zones of employees expected to have the highest exposure during the task or operation being evaluated. If exposures for these employees exceed the exposure limits, additional samples are collected in the breathing zones of all employees likely to have similar exposures. Full-shift and short-term samples are collected, providing quantitative results that can be compared to OSHA Permissible Exposure Limits and other published exposure limits. In addition, the results of lab-analyzed samples are correlated with direct-reading monitoring results to ensure that direct-reading results are interpreted correctly.

Table 7-1, Task-Specific Air Monitoring Procedures, summarizes the air monitoring procedures for this site based on tasks and operations conducted here. This table includes action levels and required actions we have established based on the direct-reading instruments we use and the contaminants we measure.

This site contains contaminants addressed in one or more of OSHA's substance-specific standards, specifically ARSENIC METAL AND INORGANIC COMPOUNDS, as As; ASBESTOS - CHRYSOTILE; LEAD (INORGANIC, DUSTS & FUMES), as Pb. Site monitoring procedures comply with OSHA's substance-specific requirements as well as those of HAZWOPER.

Table 7-1: Task-Specific Air Monitoring Procedures

7.2 Surface Sampling

Surface sampling is used as needed in contaminated areas to evaluate potential employee exposures. Surface sampling is used in the CRZ and SZ to evaluate the effectiveness of decontamination methods and exposure controls, including hygiene practices, and to ensure that zone boundaries accurately reflect the presence or absence of contamination. Surface sample locations, methods, and permissible contamination limits are listed in Table 7-2.

Surface concentrations in excess of the established limits may result in adjustments of PPE, decontamination procedures, site zone boundaries, and other exposure controls. Peter Ennen is responsible for evaluating surface sampling results and determining corrective actions if sample results indicate contaminant levels in excess of permissible surface concentration.

Table 7-2 Surface Monitoring Procedures

7.3 Equipment Calibration and Maintenance

Table 7-3 Equipment Calibration Maintenance

7.4 Handling and Maintenance of Monitoring Data

Procedures for collecting, handling, and shipping laboratory samples are included Chapter 12, Standard Operating Practices and in the sampling methods identified in Table 7-1. Documentation procedures for analytical results and direct-reading monitoring data are also addressed in Chapter 12. Samples are shipped to and analyzed by the laboratories listed in Table 7-4 below:

Table 7-4 Laboratory Information

Analyte(s)	
all samples	Laboratory Name: Hall Environmental Addresses: , Telephone: Laboratory Contact:

7.5 Noise Monitoring

Currently, no site tasks have noise exposure that equals or exceeds the 85 dBA limit so noise monitoring is not conducted.

8.0 THERMAL STRESS PREVENTION PROGRAM

(in compliance with 29 CFR 1910.120(h))

This section of the HASP describes how the site-specific environmental conditions (temperature, humidity, air movement), work loads, and PPE may expose workers to hazards resulting in illness or injury related to heat or cold stress. This Thermal Stress Prevention Program outlines exposure controls designed to protect workers working in hot or cold environments. The elements of this program are outlined in this section and include the following:

* Implementation criteria
* Prevention strategies
* Medical management
* Employee training

Peter Ennen is responsible for implementing this program.

8.1 Implementation Criteria

The Thermal Stress Prevention Program is implemented when the work area temperature rises above 100 oF WBGT or falls below 25Wind Chill Adjusted.

Throughout each work shift, air temperatures in the work area are measured, the adjusted temperature is calculated, and the values are recorded .

8.2 Prevention Strategies

Heat Stress

Work practices and exposure controls are used to reduce the risk of elevating a worker's core body temperature. These work practices and exposure controls include the following:

· defining and adjusting worker work/rest intervals
· monitoring for signs of heat stress
· providing shaded rest areas protected from radiant heat
· using a liquid replacement program
· providing cooling garments or other PPE

Worker Work/Rest Intervals

Work/rest intervals are based on PPE, work loads, environmental conditions (temperature, humidity, air movement), and monitoring results. Work/rest intervals are determined by Peter Ennen. Work/rest intervals are adjusted throughout the work shift as needed and communicated to each worker at the conclusion of an applicable rest period, prior to reentry into the work zone. Guidelines for work/rest schedules for this site are provided in Table 8-2hb.

Table 8-2hb: Heat Stress Work/Rest Schedules

Work Area Temperature Range	PPE Level	Work Period (minutes)	Rest Period (minutes)

Monitoring

Workers monitor each other's actions, speech, and appearance for signs and symptoms of heat-related illnesses including heat exhaustion and heat stroke. Physical signs and symptoms of heat exhaustion include headache, nausea, vertigo, weakness, thirst, and giddiness. Heat exhaustion may progress to heat stroke if a worker is unable to cool and re-hydrate their body. The primary signs and symptoms of heat stroke are confusion; irrational behavior; loss of consciousness; convulsions; a lack of sweating (usually); hot, dry skin; and an abnormally high body temperature. Workers should be aware of the key differences between the signs and symptoms of heat stroke and those of heat exhaustion, such as the lack of sweating, the color of the skin (red), and the rise in body temperature. Heat stroke is a medical emergency that requires immediate medical attention.

Physical signs and symptoms of heat stress are discussed with workers After each break and reviewed as necessary.

We also use physiological monitoring to alert workers and their supervisors to potential heat stress illness. Physiological monitoring is conducted by the employees themselves. The schedule and approach to physiological monitoring at this site is described in Table 8-2hc.

Table 8-2hc Heat Stress Physiological Monitoring Procedures				
Type of monitoring	**Monitoring Location**	**Monitoring Frequency**	**Action Level**	**Required Action**
Heart rate (pulse)				
Body water loss (weight)				

Rest Areas

Rest areas that are shaded and protected from radiant heat are located:

site specific

Rest areas are equipped with cool (50?- 60?F) liquids.

Liquid Replacement Program

Since dehydration is a primary cause of heat illness, workers on this site follow a regimen for liquid consumption detailed in Table 8-2hd.

Table 8-2hd Heat Stress Liquid Replacement Regimen			
Work Area Temperature Range	**Work Period Between Drinks**	**Minimum Quantity (Ounces)**	**Liquid Type**

Use of Cooling Garments:

Cooling garments are provided for workers to reduce the risk of heat related illnesses and injuries. Workers don the appropriate cooling garment based on the guidelines provided in Table 8-2hf.

Table 8-2hf: Use of Cooling Garments			
Work Area Temperature Range	**Task/Location**	**PPE Level**	**Cooling Garment Used**

Cold Stress

Work practices and exposure controls are used to reduce the risk of lowering a worker's core body temperature. These work practices and exposure controls include the following:

- defining and adjusting worker work/rest intervals
- monitoring for physiological signs of cold stress
- providing warm, sheltered rest areas
- providing and requiring the use of warm garment or other PPE

Worker Work/Rest Intervals

Work/rest intervals are based on PPE, work load, environmental conditions, and monitoring results. Work/rest intervals are determined by Peter Ennen and communicated to workers. Work/rest intervals are adjusted throughout the work shift as needed and communicated to each worker at the conclusion of an applicable rest period, prior to reentry into the work zone. Guidelines for work/rest schedules for this site are provided in Table 8-2ca. Resting workers are sheltered in a warm enclosure.

Table 8-2ca: Cold Stress Work/Rest Schedules			
Work Area Temperature Range	**PPE Level**	**Work Period (minutes)**	**Rest Period (minutes)**

Monitoring

Workers monitor each other's actions, speech, and appearance for signs and symptoms of cold-related injury including hypothermia and frostbite. The first symptoms of hypothermia are uncontrollable shivering and the sensation of cold. Cool skin, muscle rigidity, low blood pressure, slowed or irregular pulse and apparent exhaustion and fatigue after rest manifest as hypothermia progresses and the core body temperature falls. Frostbite can occur without hypothermia when extremities do not receive sufficient heat from central body stores. Frostbite occurs when the fluids around the tissue cells freeze and usually affects the extremities, nose, and cheeks. Damage from frostbite can result in tissue death.

Physical signs and symptoms of hypothermia and frost bite are discussed with workers Daily and reviewed as necessary.

Warm Shelters

Worker rest areas are warm and isolated from environmental conditions. These rest areas are located at site specific.

Use of Cold Temperature Clothing:

Workers don layered thermal protective clothing based on the guidelines provided in Table 8-2cc.

Table 8-2cc Use of Cold Temperature Clothing

Work Area Temperature Range	Task/Location	PPE Level	Cold Temperature Clothin

Physical signs and symptoms of heat stress are discussed with workers and reviewed as necessary.

8.3 Medical Management

The physician's written opinion specifically addresses fitness for duty for under heat stress conditions. This evaluation is described in Chapter 5, Medical Surveillance.The physician's written opinion specifically addresses fitness for duty for under heat stress conditions. This evaluation is described in Chapter 5, Medical Surveillance.

8.4 Training

Workers receive general training regarding thermal stress-related injuries and illnesses during initial HAZWOPER training and subsequent refresher training. The site-specific program and procedures are described in Chapter 4, Training.

9.0 SPILL CONTAINMENT PROGRAM

(in compliance with 29 CFR 1910.120(b)(4)(ii)(J) and (j)(1)(viii))

This chapter of the Health and Safety Plan describes the potential for hazardous substance spills at this site and procedures for controlling and containing such spills. The purpose of this chapter of the Plan is to ensure that spill containment planning is conducted and appropriate control measures are established.

The spill containment program is consistent with OSHA requirements in 29 CFR 1910.120(b)(4)(ii)(J) and (j)(1)(viii) and addresses the following site-specific information:

* potential hazardous substance spills and available controls
* initial notification and response
* spill evaluation and response
* post-spill evaluation

9.1 Potential Spills and Available Controls

Table 9-1 below lists the location and type of potential hazardous substance spills at this site. This table also describes the activities or situations in which an accidental spill could occur and the type of release--either an incidental or an emergency release -- likely to result.

Wherever spills, leaks, or ruptures can occur, this site keeps suitable quantities of proper absorbent and US Department of Transportation-specified salvage drums/containers. Their location is noted in Table 9-1. In addition, all areas subject to potential spills are diked or a means to adequately dike these areas in the event of a spill is available so that the entire volume of the hazardous substance being spilled can be contained and isolated. The type and location of spill containment equipment is also listed in Table 9-1.

Table 9-1 Potential Spills and Controls

Hazardous Substance	Location	Source of spill	Potential maximum qty of spill	Classification of spill	Available Spill Containment Equipment	Equipment Location
ASBESTOS - CHRYSOTILE	See order in Phase 1					
LEAD (INORGANIC, DUSTS & FUMES), as Pb	See order of demolition per Phase 1					

9.2 Initial Spill Notification and Response

Any worker who discovers a hazardous substance spill will immediately notify (name/title). The worker will, to his/her best ability, report the hazardous substance involved, the location of the spill, the estimated quantity of material spilled, the direction/flow of the spill material, related fire/explosion incidents, and any associated injuries. The site Emergency Response Plan, found in Chapter 11 of this HASP, will immediately be implemented if an emergency release has occurred.

9.3 Spill Evaluation and Response

(Name/title) is responsible for evaluating spills and determining the appropriate response. When this evaluation is being made, the spill area will be isolated and demarcated to the extent possible.

The procedures of the Emergency Response Chapter of this HASP are implemented when the spill is determined to require emergency precautions and action. If necessary to protect nearby community members, notification of the appropriate authorities is made. Table 9-3 below lists the spill conditions that trigger notification of Federal, state, and local agencies.

Table 9-3 Off-site Notification Requirements

Hazardous Substance	Location	Spill Volume/ Conditions	Required Notification
ASBESTOS - CHRYSOTILE	See order in Phase 1		
LEAD (INORGANIC, DUSTS & FUMES), as Pb	See order of demolition per Phase 1		

When an incidental release occurs, cleanup personnel receive instructions in a pre-cleanup meeting as to spill conditions, PPE, response activities, decontamination, and waste handling. The following are general measures that response/ cleanup personnel take when responding to a spill:

* To minimize the potential for a hazardous spill, hazardous substance and contaminated soils, control/absorbent

media, drums and containers, and other contaminated materials are properly stored and labeled.

* When a spill occurs, only those persons involved in overseeing or performing spill containment operations will be allowed within the designated hazard areas. If necessary, the area will be roped, ribboned or otherwise blocked off. Unauthorized personnel are kept clear of the spill area.

* Appropriate PPE, as specified during the pre-cleanup meeting, is donned before entering the spill area.

* Appropriate spill control measures are specified in the pre-cleanup meeting and applied during spill response.

* Whenever possible without endangerment of personnel, the spill is stopped at the source or as close to the source as possible.

* Ignition points are removed if fire or explosion hazards exist.

* Surrounding reactive materials are removed.

* Drains or drainage in the spill area will be blocked or surrounded by berms to exclude the spilled waste and any materials applied to it.

* Provisions are made to contain and recover a neutralizing solution, if used.

* Small spills or leaks from a drum, tank, or pipe will require evacuation of at least __ feet in all directions to allow cleanup and to prevent employee exposure. For small spills, sorbent materials such as sand, sawdust, or commercial sorbents (see Table 9-1 above for site-specific sorbent media) are placed directly on the waste to prevent further spreading and aid in recovery.

* If any spill is large and/or continuing, an initial isolation area of at least __ feet in all directions is used. Large spills are diked at the leading edge of the spill. Berms of earthen or sorbent material are constructed downstream of the leading edge of the spill to contain it. Where feasible, pumps are utilized to transfer the liquid to appropriate containers.

* Spill area is sprayed with appropriate foam where the possibility of volatile emissions exist.

* If the spill results in the formation of a toxic vapor cloud, from vaporization, or reaction with surrounding materials or by the outbreak of fire, further evacuation may be required.

* To dispose of spill waste, all contaminated sorbents, liquid waste, or earthen material will be cleaned up and placed in small quantities (__ pounds) in approved drums for proper storage or disposal as hazardous waste.

9.4 Post-Spill Evaluation

A written spill response report is prepared at the conclusion of clean-up operations. The report includes, at a minimum, the following information:

* date of spill incident
* cause of incident
* spill response actions
* any outside agencies involved, including their incident reports
* lessons learned or suggested improvements

The spill area is inspected to ensure the area has been satisfactorily cleaned. The use of soil, water, and air sampling is utilized in this determination as necessary. The root cause of the spill is examined and corrective steps taken to ensure the engineering and control measures in place have performed as required. If alternative precautions or measures are needed, they are made available and implemented.

All durable equipment placed into use during cleanup activities is decontaminated as specified in the Decontamination chapter of this HASP for future utilization. All spill response equipment and supplies are replenished as required.

10.0 DECONTAMINATION

(in compliance with 29 CFR 1910.120(b)(4)(ii)(G) and 1910.120(k))

The decontamination section of the Health and Safety Plan describes how personnel and equipment are decontaminated when they leave the Exclusion Zone. This section also describes how residual waste from decontamination processes is disposed. The site decontamination procedures are designed to achieve an orderly, controlled removal or neutralization of contaminants that may accumulate on personnel or equipment. These procedures minimize worker contact with contaminants and protect against the transfer of contaminants to clean areas of the site and off-site. They also extend the useful life of PPE by reducing the amount of time that contaminants contact and can permeate PPE surfaces. The decontamination procedures described below are designed to meet the requirements of 1910.120(k) and include site-specific information about:

* the location and type of site decontamination facilities
* general and specific decontamination procedures for personnel and PPE
* general and specific decontamination procedures for equipment
* disposal of residual waste from decontamination
* decontamination equipment and solvents
* monitoring the effectiveness of decontamination procedures

Emergency decontamination procedures are detailed in the Emergency Response section of this HASP.

Peter Ennen oversees implementation of site decontamination procedures and is responsible for ensuring their effectiveness.

10.1 Site Decontamination Facilities

Decontamination on this site is conducted in the contamination reduction zone (CRZ). The CRZ acts as a buffer between the hot-zone and the support zone. The location and design of decontamination stations minimize the spread of contamination beyond these stations. Separate facilities are used for personnel and for equipment. The location of these facilities is marked on Figure 10-1.

10.2 Decontamination Procedures for Personnel and PPE

Decontamination procedures on this site are designed for the level of PPE used. Site-specific procedures for personnel and PPE decontamination minimize the potential for hazardous skin or inhalation exposure and to avoid cross-contamination and chemical incompatibilities.

Based on the nature of the hazards and duration of work, showers and change rooms are not necessary and are not provided for workers.

The following are general decontamination procedures established and implemented at this site. More specific procedures for personnel and PPE decontamination are provided in Table 10-2.

1. Decontamination is required for all workers exiting a contaminated area. Personnel may re-enter the Support Zone only after undergoing the decontamination procedures described below in the next section.
2. Protective clothing is decontaminated, cleaned, laundered, maintained and/or replaced as needed to ensure its effectiveness.
3. PPE used at this site that requires maintenance or parts replacement is decontaminated prior to repairs or service.
4. PPE used at this site is decontaminated or prepared for disposal on the premises. Personnel who handle contaminated equipment have been trained in the proper means to do so to avoid hazardous exposure.
5. This site uses an off-site laundry for decontamination of PPE. The site has informed that facility of the hazards associated with contaminated PPE from this site.
6. The site requires and trains workers that if their permeable clothing is splashed or becomes wetted with a hazardous substance, they will immediately exit the work zone, perform applicable decontamination procedures, shower, and change into uncontaminated clothing.
7. Procedures for disposal of decontamination waste meet applicable local, State, and Federal regulations.

Figure 10-1 Location of Site Decontamination Facilities

Insert a map marking the location of decontamination facilities here.

Tables 10-2a and -2b lists site-specific procedures for personnel decontamination and handling of personnel decontamination waste.

Table 10-2a Level D Storage & Cleaning Procedures

Level D Storage Procedures:

Level D Cleaning Procedures:

Other Level D Special Handling Requirements:

10.3 Decontamination Procedures for Equipment

All tools, equipment, and machinery from the Exclusion Zone or CRZ are decontaminated in the CRZ prior to removal to the Support Zone. Equipment decontamination procedures are designed to minimize the potential for hazardous skin or inhalation exposure and to avoid cross-contamination and chemical incompatibilities.

The following are general equipment decontamination procedures established and implemented at this site. More specific procedures for equipment decontamination are provided in Table 10-3a and 10-3b.

General Equipment Decontamination Procedures:

1. Decontamination is required for all equipment exiting a contaminated area. Equipment may re-enter the Support Zone only after undergoing the equipment decontamination procedures described in the table below (Table 10-3, Site-specific Equipment Decontamination Procedures).
2. Vehicles that travel regularly between the contaminated and clean areas of the site are carefully decontaminated each time they exit the Exclusion Zone and the effectiveness of that decontamination is monitored to reduce the likelihood that contamination will be spread to other parts of the site.
3. Particular attention is given to decontaminating tires, scoops, and other parts of heavy equipment that are directly exposed to contaminants and contaminated soil.

Tables 10-3a and -3b lists site-specific procedures for equipment decontamination and handling of equipment decontamination wastes.

Table 10-3a Equipment Decontamination Procedures

Type of Equipment	Decontamination Solution	Decontamination Procedure
Sampling equipment		See ESD SOPs for groundwater sampling

Table 10-3b Waste Handling for Equipment Decontamination

10.4 Monitoring the Effectiveness of Decontamination Procedures

Visual examination and sampling are used to evaluated the effectiveness of decontamination procedures, in compliance with 29 CFR 1910.120(k)(2)(iv). Visual examination is used to ensure that procedures are implemented as described and that they appear to control the spread of contaminants under changing site conditions. Visual examination is also used to inspect for signs of residual contamination or for contaminant permeation of PPE.

Sampling, both air sampling and surface sampling, are used to verify the effectiveness of decontamination. Air samples are taken in the clean zone to ensure that airborne contaminants have not spread to clean areas of the site. Surface samples are taken from the inside surfaces of PPE, from decontaminated heavy equipment, and from surfaces within clean areas of the site to ensure that site decontamination and control procedures are performing as anticipated. The type and frequency of air and surface sampling used to ensure the effectiveness of decontamination procedures are detailed in the Exposure Monitoring section of this HASP.

Results of the inspections of decontamination procedures and documentation of any action taken to correct deficiencies are recorded and stored at ESD files and SOPs .

Personnel who work in contaminated areas of the site, either the Contamination Reduction Zone (CRZ) or the Exclusion Zone, are trained in the principles and practices of decontamination described in this section of the HASP and in related SOPs. If site procedures are changed as a results of inspection and monitoring, all affected employees are notified of these changes.

11.0 EMERGENCY RESPONSE PLAN

(in compliance with 29 CFR 1910.120(l) and 1910.120(b)(4)(ii)(H)

This is the site-specific emergency response plan. This chapter of the Health and Safety Plan describes potential emergencies at this site, procedures for responding to those emergencies, roles and responsibilities during emergency response, and training that workers must receive in order to follow emergency procedures. This plan also describes the provisions this site has made to coordinate its emergency response planning with other contractors on site and with off-site emergency response organizations.

This emergency response plan is consistent with the requirements of 29 CFR 1910.120(l) and provides the following site-specific information:

* pre-emergency planning
* personnel roles, lines of authority, and communication
* emergency recognition and prevention
* safe distances and places of refuge
* site security and control
* evacuation routes and procedures
* decontamination procedures
* emergency medical treatment and first aid
* emergency alerting and response procedures
* critique of response and follow-up
* PPE and emergency equipment

During the development of this emergency response plan, local, state, and federal agency disaster, fire, and emergency response organizations were consulted to ensure that this plan is compatible and integrated with the plans of those organizations. Documentation of the dates of these consultations and the names of individuals contacted is kept at fire department.

11.1 Pre-emergency Planning

This site has been evaluated for potential emergency occurrences, based on site hazards, the tasks within the work plan, the site topography, and prevailing weather conditions. The results of that evaluation are shown in Table 11-1 below.

Table 11-1 Potential Site Emergencies

Type of Emergency	Source of Emergency	Location of Source
Fire	arson and weather	
Lightning	Weather	
Heat stress/worker collapses	Excavation	

11.2 On-Site Emergency Response Equipment

Emergency procedures may require specialized equipment to facilitate worker rescue, contamination control and reduction, or post-emergency clean-up. Emergency response equipment stocked on this site is listed in Table 11-2. The equipment inventory and storage locations are based on the potential emergencies described in Table 11-1. This equipment inventory is designed to meet on-site emergency response needs and any specialized equipment needs that off-site responders might require because of the hazards at this site but not ordinarily stocked.

Any additional PPE required and stocked for emergency response is also listed in Table 11-2 below. During an emergency, the Emergency Response Coordinator is responsible for specifying the level of PPE required for emergency response. At a minimum, personal protective equipment used by emergency responders will comply with Chapter 6, Personal Protective Equipment, of this HASP.

Emergency response equipment is inspected at regular intervals and maintained in good working order. The equipment inventory is replenished as necessary to maintain response capabilities.

Table 11-2 Emergency Equipment and Emergency PPE

Emergency Equipment	Specific Type	Quantity Stocked	Location Stored
First aid kit			
Fire extinguisher			
Emergency PPE	**Specific Type**	**Quantity Stocked**	**Location Stored**
NA			

11.3 Emergency Planning Maps

Figure 11-3a provides a map of the site with key on-site emergency planning information clearly marked. Emergency evacuation route(s), places of refuge, assembly point(s), and the locations of key site emergency equipment are identified on this map. Site zone boundaries are shown to alert responders to known areas of contamination. Major topographical features and the direction of prevailing winds/weather conditions that could affect emergency response planning are also marked on this map. Figure 11-3a is posted at site entry points and at locations throughout the work site.

Figure 11-3b indicates the route to the nearest emergency medical assistance. Figure 11-3b is posted at the following locations:

Authorized contractors

Blacksmith Shop

Redevelopment and ESD personnel

11.4 Roles and Responsibilities for On-Site and Off-Site Personnel

Peter Ennen is responsible for implementing the emergency response plan and coordinates emergency response activities on this site. He/she provides specific direction for emergency action based upon information available regarding the incident and response capabilities and initiates emergency procedures, including protection of the public and notification of appropriate authorities.

In the event of an emergency, site personnel are evacuated and do not participate in emergency response activities. As a result, this emergency response plan is designed to comply with 29 CFR 1910.38. The on-site personnel and their alternates responsible for coordinating site evacuation efforts are listed in Table 11-4. The emergency response coordinator or one of his/her alternates is on site whenever work operations are underway.

The site relies upon the off-site emergency response organizations listed in the Emergency Contact Information, Table 11-4, to respond to site emergencies. These organizations have been provided a copy of the site HASP, have been thoroughly briefed on site operations, hazards, and potential emergencies; have participated in a site walk-through if necessary; and are appropriately trained, staffed, and equipped to provide emergency response to this site. These organizations are contacted at least semi-annually or when changes in operations or hazards occur on site to verify the accuracy of phone numbers and contact names and to ensure that current points of contact are aware of site operations and hazards.

11.5 Emergency Alerting and Evacuation

Upon discovering an emergency situation, personnel notify Albuquerque Fire Department, who will evaluate available information and initiate response. Site workers are alerted to emergencies through the use of an employee alarm system. The employee alarm systems at this site are listed in Table 11-5.

Table 11-5 Employee Alarm Systems

Type of Alarm	Location	How Alarm is Used
Site personnel		

This alarm system meets the requirements of 29 CFR 1910.165 and is tested annually under normal site operating conditions to ensure that it is in good working order and can effectively alert all persons on-site. A log of alarm tests is kept by Albuquerque Fire Department.

If evacuation notice is given, site workers leave the worksite with their respective buddies, if possible, by way of the nearest exit. Emergency decontamination procedures detailed in Chapter 10 of this HASP are followed to the extent practical without compromising the safety and health of site personnel.

Appropriate primary and alternate evacuation routes and assembly areas have been identified and are shown on the Emergency Response Map Fig 11-3a. The routes and assembly area will be determined by conditions at the time of the evacuation based on wind direction, the location of the hazard source, and other factors as determined by rehearsals and inputs from emergency response organizations.

Wind direction indicators are located so that workers can determine a safe up wind or cross wind evacuation route and assembly area if not informed by the emergency response coordinator at the time the evacuation alarm sounds.

Personnel exiting the site gather at a designated assembly point. To determine that everyone has successfully exited the site, personnel will be accounted for at the assembly site. If any worker cannot be accounted for, notification is given to Peter Ennen so that appropriate action can be initiated.

Contractors and subcontractors on this site have coordinated their emergency response plans to ensure that these plans are compatible and that source(s) of potential emergencies are recognized, alarm systems are clearly understood, and evacuation routes are accessible to all personnel relying upon them.

11.6 Emergency Response

The Emergency Response Team Leader, after investigating the incident and reviewing relevant information, determines the level of response required for containment, rescue, medical care and clean-up. The emergency response team is mobilized to the incident

site and supplied with sufficient members, PPE, and emergency equipment.

When the Team Leader determines that on-site emergency response is inadequate for the emergency or that outside assistance is needed or otherwise required, the applicable off-site organization shown in Table 11-4 is contacted. The Emergency Response Team Leader provides relevant information to the responding organizations, including hazards associated with the emergency incident, potential containment problems, and missing site personnel.

11.7 Emergency Medical Treatment and First Aid

This site has 1 workers with current first aid certification assigned to provide first aid during each shift. Because of this practice, the site has an exposure control plan in accordance with OSHA's bloodborne pathogens standard, 1910.1030 (c)(1)(i). The site also offers Hepatitis B vaccinations to workers who are assigned to provide first aid. A record of those vaccinations or the employee's declination of the vaccination is kept in her/his medical records file.

Personnel who require medical care and/or who are transferred to a medical facility are accompanied by MSDSs and other applicable hazard data to apprise caregivers of the chemicals and hazards to which the victim has been potentially exposed. The emergency medical care facility for this site is Albuquerque Fire Department. The route to the facility is shown in Figure 11-3b.

11.8 Emergency Response Critique and Plan Updates

After every emergency incident or evacuation of this site, Albuquerque Fire Department will evaluate the quality and safety of response activities. Any deficiencies in response actions will be included in a specific follow-up plan and corrected.

11.9 Emergency Response Training

All persons who enter this worksite, including visitors, receive a site-specific briefing about anticipated emergency situations and the emergency procedures.

This site relies on off-site organizations for emergency response (see Table 11-4), the training of personnel in those off-site organizations has been evaluated and is deemed adequate for response to this site.

Site personnel are trained to evacuate in a safe and orderly manner in accordance with 29 CFR 1910.38. Workers do not participate in emergency response rehearsals at this site.

Table 11-4 Emergency Contact Information

The list of telephone numbers below are the emergency contact numbers for this site. These emergency numbers are verified to be accurate, working numbers. Site personnel are trained and rehearsed in site-specific emergency calling procedures. A copy of this contact information is posted at the following locations:

Authorized contractors

Major entries

Redevelopment and ESD staff

SITE PERSONNEL

Title	Contact	Telephone
Site Supervisor	Gabe Rivera	5059243356
Site Safety and Health Officer (SSHO)	Peter Ennen	5057683209
Project Manager (PM)	Karen Iverson	5059243814
Emergency Response Coordinator (ERC)	Albuquerque Fire Department	911
Emergency Response Coordinator 1st Alternate		
Emergency Response Coordinator 2nd Alternate		
Subcontractor:Gordon Environmental		
Subcontractor:		

OUTSIDE ASSISTANCE

Agency	Contact	Address/Location	Telephone
Ambulance/EMS			911
Police			911
Fire			911
National Reponse Center			800-424-8802
State Police			911
Local Emergency Response Agency			911
Emergency Medical Assistance	911		911
Poison Control Center			
Secondary Medical Facility			
Poison Control Center			(your state agency #)
State Authority			
Center for Disease Control			
Chemtrec			800-424-9300

Figure 11-3a Emergency Planning Map

Insert emergency planning map here.

Figure 11-3b Driving Route to Emergency Medical Assistance

Insert map of driving route to Emergency Medical Assistance.

12.0 Standard Operating Procedures (SOPs)

(in compliance with 29 CFR 1910.120(b)(1)(ii))

Work at this site will be conducted in accordance with the following SOPs, which have been attached for reference.

1.

13.0 PERMIT-REQUIRED CONFINED SPACES

(in compliance with 29 CFR 1910.120(b)(4)(ii)(I) and 1910.146)

This section of the Health and Safety Plan represents the site-specific written confined space entry program. The purpose of this section of the Health and Safety Plan is to identify all permit-required confined spaces (permit spaces) on site and to describe the procedures that have been developed and implemented to ensure worker safety and health in permit-required confined spaces. In compliance with the requirements of 29 CFR 1910.120(b)(4)(ii)(I), this section of the HASP is included even when no permit-required confined spaces are present on site in order to indicate that a site-specific evaluation for permit spaces has been made.

This permit-required confined space program (permit space program) includes the elements specified in 29 CFR 1910.146 and provides the following site-specific information:

* identification and evaluation of permit spaces
* measures to prevent unauthorized entry
* entry permit system
* entry equipment and personal protective equipment
* entry procedures
* permit spaces training
* rescue and emergency procedures
* employee participation

The person with overall responsibility for the permit space program is Peter Ennen. The permit space program is modified to reflect changing site conditions or work operations. This program is reviewed if any of the following conditions occur:

* occurrence of unauthorized entry of a permit space
* discovery of a permit space hazard not covered by the permit
* detection of a condition prohibited by the permit
* occurrence of a injury or near-miss during entry
* change in the use or configuration of a confined space
* employee complaints of permit space program ineffectiveness

Additionally, an annual review of all entries performed during the previous 12 month period is conducted. If no entries were made into a permit space, then no annual review is performed.

13.1 Identification and Evaluation of Permit Spaces

This site has been carefully evaluated by Bart Faris on 10/19/2018 and it has been determined that there are confined spaces on this site, but they do not meet the definition of a permit space.

When there are changes in the use or configuration of non-permit confined spaces onsite that may increase the hazards to entrants, these spaces will be re-evaluated and, if necessary, re-classified as a permit space.

14.0 HOT WORK

(in compliance with 29 CFR 1910.252(a))

This chapter of the Health and Safety Plan addresses site welding operations. The purpose of this chapter is to establish procedures that protect workers from safety and health hazards associated with these operations.

The hot work section of this HASP is consistent with the requirements of 29 CFR 1910.252(a) and addresses the following site-specific information:

* designated areas and other hot work locations
* hot work permits
* fire watch
* hot work SOPs

The person with responsibility for implementing this plan and authorizing cutting and welding operations is Peter Ennen.

14.1 Designated Areas and Other Hot Work Locations

Whenever possible, welding and cutting on this site are performed in designated areas that have been made fire safe. The designated areas on this site are:

Designated Welding and Cutting Areas
Not identified at this time

Cutting or welding in undesignated areas is only done after a hot work permit has been obtained, as detailed in Section 14.2. Cutting and welding operations are prohibited at all times in the following locations:

Areas Where Welding and Cutting is Prohibited
Not identified at this time

14.2 Hot Work Permit

A written hot work authorization is required and issued prior to any welding or cutting operation outside the designated areas. The hot work permit is authorized only after the area is inspected by the authorizing company personnel.

The hot work permit will be conspicuously posted in the area where the welding or cutting is being performed. On the permit, the authorizing worker will note any necessary precautions for the specific cutting or welding operation, including but not limited to: fire watch; guarding; and fire extinguishing equipment. (a sample permit is included with this module)

14.3 Fire Watch

Fire watch is required by the hot work permit when any of the following conditions exists:

* potential for development of other than a minor fire
* appreciable combustible material, in building construction or contents, within 35 feet
* appreciable quantities of combustibles are greater then 35 feet away, but easily combustible
* wall or floor openings within 35 feet expose combustible material in adjacent areas including concealed spaces in walls or floors
* combustible materials are adjacent to the opposite side of a metal partition, wall, ceiling, or roof and are likely to be ignited by heat conduction or radiation

Fire watchers are equipped with fire extinguishing equipment as specified on the permit. They are trained in the use, operation, and limitations of the fire extinguishing equipment and familiar with emergency alerting procedures in the event of a fire. If a fire is discovered in an area under watch by the fire watcher, then he/she extinguishes the fire with the extinguishing equipment when obviously in the capacity of the equipment, or otherwise sounds the alarm. Fire watch is maintained for not less than ½ hour after the completion of the welding or cutting to detect and extinguish possible smoldering fires.

14.4 Hot Work SOPs

The following standard operation procedures (SOPS) are followed for all hot work on this site:

1. Cutting and welding is performed only by suitably trained workers.
2. Site subcontractors who may perform hot work or who work in proximity to hot work operations are advised about the location of flammable materials or hazardous conditions.
3. Combustibles are removed from the area or protected where the work cannot be moved to designated fire safe areas.

4. Openings or cracks in flooring or walls, open doorways, and open or broken windows are effectively closed or precautions taken to protect readily combustible material onto which sparks or slag may drop.
5. Suitable fire extinguishing equipment is maintained and ready for use at all welding or cutting operations.
6. Combustible materials are cleared within a minimum radius of 35 feet around welding or cutting operations or, where it is not possible to clear the area, the combustibles are protected with appropriate covers or shields.
7. Where floors or surrounding ground are wetted, arc welding or cutting equipment operators wear appropriate PPE in accordance with 29 CFR 1910 Subpart I (Personal Protective Equipment).
8. Peter Ennen has the authority and responsibility to interrupt other site operations that might expose combustibles to ignition during cutting and welding.
9. Hot work is not performed on drums, barrels, tanks, or other containers until they have been thoroughly cleaned and it is determined that hot work operations on the vessel will not produce flammable or toxic vapors.
10. Pipelines or connections to drums or other containers are disconnected or blanked prior to hot work.
11. All hollow spaces, cavities, and containers are thoroughly vented, and preferably purged with inert gas, to allow escape of air or gases prior to any preheating, cutting, or welding.
12. Confined spaces: where arc welding is performed, all electrodes are removed from holders, the holders are carefully located to prevent accidental contact, and the power source to the machine is disconnected when work is suspended for any substantial period of time, such as during lunch hour or overnight.
13. Confined spaces: torch valves shall be closed and the gas supply to the torch positively shut off at some point outside the confined space on all gas welding or cutting equipment when the torch is not to be used for a substantial period of time, such as during lunch hour or overnight.

HOT WORK PERMIT

(MUST BE CONSPICUOUSLY POSTED WHERE HOT WORK IS BEING PERFORMED)

Part 1-Information

Issue Date: _____

Date Work to be Performed: Start: _____ Finish (permit terminated): _____

Performed by: _____

Work Area: _____

Object to be Worked On: _____

_____

_____

Part 2-Approval Required (for 1, 2, and 3, mark Yes, No, or NA) *

If working on or in:	**Yes**	**No**
1-Metal partition, wall, ceiling covered by combustible material?		
2-Pipes, in contact with combustible material?		
3-Explosive area?		

***If any of these conditions exist (marked "yes") a permit will not be issued without being reviewed and approved by** _____.(Required signature below)

Part 3-Required Conditions (Circle all conditions that must be met)**

PROTECTIVE ACTION	PROTECTIVE EQUIPMENT
Specific Risk Assessment Required	Goggles / visor / welding screen
Fire or spark barrier	Apron / fireproof clothing
Cover hot surfaces	Welding gloves / gauntlets / other: _____
Move movable fire hazards, specifically _____	Wellingtons Knee pads
Erect screen on barrier	Ear protection: Ear muffs / Ear plugs
Restrict Access	B.A.: SCBA / Long Breather
Wet the ground	Respirator: Type: _____
Ensure adequate ventilation	Cartridge: _____
Provide adequate supports	
Cover exposed drain/floor or wall cracks	Local Exhaust Ventilation
Fire watch (must remain on duty during duration of permit plus 30 minutes)	Extinguisher / Fire blanket
Issue additional permit(s): _____	Personal flammable gas monitor

Other precautions: _____

_____

_____

****Permit will not be issued until these conditions are met.**

Signatures:

Originating Employee: _____ Date: _____

Director: _____ Date: _____

Part 2 Approval: _____ Date: _____

15.0 Hazardous Energy Control or Lockout/Tagout Program

(in compliance with 29 CFR 1910.147)

This section of the Health and Safety Plan represents the site-specific hazardous energy control program. The purpose of this section of the Health and Safety Plan is to identify all machine and equipment repair and maintenance activities that require LOTO procedures under 1910.147.

This site was carefully evaluated by Bart Faris on 10/19/2018 and it was determined that LOTO procedures are not necessary for any machines or equipment to protect site employees from hazardous energy. This section of the HASP is included even when the employer is not covered by 1910.147 in order to indicate that a site-specific evaluation for the control of hazardous energy has been made.

[NOTE: The employer may want to indicate the specific reason they are not covered by the LOTO standard, especially in cases where repair and maintenance of machines or equipment on the site is necessary. If an employer is exempt because of normal production operations (1910.147(a)(2)(ii)), hot tap operations (1910.147(a)(2)(iii)(B)), or other reasons, he/she should note the reason for the LOTO exemption.]

City of Albuquerque
Procurement Contract

EARTHTECH LANDSCAPING
8290 BROADWAY SE
ALBUQUERQUE NM 87105

Contract ID	**SHR000021583**
Contract Dates	**08/08/2018 - 08/07/2020**
Contract Reference	**B2018000073**
Contract Maximum	**$0.00**
Contract Print Date	**08/08/2018**
Origin	**VAR**
Page 1 of 4	

Vendor Contact:
Loboden@comcast.net
505-991-0677

Supplier ID: 0000138211

Description: Demolition Services

ITEM #	ITEM DESCRIPTION	Category	QTY	UOM	UNIT PRICE
1	Demolition, Framed Stucco/Stick Built	91240	-	SF	3.00
2	Demolition of Concrete Masonry Unit	91240	-	SF	3.00
3	Demolition for Adobe Construction	91240	-	SF	3.00
4	Demolition for Alternative Structure	91240	-	SF	3.00
5	Demolition for Steel Construction	91240	-	SF	3.00
6	Demolition for removal of concrete (basements, slab foundations, pier foundations, plat work, patios, sidewalks, drive pads, swimming pools, Ponds	91240	-	SF	3.00
7	Demolition for removal of wood structures, patio covers, dog houses, scrap fences	91240	-	CUY	3.00
8	Removal for/removal of brick structure façade, block or brick walls, bbq areas, walkways	91240	-	CUY	3.00
9	Removal of large items (e.g. Automobiles, sheds, trailers	91240	-	CUF	3.00
10	Removal of trees and tree stumps, bushes and other vegetation	91240	-	CUY	35.00
11	Removal of all debris within confines of property	91240	-	CUY	3.00
12	Backfill (clean and free of debris) to include deliver, preparation, finishing	91240	-	SQY	10.00
13	Removal for any type of additional material such s gravel, rocks, rockscape and landscaping	91240	-	CUF	3.00
14	Levelling of entire lot (average 1/4 acre) rake finish	91240	-	EA	500.00
15	Leveling of additional lot size, rake finish	91240	-	SF	25.00
16	Set up and take down of fence panels when needed, state per standard panel with 9 inch gauge wire	91240	-	EA	40.00
17	Use of fence panels, set up and take down as part of demolition job	91240	-	EA	40.00
18	Use of 40 yard or other appropriate size dumpster per load for debris removal	91240	-	EA	400.00
19	Specialty surface coating removal such as tennis court floorings	91240	-	SQY	25.00
20	Asbestos/Abatement/Removal of Floor Tile/Mastic	91240	-	SF	10.00
21	Asbestos, Abatement/Removal of Roofing Mastic	91240	-	SF	25.00
22	Asbestos/Abatement/Removal of Drywall, Texture, Wallboard	91240	-	SF	25.00
23	Asbestos/Abatement/Removal of Stucco	91240	-	SF	25.00
24	Asbestos/Abatement Removal of Ceiling Textures/Popcorn/Spray/Applied Textures	91240	-	LF	25.00

Purchasing Office Signature:

City of Albuquerque
Procurement Contract

EARTHTECH LANDSCAPING
8290 BROADWAY SE
ALBUQUERQUE NM 87105

Contract ID	**SHR000021583**
Contract Dates	**08/08/2018 - 08/07/2020**
Contract Reference	**B2018000073**
Contract Maximum	**$0.00**
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Origin	**VAR**
Page 2 of 4	

Vendor Contact:
Loboden@comcast.net
505-991-0677

Supplier ID: 0000138211

25	Asbestos/Abatement/Removal of Window Putty	**91240**	**-**	**LF**	**25.00**
26	Asbestos/Abatement/Removal	**91240**	**-**	**LF**	**25.00**
27	Asbestos/Abatement/Removal of Transite Pipe	**91240**	**-**	**LF**	**25.00**
28	Asbestos/Abatement/Removal of Flashing/Mastic	**91240**	**-**	**LF**	**25.00**
29	Asbestos/Abatement/Removal of Transite Roofing	**91240**	**-**	**LF**	**25.00**
30	Asbestos/Abatement/Removal of Transite Siding	**91240**	**-**	**LF**	**25.00**
31	Asbestos/Abatement/Removal and Cleaning of Bio Hazards, i.e. Scurbbing Walls, Ceiling, Cleaning Countertops	**91240**	**-**	**LF**	**25.00**
32	Asbestos/Abatement/Removal of Floor Tile	**91240**	**-**	**LF**	**25.00**
33	Asbestos/Abatement Removal of Floor Mastic	**91240**	**-**	**LF**	**25.00**
34	Fees Asbestos for Unit NESHAP	**91240**	**-**	**EA**	**100.00**
35	Asbestos/Abatement/Removal of Set Fee for Setup and Take Down	**91240**	**-**	**EA**	**500.00**

1. Department must obtain a quote for work. Included in the quote will be an approximate completion date. Sites visits will be expected.
2. All jobs over $25,000.00 will require a Performance Bond and Payment Bond
3. All jobs over $25,000.00 will require a separate Purchase Order Release (POR).
4. Wage Rates will apply on jobs $60,000.00 and over.
5. Upon completion, the work will be inspected and if approved, an itemized invoice will be submitted to the Department obtaining th ework.
6. Itemized invoice will contain the work specified in the bid.
7. All bids shall include tax.

Primary users of this contract are:
Planning Department
Patrick Sanchez, 505-292-3451

Safe City Strike Force:
Angelo D. Metzgar, 505-924-3455

Purchasing Office Signature:

City of Albuquerque
Procurement Contract

EARTHTECH LANDSCAPING
8290 BROADWAY SE
ALBUQUERQUE NM 87105

Vendor Contact:
Loboden@comcast.net
505-991-0677

Supplier ID: 0000138211

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Contract Maximum	**$0.00**
Contract Print Date	**08/08/2018**
Origin	**VAR**
Page 3 of 4	

Instructions to Supplier:

- **Do not fill orders for goods/services not listed in this Procurement Contract.**
- **Orders against this Procurement Contract must be placed with a Purchase Order Release (POR).**
- **Do not fill orders without a POR.**
- **POR number must be on all invoices.**

Please forward all original invoice(s) to:
City of Albuquerque
Accounting Division
PO Box 1985
Albuquerque, NM 87103

Instructions to End-User:
Do Not place orders for goods/services not listed on this Procurement Contract.
To place an order against this Procurement Contract, issue a POR prior to placing the order with the Supplier.

IMPORTANT NOTICE: BY COMMENCING WORK UNDER THIS PROCUREMENT CONTRACT, SUPPLIER ACCEPTS ALL TERMS AND CONDITIONS WITHIN AND ATTACHED TO THIS PROCUREMENT CONTRACT AND AGREES THAT, TO THE EXTENT ANY VENDOR TERMS CONFLICT, THE CITY'S TERMS AND CONDITIONS SHALL GOVERN. VALID ONLY WITH OFFICIAL CITY OF ALBUQUERQUE PURCHASING DIVISION SIGNATURE. WHEN ACCEPTING A HAND-CARRIED PROCUREMENT CONTRACT, SUPPLIER SHOULD CALL THE PURCHASING DIVISION TO CERTIFY THE VALIDITY OF THE PROCUREMENT CONTRACT OR REQUEST PHOTO IDENTIFICATION FROM THE PERSON PRESENTING THE PROCUREMENT CONTRACT AND MAINTAIN FOR ITS RECORDS THE DRIVER'S LICENSE NUMBER, SOCIAL SECURITY NUMBER, OR CITY ID NUMBER OF THAT PERSON. THE CITY WILL NOT BE LIABLE FOR PURCHASES MADE BY UNAUTHORIZED INDIVIDUALS. CALL 505-768-3320 WITH ANY QUESTIONS.

Purchasing Office Signature:

CITY OF ALBUQUERQUE TERMS AND CONDITIONS

Direct all inquiries to: City of Albuquerque, Purchasing Division, P.O. Box 1293, Albuquerque, NM 87103 or call (505) 768-3320.

1. Contract: By commencing work, vendor accepts all Terms and Conditions herein and agrees that, to the extent vendor terms conflict, these Terms and Conditions shall govern. These Terms and Conditions and any non-conflicting vendor terms and conditions shall constitute the Contract.

2. Invoicing: Department name AND purchase order number MUST be on all invoices, packing slips, shipping notices, freight bills, and correspondence concerning the order. **Send invoice original and duplicate to: Accounting. P.O. Box 1985, Albuquerque, NM 87103.**

3. Payment: City's payment terms are net 30 days unless otherwise stated**.** City shall not pay late fees, finance fees, or collection fees. Any vendor that accepts payments by credit card on behalf of City must be Payment Card Industry Data Security Standard compliant.

4. FOB Destination and Inspection: The risk of loss, injury and destruction, and legal title to the goods remains with vendor until the goods reach the location of the City. All goods delivered are subject to inspection upon receipt by City. Department's count will be accepted by vendor as final and conclusive on all shipments not accompanied by a packing slip. All rejected goods shall remain the property of vendor and will be returned at vendor's expense.

5. Taxes: Vendor is responsible for determining whether taxes are applicable to the order and for payment of the tax. Applicable taxes are to be included in each invoice due and may not be billed more than sixty (60) days after providing the goods or services to which the taxes apply.

6. Warranty: Vendor warrants that the goods and services furnished shall (a) conform to the specifications; (b) be free from defects in materials and workmanship; (c) be suitable for the purpose intended; (d) be new and of most current production; (e) be free from security interests or liens; and (f) not infringe upon or violate any copyrights or patent rights.

7. Insurance: Vendor agrees to comply with its state's law pertaining to workers' compensation benefits for its employees. If vendor fails to comply with the applicable workers compensation law when required to do so, the Contract may be terminated by City. Vendor also agrees to procure and maintain the insurance in https://www.cabq.gov/dfa/purchasing/vendor-services/general-instructions-terms-and-conditions (Section 28) and any additional insurance coverage requested by City.

8. Default: City reserves the right to cancel all or any part of the Contract without cost to the City if vendor fails to meet the provisions of the Contract and, and except as otherwise provided herein, to hold Vendor liable for any excess cost incurred by City due to vendor default.

9. Force Majeure: Neither Vendor nor City shall be liable for failure to perform its obligations under the Contract due to causes beyond the control and without the fault or negligence of either party. Such causes include, but are not restricted to, acts of God or the public enemy, acts of the State or federal government, fires, floods, epidemics, quarantine restrictions, strikes, freight embargoes, unusually severe weather and defaults of subcontractors due to any of the above, unless City shall determine that the supplies or services to be furnished by the subcontractor were obtainable from other sources in sufficient time to permit vendor to meet the required delivery scheduled. The rights and remedies of the City provided in this paragraph shall not be exclusive and are in addition to any other rights now being provided by law or under the Contract.

10. Termination for Lack of Appropriations: Notwithstanding any provision in the Contract to the contrary, payments hereunder are contingent upon the Albuquerque City Council making the necessary appropriations. If sufficient appropriations are not made, the Contract may be terminated at the end of City's' then current fiscal year upon written notice given by City to vendor. Such event shall not constitute an event of default and all payment obligations of City and all of its interest in the Contract will cease upon the date of termination. City's determination regarding appropriation shall be accepted by vendor and shall be final.

11. Termination for Convenience: City may terminate the Contract at any time by giving at least 30 days' written notice to the Vendor. In such event, vendor shall be paid under the terms of the Contract for all goods and/or services provided to and accepted by City, if ordered or accepted by City prior to the effective date of termination.

12. Contract Changes: In no case shall the Contract be changed without the prior written approval of City's Chief Procurement Officer.

13. Assignment: Neither the Contract, nor any interest therein, nor claim thereunder, shall be assigned or transferred by vendor, except as expressly authorized in writing by City's Chief Procurement Officer or designee. No such assignment or transfer shall relieve vendor from the obligations and liabilities under the Contract.

14. City Furnished Property: City furnished property shall be returned to City upon request in the same condition as received except for ordinary wear, tear, and modifications ordered hereunder.

15. Indemnity: Vendor agrees to defend, indemnify and hold harmless City from any and all claims, actions, suits or proceedings brought against City because of any injury or damage received or sustained by any person or property arising out of or resulting from the Contract or by reason of any asserted act or omission, neglect or misconduct of vendor or its agents or employees or any subcontractor or its agents or employees. This indemnity shall not be limited by reason of the specification of any particular insurance coverage in the Contract. City shall not indemnify vendor.

16. Debarment, Suspension, Ineligibility and Exclusion Compliance: Vendor certifies (a) that it has not been debarred, suspended or otherwise found ineligible to receive funds by any agency of the executive branch of the federal government, the State of New Mexico, any local public body of the State, or any state of the United States; and (b) should any notice of debarment, suspension, ineligibility or exclusion be received by vendor, vendor will notify City immediately.

17. Conflict of Interest: No officer, agent or employee of City will participate in any decision relating to the Contract which affects that person's financial interest, the financial interest of his or her spouse or minor child or the financial interest of any business in which he or she has a direct or indirect financial interest.

18. Interest of Contractor: Vendor agrees that it presently does not have, and shall acquire no direct or indirect interest which conflicts in any manner or degree with the performance of the terms of the Contract. Vendor will not employ any person who has any such conflict of interest to assist Vendor in performing the services.

19. No Collusion: Vendor represents that it has entered into the Contract without collusion on the part of Vendor with any person or firm, without fraud and in good faith. Vendor also represents that no gratuities, in the form of entertainment, gifts or otherwise, were, or during the term of the Contract, will be offered or given by vendor or any agent or representative of vendor to any officer or employee of the City with a view towards securing the Contract or for securing more favorable treatment with respect to making any determinations with respect to performing the Contract.

20. Audits and Inspections: At any time during normal business hours and as often as City may deem necessary, there shall be made available to City for examination all of vendor's records with respect to all matters covered by the Contract. Vendor shall permit City to audit, examine, and make excerpts or transcripts from such records, and to make audits of all contracts, invoices, materials, payrolls, records of personnel, conditions of employment and other data relating to all matters covered by the Contract. Vendor understands and will comply with City's Accountability in Government Ordinance, §2-10-1 et seq. and Inspector General Ordinance, §2-17-1 et seq. R.O.A. 1994, and also agrees to provide requested information and records and appear as a witness in hearings for City's Board of Ethics and Campaign Practices pursuant to Article XII, Section 8 of the Albuquerque City Charter.

21. Compliance With Ethics Provisions: Vendor certifies that it has not, either directly or indirectly, entered into action in restraint of free competitive bidding and is in compliance with the Ethical Conduct provisions of City's Public Purchases Ordinance. 5-5-22 R.O.A. 1994.

22. Non-discrimination: In performing the Contract, vendor shall comply with the Federal Civil Rights Act of 1964 and Title VII of the Act and the Americans with Disabilities Act of 1990.

23. Compliance With Laws: In performing the Contract vendor shall comply with all applicable laws, ordinances and codes of the federal, state and local governments.

24. Governing Law: The Contract is governed by the laws of the State of New Mexico and the City of Albuquerque. The venue for actions arising out of the Contract is Bernalillo County, New Mexico.

25. Federal Funding: Procurements involving the expenditure of federal funds may be subject to mandatory applicable federal law and regulations.

Version Date: August 2018

GORDON PSC ENVIRONMENTAL

333 Rio Rancho Blvd. NE, Suite 400
Rio Rancho, New Mexico 87124
505.867.6990

November 21, 2018

Transmitted Via E-mail: bfaris@cabq.gov
sherrera@cabq.gov
Hard Copy Upon Request

Mr. Bart Faris
Environmental Health Manager
Albuquerque Environmental Health Department
City of Albuquerque
Room 3023, 3rd Floor, City Hall
One Civic Plaza NW
Albuquerque, NM 87103

Re: City of Albuquerque Rail Yard Redevelopment
Phase 1 of Buildings Assessments
Sheet Metal House Abatement Plan Package

Dear Mr. Faris:

As part of the Task Order for the City of Albuquerque Rail Yard Redevelopment project, please find attached the Abatement Plan package for the Sheet Metal House. As requested by the City, this package contains the following elements to be used by contractors for the remediation and/or demolition of this structure:

Attachment 1	**Abatement Plan**
Attachment 2	**Technical Specifications (ACBM and LBP)**
Attachment 3	**Previous Investigation Reports**

We appreciate the opportunity of providing the City of Albuquerque with the enclosed information, and we look forward to working with you on this important project. Please contact us if you have any questions or if we can be of additional assistance.

Sincerely,
GORDON ENVIRONMENTAL/PSC

Michael A. Baca, P.E.,
Project Engineer

Michael J. Crepeau, P.E.
Senior Project Director

cc: Mr. Stacy Herrera, Construction Project Manager, DMD, City of Albuquerque

ATTACHMENT 1

ABATEMENT PLAN

November 21, 2018

Mr. Michael Crepeau

Gordon Environmental/PSC

333 Rio Rancho Blvd, NE

Suite 400

Rio Rancho, New Mexico 87124

MCrepeau@Team-psc.com

RE: Sheet Metal House

Building Specific Abatement for Lead Based Paint Removal 18-407

Mr. Crepeau:

The Albuquerque Railyard Sheet Metal House is located on 2nd Street SW near downtown Albuquerque. The initial inspection dated November 9, 2016 indicated that portions of the structure were suspect for Lead Based Paint. Sampling conducted at that time indicated the red paint on an entry door and white paint on a standard door are lead-based paint (LBP).

The work plan provided below is for the associated LBP doors and demolition of the structure:

1. The initial step is to ensure that the public is protected from the LBP abatement area and that no visible emissions occur. The intent is to have the area isolated during the Lead-based Paint abatement phase of work. During the LBP abatement phase all positive materials will be removed.

2. The Contractor shall visually inspect the surrounding area for the presence of debris, and associated material which has fallen to the ground surrounding the structure. The isolation of the work area and the surroundings will be determined and established by the abatement Contractor to keep the abatement within the confines of a regulated area.

3. Hardscape material or concrete walkways adjacent to area of the structure that is being abated shall be protected with a 6-mil drop cloth beneath the areas to be worked. Drop cloths internal to the structure will also be required. The balance of any stored items shall be removed from the work area. These items will either be cleaned and stored for future use or discarded.

4. The area shall be demarcated using barrier tape or similar and posted with “Danger Signs” indicating the hazard present. A decontamination area shall be identified at the point of entry to the structure for workers to enter and exit and provide the protection for cleanliness and removal of debris from suits and allow for site hygiene. At minimum, a hand and face wash station, along with an area to remove

contamination from the workers is required. Standard decontamination layout may be required for this endeavor and must conform to the Occupational Safety and Health Administration 29 CFR 1926.62 (i).

5. The LBP trained employees entering the work area shall don protective clothing and, at minimum, a half-face air-purifying respirators equipped with P100 cartridges. The P100 designation is for High Efficiency Particulate Air filters. Other personal protective equipment to perform the associated tasks shall be donned.

6. The remediation contractor shall submit to the City of Albuquerque for approval their intended work practices to remove the LBP. The submitted procedure shall prohibit the use of methylene chloride or heat in excess of 1100^{o}F. The abatement plan shall include the procedures, waste segregation and disposition of the removed material

7. The LBP control area shall only be entered after the area has passed the pre-entry visual inspection and the removal methodology submitted has been accepted.

8. Removed and packaged material shall be placed in the debris holding area until the end of the shift when the material shall be removed from the holding area and placed in a secure container and not be allowed to remain near the abatement area unattended overnight.

9. Once the area has been abated and work is complete, a final visual and air clearance shall be conducted in the area. Once the final clearances are achieved, the abatement contractor shall request a final visual inspection from the City of Albuquerque.

10. The City of Albuquerque shall conduct a visual inspection at the conclusion of the abatement activities to ensure that the methods have met the intended goal of removing the identified LBP. At the successful completion of all work, the isolation barriers, control signage to keep unauthorized personnel out, and other control measures shall be removed.

11. Waste manifests and documentation required for project completion shall be received by the City of Albuquerque before completion and payment are remitted.

12. Demolition activities, in general, will include a variety of procedures. The most important aspect in the development of these procedures will be the safe conduct of the work. Contractors should limit the use of labor to the most controlled and safe conditions and rely upon mechanized means of removal, wherever possible. The structure will be removed to ground level.

13. Dust control will be considered an important part of the overall project. Contractor will utilize a water truck and/or fire hose attached to a local hydrant during demolition operations. Contractor will direct a localized fine water spray to the source of demolition activities, as required, thereby reducing airborne dust particles. To minimize run off, the water supply will be used only when necessary.

Abatement Contractors: This information provided by DC Environmental represents a best effort in the identification of LBP located in the building. However, there may be other hidden or suspect asbestos-containing building materials (ACBM) or LBP discovered during the abatement and demolition phases. DC Environmental believes these other suspect materials do not represent a significant amount of additional waste or effort but this discussion is meant to alert the abatement contractor and demolition contractor as to their potential existence. Each building and site shall be rendered free of ACBM prior to the Construction/Demolition phase.

We appreciate the opportunity to provide assistance to the City of Albuquerque and Gordon Environmental/PSC. Should you require additional information, please contact us at your earliest convenience.

Sincerely,

DC Environmental

J. David Charlesworth, CIH

PO Box 9315
Albuquerque, NM 87119
505.869.8000

ATTACHMENT 2

TECHNICAL SPECIFICATIONS

- ASBESTOS ABATEMENT ACTIVITIES
- LEAD-BASED PAINT REMOVAL AND DISPOSAL

Technical Specifications

For Asbestos Abatement Activities

PREPARED FOR:

City of Albuquerque
Environmental Health Manager
PO Box 1293
Albuquerque, NM 87103

PREPARED BY:

Gordon Environmental PSC and DC Environmental
333 Rio Rancho Boulevard, Suite 400
Rio Rancho, New Mexico 87124
505.869.8000

November 1, 2018

Table Of Contents

SECTION 01010

SUMMARY OF WORK

PART 1 - GENERAL

1. DESCRIPTION

1.1. The intent of the specification and the City of Albuquerque (Owner) is to provide a clean work environment to all Asbestos Containing Materials (ACMs) Abatement activities and provide a provide a structure free of Asbestos Containing Building Materials at the conclusion of the construction scope of work performance. The structures, facilities and work areas shall be released clean to all Owner's employees, guests, visitors, contractors at the conclusion of the abatement activities. The Contractor will be directed to meet or exceed any requirements express or implied within these specifications for the cleaning, removal and disposal of suspect ACMs and associated debris in specific Owner facilities. The intent for the removal, cleaning and disposal of suspect ACMs and associated debris in specific Owner facilities to provide a clean work environment for future renovation activities. The ACM Abatement activities will be conducted in a manner that minimizes disturbance to all occupants and provide normal work environments in the facilities.

1.2. Except as otherwise expressly provided herein, Asbestos Abatement Contractor (Contractor) shall supply all labor, supervision, materials, equipment, tools, storage and any and all items necessary for the supply, fabrication, erection, construction, disposal (including handling, transportation, loading, unloading and receiving) of the abatement of asbestos-containing or asbestos-contaminated materials and designated as the Work. Require that all phases of the Work be executed by skilled and certified craftsmen, trained and experienced in their respective trades.

1.3. Contractor may subcontract any phase or portion of the Work. However, such subcontract shall not relieve Contractor from enforcing the use of all required safety equipment and supplies by the subcontractor and his employees providing any phase of the Work in contaminated areas. Contractor shall require and verify that all materials and methods used by subcontractors are consistent with materials and methods for established and safe asbestos removal or encapsulation procedures and consistent with the Contract Documents.

1.4. AEIH, Inc. dba DC Environmental in association with Gordon Environmental PSC was selected as the Owner's Representative for this project. Correspondence and submittals shall be directed to the Owner's Representative for coordination and dissemination. Gordon Environmental PSC has selected DC Environmental to act as the Owner's Certified Industrial Hygienist.

2. WORK INCLUDED IN THE SPECIFICATIONS

2.1. Pre-clean by HEPA vacuuming or wiping with wet towels all floor and wall surfaces in the designated rooms of the facility. Contractor is hereby notified that the top surfaces of some electronic equipment, connective cables, electrical conduit and other appurtenances may contain debris which must be cleaned and removed prior to installation of a Hepacart™, ECU™ or construction of enclosure system described herein.

2.2. Construct specialized containment structure for all equipment that is designated to remain operational in the work area. Specialized containment structure shall provide conditioned air

to operational equipment to maintain temperature control. It is not anticipated that any equipment will need to be in operation while containment structures are in place. Boilers and mechanical units may need to be in operation if the Contractor requires hot water or heating.

2.3. Remove debris from work areas that has delaminated or is damaged. Clean all surfaces in work area before preparation begins. Floors and horizontal surfaces will require additional cleaning before barriers are erected.

2.4. Asbestos containing materials will be removed in Negative Pressure Enclosure Systems or approved equal. Removal methods ultimately selected by Contractor shall be submitted and approved by Owner Representative before being initiated. Submit written or diagrammatic representations of removal technique selected in accordance with the Submittal Section.

2.5. Apply encapsulation as directed by the Owner Representative and install enclosure systems to seal any and all existing asbestos-containing material which, by means of location, cannot be removed.

2.6. Additional materials may need to be removed by this contract to assist other renovation or demolition activities therefore other ACMs may need to be removed. Removal shall occur only after Owner has determined a need for additional work.

2.7. All ACMs shall be removed under Negative Pressure Enclosure or by approved technique. The use of the methods recommended by the Resilient Floor Covering Institute will not be considered as an approved equal.

2.8. Clearance criteria with respect to Negative Pressure Enclosure systems shall be based on visual inspections accompanied by Owner representative and Phase Contrast Microscopy.

3. WORK NOT INCLUDED IN THE SPECIFICATIONS

3.1. Air monitoring for the Owner by the Certified Industrial Hygienist / Owner Representative. The Contractor shall be responsible for air monitoring required for the safety of his employees. Daily reporting of air monitoring results shall be provided to the Owner Representative.

3.2. Replacement of removed components including but not limited to, insulation, carpeting, ceiling systems, grid, light fixtures, walls, floor tile, paint coatings or other components is not part of this contract.

4. EXISTING CONDITIONS

4.1. Existing conditions are reflected correctly to the best of the Owner knowledge. Should minor conditions be encountered which are not exactly as indicated, modification to new work shall be made as required at no additional expense to the Owner.

4.2. Certain materials in the work area were tested at the Owner request. Copies of these reports are available.

4.3. Contractor is advised that the locations of asbestos-containing materials are not clearly known and that he shall proceed with caution in all phases of the Work. Additional asbestos-containing material may be uncovered during the course of the work and the Contractor may be directed by Owner to include this material in the Work at an agreed upon unit price.

5. STORAGE

5.1. The Owner will not provide storage space inside the building. Contractor shall supply temporary storage required for storage of equipment and materials for duration of Project. Supply temporary construction office to be located as designated by the Owner.

6. BUILDING OCCUPANCY

6.1. The Owner may occupy portions of the facility during the abatement operations. Contractor shall coordinate work with Owner Representative to minimize conflict and facilitate usage of the building. Contractor shall conduct his activities to minimize disruption to the building occupants and the surrounding community.

6.2. Vertical and horizontal transportation routes shall be predetermined and approved in advance by Owner Representative. This includes the transportation of contaminated waste materials, labor, and construction materials in and out of the building.

7. WORKING HOURS

7.1. Contractor shall submit his work schedule to the Owner for approval. The management prefers normal building hours for abatement activities.

8. PARKING

8.1. Parking is available in specific areas around the building. Contractor shall park in areas designated by Owner or Owner Representative. Limited parking will be available for one supply vehicle at designated area.

9. BUILDING SECURITY

9.1. Contractor shall maintain security of the site at all times during the Project.

9.2. The Owner has elevated concerns of building safety and security while contractor supervisors and workers are expected to perform many work tasks outside of regulated work areas in front of the general public (moving supplies, materials and equipment).

9.3. Contractor shall provide workers with sufficient sets of highly visible safety vests that meet ANSI standard for Conspicuity Class 2 garments/ISEA 107 requirements. Safety vest shall be worn in plain view outside of any other garments worn.

9.4. Contractor shall provide identification badges to supervisors and workers to be worn in plain view outside of safety vest and any other garments worn. Badges and name of the employee shall be identified on the hard hat and visible.

9.5. Contractor shall require all supervisors and workers to wear safety vests and identification badges from the time contractor arrives onsite until contractor leaves the property.

9.6. Contractor supervisors and workers will only be allowed in pre-designated work areas, take specific routes, use only specific facilities and equipment (restrooms, elevators) defined by the Owner or Owner's representative.

10. SEGREGATION OF WORK AREAS

10.1. The Contractor may be required to segregate work areas by means of temporary barriers (such as plywood walls and lockable doors) or, if appropriate, by opaque curtains. In addition, appropriate warning signs and barrier tape shall be used to identify the work area. The use of rigid plastic walls is being specified for corridor abatement activities or decontamination units extending into the hallways. Indicate the materials to be used for abatement barriers. This includes the use White Cap® or similar materials as approved. Barriers remaining in place for more than forty-eight (48) hours are to be rigid and washable.

11. PRE-JOB DAMAGE SURVEY OF FACILITY

11.1. A thorough survey of property and all affected areas of the building shall be made by the Contractor and Owner or Owner Representative prior to starting the Work in order to document existing damage. Items identified on this list will not be the responsibility of Contractor unless further damaged by the Contractor during the Project.

12. CORRECTION OF DAMAGE TO PROPERTY

12.1. Consider any damage to building or property not identified in the pre-job damage survey as having resulted from execution of this Contract and correct at no additional expense to the Owner.

13. SITE ORGANIZATION AND RESPONSIBILITIES

13.1. Project Oversight:

13.1.1. The Owner shall provide Industrial Hygiene Technician services to oversee the Project. The Owner shall rely on recommendations made by the Contracted Industrial Hygienist to initiate abatement actions and removal strategies. The Owner is responsible for the enforcement of the provision of this Specification.

13.1.2. The individual designated by the Owner to provide Technical Services for this Project is referred to herein as "Owner Representative".

13.2. Inspection. Owner Representative will inspect the status and progress of the Work for completeness and general compliance with the requirements of the Contract Documents. At a minimum, the inspections will be conducted at the following times during the Project:

13.2.1. Following complete preparation of the work area(s) and prior to proceeding with actual removal of asbestos-containing material;

13.2.2. Following initial cleaning of the work area(s) prior to preliminary final air testing.

13.2.3. Following final cleaning of the work area(s) prior to final air testing.

13.3. Notification for Inspections. Contractor shall notify Owner Representative at least twenty-four (24) hours in advance of the need and readiness for such observations. Should advance notice not be given, the Owner Representative will make reasonable effort to comply with time of requested observations. Contractor may not proceed until such inspections by Owner Representative are made. Any delay in the completion of the Project caused by lack of advance notice by Contractor to Owner Representative shall not be sufficient cause for any extension of time or extension of the Project completion deadline. Also, compensation for time spent by Owner Representative on the Project resulting from prearranged meetings at which the Work has not progressed to the designated point shall be the responsibility of the Contractor and will be deducted from future payments due to Contractor.

13.4. Authority to Stop Work on Behalf of Owner:

13.4.1. Stop Work Order. The Owner is the sole official with authority to issue a Stop Work order for indefinite cessation of all activities associated with this Project. A Stop Work order issued by the Owner requires complete and immediate implementation. A Stop Work order may occur any time the Owner determines that conditions at the Project site do not meet the requirements of this Specification, or if they determines that there is threat to human health or safety exists.

13.4.2. Resumption. Resumption of work following a Stop Work order will not be permitted until the Owner Representative receives formal authorization from the Owner. While a

Stop Work order is in effect, Contractor shall maintain all work areas under containment in a negative pressure setting, and the Contracted Industrial Hygienist shall continue air monitoring as required by this Specification.

13.4.3. Suspend Work Order. The Owner Representative has the authority to issue a Suspend Work order in the event that he determines that there is an imminent danger to the health and safety of employees or other individuals at the site, including Contractor employees; or if work interferes with other tenant operations. A Suspend Work order requires Contractor to cease all activities associated with a particular operation or task in areas in which the Owner Representative has determined that a potential risk to employee safety and health or interference with tenants operations may exist.

13.4.4. Resumption. Resumption of work following a Suspend Work order shall be allowed once the Owner Representative, under the advisement of the Contracted Industrial Hygienist, is satisfied that conditions prompting the order have been corrected.

13.4.5. Documentation. Issuance of Stop Work orders and Suspend Worker orders, as well as orders for resumption of work under either cessation, shall be made in writing. All conditions prompting either order shall be documented, as well as corrective actions taken prior to resumption of work.

13.4.6. Standby time. Contractor shall bear responsibility for all costs associated with Contractor personnel and equipment during the period of work stoppage or work suspension dictated by an order.

14. SIGN-IN/OUT LOG

14.1. Contractor shall maintain a sign-in/out log in the immediate vicinity of the change room of the personnel decontamination enclosure. Maintain sign-in/out log from the time the first activity involving preparation for the disturbance ACMs, until acceptance of the final air test results by the Owner Representative.

14.2. Require all persons entering the work area, including the Contractor's workers, Owner, Owner Representative, Contracted Industrial Hygienist, and government officials to sign in and out each time upon entering and leaving the work area. Indicate name, unique identifying number, time, company or agency represented and reasons for entering work area.

14.3. Contractor shall insure through use of the sign-in/out log and other means that no person enters the work area unless that person has received training as required by 29 CFR 1926.1101.

15. SUPERVISOR/WORKER TRAINING DOCUMENTATION

15.1. Provide documentation that all supervision and workers to be used on the Project have successfully participated in an extensive training program, which instructed personnel on proper respirator use, hazards of asbestos exposure and OSHA Asbestos Regulations. Provide documentation that all supervisors and workers are certified asbestos abatement supervisors and workers as required by the Toxic Substance Control Act (Asbestos Hazard Emergency Response Act (AHERA)). Provide such documentation on supervisors with Contractor's bid. Provide such documentation on workers at pre-construction meeting. No worker shall be utilized on any portion of the work until documentation has been provided.

16. UTILITIES

16.1. Contractor may temporarily connect to existing permanent utilities during execution of Project. A licensed electrician will make any electrical connections. The Owner will coordinate this process. Make connections in locations designated by Owner Representative. Remove connections and all extensions of utilities at Project completion. The Owner understands that the properties are without electrical service and that the Contractor shall provide the electrical utilities as part of their Scope of Work. Wastewater disposal will be made off the facility site at an approved sanitary sewer or equal.

17. SALVAGEABLE MATERIALS

17.1. Consider all materials and items demolished or removed in execution of the Work unsalvageable unless specifically noted otherwise in these Specifications. Material for salvage shall be considered as contaminated or as general demolition debris. Contractor personnel shall salvage no material.

18. CLEAN-UP

18.1. Leave all areas visibly clean at completion of Work.

19. FINAL COMPLETION

19.1. Final Completion will be determined as follows:

19.1.1. The Owner Representative will, within a reasonable time period, inspect the Work to determine status of final completion when the Contractor certifies to the Owner Representative that:

1) the Work has been completed in compliance with the Specifications;

2) the Contractor has inspected the Work for such compliance; and

3) the Work is ready for final inspection.

19.1.2. The Owner Representative will promptly notify the Contractor if he determines that the Work is incomplete or defective, and give the reasons therefore.

19.1.3. Contractor shall, upon receipt of notice from Owner Representative that the Work is not complete, promptly remedy the deficiencies noted by Owner Representative and notify the Owner Representative when the Work is ready for re-inspection. Owner Representative will then within a reasonable time period, re-inspect the Work.

19.1.4. Contractor shall submit three complete bound copies and one electronic copy of the following post-job submittals to the Owner when the Owner Representative determines that the Work is acceptable and complete. This shall include, at a minimum:

a. Any outstanding Pre-Job Submittals described in Section 01300.

b. Post-Job Submittals as described in Section 01300.

c. List of extra materials stock to Owner Representative as required.

19.2. Contractor shall, upon determination of final completion by Owner Representative, submit a final Certification and Application for Payment.

PART 2- PRODUCTS

Not Used.

PART 3 - EXECUTION

Not Used.

PART 4 - FIGURES

See Attached Drawings or previous inspection reports for clarification of locations

END OF SECTION

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SECTION 01040

COORDINATION AND SCHEDULING

PART 1 - GENERAL

1. DESCRIPTION
   1.1. Provide coordination and scheduling of all phases of the Work of the Contract Documents with the City of Albuquerque (Owner), Owner's Representative, subcontractors, material suppliers and other parties, as necessary, to assure the smooth and orderly transition of separate phases, timely placement of items and materials, complete cooperation between parties and proper execution of the Work.
   1.2. Create scheduling consistent with all phases of work as described in Section 02080.
2. MEETINGS
   2.1. Conduct all meetings with appropriate parties as scheduled and as otherwise necessary to accomplish the Work. See Section 01200 for more details. Meeting shall include the following :
   2.2. One pre-construction meeting.
   2.3. Weekly progress meetings. Current meetings are scheduled for Monday afternoons. Contractor shall supply a three week schedule indicating the current week and two week look ahead.
   2.4. Other meetings as necessary or as requested by Owner or Owners' Representative. This may include Tuesday weekly meetings with the Owner and General Contractor.
3. SUBMITTALS
   3.1. Prepare and distribute submittals as specified in Section 01300.
4. SPECIAL COORDINATION
   4.1. Coordinate with Owner's Representative for timely observations of the progress of the Work at point of progress in the work as specified elsewhere.
   4.2. Coordinate with Owner's Representative to provide for timely air monitoring at points of progress in the work as specified elsewhere.
   4.3. Coordinate and schedule the requirements for determination of final completion.
   4.4. Coordinate disposal schedule with Owner's Representative at least 72 hours prior to desired disposal time so that waste disposal site coordination may occur.

PART 2 - PRODUCTS

Not Used.

PART 3 - EXECUTION

1. Not Used

END OF SECTION

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SECTION 01200

PROGRESS MEETINGS

PART 1 - GENERAL

1. DESCRIPTION
   1.1. Conduct progress meetings on a regular basis throughout the construction period, including one pre-construction conference prior to the start of the Work, to enable orderly review of the progress of the Work and to provide for a systematic discussion and evaluation of problems encountered.
2. QUALITY ASSURANCE

Provide or designate only persons with authority to commit the Contractor, subcontractors and suppliers to revisions, modifications and solutions agreed upon to attend the progress meetings.

3. SUBMITTALS

3.1 Agenda Items: Advise the Owner's Representative at least 24 hours in advance of progress meetings regarding items to be added to the agenda.

3.2 Minutes: The Owner's Representative will compile minutes of each progress meeting, and will furnish copies to the Contractor, and Owner.

PART 2 - PRODUCTS

Not Used.

PART 3 - EXECUTION

4. MEETING SCHEDULE
   4.1. Progress meetings, except for the pre-construction meetings, will be held weekly. Progress meetings shall be held at the end of the workday on each Monday during the performance of the abatement activities.
   4.2. Coordinate as necessary to establish mutually acceptable schedule for meetings.
5. MEETING LOCATION
   5.1. Pre-construction meeting and progress meetings will be held at the project site.
   5.2. Other meetings, as necessary, will be held in the Contractor's field office.
6. PRE-CONSTRUCTION MEETINGS
   6.1. Schedule pre-construction meeting with Owner shortly after approval of pre-job submittals to clarify construction contract administration procedures and address potential problems.
   6.2. Provide for attendance by authorized representatives of the Owner, Owner's Representative, Contractor, Contracted Industrial Hygienist and others, as needed.

END OF SECTION

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SECTION 01300

SUBMITTALS

PART 1 - GENERAL

1. DESCRIPTION
   1.1. Make submittals required by this Section in a timely manner and at approximate times in the execution of the Work to allow for sufficient and prompt review by the City of Albuquerque (Owner). Revise and resubmit as necessary to establish compliance with the specified requirements.
2. WORK INCLUDED
   2.1. Submit complete bound sets of the submittals required in this Section. Submit separate sheets, in the required number of copies, entitled "Pre-Job Submittals" and "Post-Job Submittals".
   2.2. Submit complete sets of "Pre-Job Submittals" to the Owner for his review, in the required number of copies, at the pre-construction meeting (see Section 01200 for more details). The Work may not proceed until the complete pre-job submittal package has been reviewed and approved by the Owner.
   2.3. Submit complete sets of "Post-Job Submittals" to the Owner for his review, in the required number of copies, following the final completion of the Work. Requests for final payment will not be approved until the post-job submittal package has been reviewed and approved by Owner.
   2.4. Identify individual submittals by name and include a Table of Contents in each submittal package.
3. NUMBER OF COPIES
   3.1. Provide three complete bound sets and one electronic copy of each submittal package to the Owner for review and distribution.
4. QUALITY ASSURANCE - Coordination of Submittals
   4.1. Carefully review and coordinate all aspects of each item being submitted.
   4.2. Verify that each item and its appropriate submittal conform in all respects with the specified requirements.
   4.3. Certify, by affixing signature of Contractor's authorized representative to a cover letter of each submittal package, that this coordination has taken place.
   4.4. Verify that each applicable license, certification, permit, avowal and other time-sensitive document be in force throughout the duration of the project.
5. SUMMARY OF WORK
   5.1. Pre-Job Submittals Prior to Notice to Proceed - Submit complete information relative to the following:
      5.1.1. Copy of License to conduct asbestos removal in the State of New Mexico.
      5.1.2. List of any fines, citations, notices of failure or discontinuance, or any similar notifications of non-compliance received within the last three years.
      5.1.3. Notice of impending commencement of asbestos removal work executed in writing by the Contractor to the following as appropriate:

City of Albuquerque
Environmental Health Department
Air Quality Division
3rd Floor, Room 3047, Albuquerque, NM 87102
505.768.1972

and comply with the applicable notice period set forth in Title 40, Part 61, Subpart M., Section 61.145 of the Code of Federal Regulations. Include one copy of notification in submittal package. If the time of Signing of the Contract to the scheduled start of work is less than the applicable notice period, Contractor shall seek a waiver of the notice period. Without written approval from all of said agencies, Contractor shall not shorten the applicable notice period. Owner reserves the right to submit the ten day notification. Upon award of contract, Contractor may submit changes to the notification with approval of Owner.

5.1.4. All required permits, site location, and arrangements for transport and disposal of asbestos-containing or contaminated materials.

5.1.5. Any building permits as required by the city, state, county or federal requirements for the construction or demolition work required during the progress of the Work.

5.1.6. Written description, sketch, or combination thereof, of the plans for construction of a worker and barrel/equipment decontamination enclosure system and for isolation of the work areas in compliance with this Specification.

5.1.7. Alphabetical listing of individuals to be used on the project, the individuals certificate number and expiration date. Contractor shall assure each individual receives training in Hazard Communication and Lead in Construction. {Successful Contractor shall have on the project the complete copy of documentation that each and every employee to be utilized on the project has had instruction on the potential hazards and the exposure to asbestos, protective equipment, use of showers, entry to and exit from procedures and protective measures regarding asbestos and other hazardous materials removal.}

5.1.8. Written description, and/or sketch, of the security plan to be utilized.

5.1.9. Insurance certificate issued to the Owner by the Contractor's insurance carrier listing all coverages required by the Owner.

5.1.10. Listing of supervisory personnel (including foremen). Any change of personnel must be submitted in writing once the foreman has been approved.

5.1.11. Work procedures or practices to be utilized on the project.

5.1.12. Written company employee respirator protection program including appropriate training of respiratory protection.

5.1.13. Any special equipment, techniques, etc., to be used on the Project.

5.1.14. Proposed preliminary progress schedule for the Work. Revise and submit progress schedule on a weekly basis.

5.1.15. Contractor shall notify the fire department and local emergency medical facility before commencement of abatement activities. The fire department and local emergency

medical facility shall be provided with written information regarding abatement activities, decontamination practices, and the dangers of entering the work areas. The contractor shall make every effort to assist these agencies in forming a plan of action should their personnel need to enter the contaminated work area.

5.2. Post-Job Submittals - Submit complete information relative to the following:

5.2.1. Receipts or manifests from the landfill operator which acknowledge the Contractor's delivery(s) of waste material. Receipts shall include date, quantity of material delivered, and signature of authorized representative of landfill.

5.2.2. A copy of the sign in/out log showing the following: date, name, worker identification number or certificate number, entering and leaving time, company or agency represented and reason for entry for all persons entering the work area.

5.2.3. An alphabetical listing of each employee used on the project and the exact dates on which he was present in the work area.

5.2.4. A copy of employee air monitoring results relative to OSHA respiratory protection level compliance.

5.2.5. An alphabetical listing of each workers' medical examination dates, worker release forms, asbestos training date and expiration date, certificate number, and respirator training fit testing date of all employees used on the Project.

5.2.6. Asbestos waste log showing date, type of container removed from work areas, signature of recorder, and time of day. Waste shipment records signed by the disposal site

5.2.7. Certification of Completion or Certification of Substantial Completion.

5.2.8. Copies of negative pressure logs, if utilized.

5.2.9. Any additional documents required by the Owner.

6. SAMPLES

6.1. Provide samples identical to the precise materials or articles proposed to be provided. Identify as described under "Identification of Submittals" below.

6.2. Number of Samples required:

6.3. Submit a minimum of three samples of each proposed material to the Owner, except as provided below.

6.4. By pre-arrangement in specific cases a single sample may be submitted for review and, upon approval, be returned to the Contractor for installation in the Work.

7. MANUFACTURER'S LITERATURE

7.1. Where contents of submitted literature from manufacturer's includes data not pertinent to the submittal, clearly show which portions of the contents are being submitted for review.

7.2. Submit a minimum of two copies to the Owner for his review.

8. "OR EQUIVALENT"

8.1. Where the phrases "or equivalent", or "equivalent as approved by the Owner", or similar wording occurs in the Contract Documents, the specific materials, equipment, or methods will not be considered as equivalent unless the item has been specifically so approved for this Work by the Owner.

8.2. Wherever a particular item is listed by manufacturer's name, brand name, or other identifying information, it shall be interpreted to include equivalent products of other manufacturers whether "approved equivalent", etc., is stated or not.
8.3. Whenever a manufacturer's product is specified to the exclusion of all other products, it shall be so identified and declared.
8.4. Decision of the Owner regarding "equivalent" products will be final.

PART 2 - PRODUCTS

Not used

PART 3 - EXECUTION

9. IDENTIFICATION OF SUBMITTALS
   9.1. Number consecutively and clearly identify all submittals. Show identification on at least the first page of each submittal, and elsewhere as necessary for positive identification of the submittal.
   9.2. Accompany each submittal package with a letter of transmittal showing all information required for identification and checking.
10. GROUPING OF SUBMITTALS
   10.1. Group submittals into packages identified as "Pre-Job Submittals" and "Post-Job Submittals".
   10.2. Partial submittals may be rejected for non-compliance with the Contract Documents.
11. TIMING OF SUBMITTALS
   11.1. Make submittals far enough in advance of scheduled dated of commencement, execution or installation to provide time required for reviews, for securing necessary approvals, for possible revisions and resubmittals, and for placing orders and securing delivery.
   11.2. Allow in scheduling, at least five working days for review by the Owner following his receipt of submittals.
   11.3. Contractor will be held responsible for delays resulting from incomplete submittal packages.
12. OWNER’S REVIEW
   12.1. Review by the Owner does not relieve the Contractor from responsibility for errors which may exist in the submitted data.
   12.2. Make revisions when required by the Owner and resubmit for approval.

END OF SECTION

SECTION 01410

INDUSTRIAL HYGIENE SERVICES

PART 1 - GENERAL

1. DESCRIPTION
   1.1. The City of Albuquerque will provide a qualified Industrial Hygienist to perform routine and special testing of the work performed under this Specification to assist the Project Manager or the Project Manager's Representative, Owners' Representative, or Certified Industrial Hygienist in determining general compliance therewith, as well as general compliance with federal, state and local regulations.
   1.2. Certified Industrial Hygienist or Certified Industrial Hygienist's Representative shall perform required air monitoring inside and outside the work area on a regular basis.
   1.3. Provision of the Industrial Hygienist by the Project Manager to perform testing for the Owner shall not relieve the Contractor from providing his own air testing for compliance with all applicable codes, regulations, requirements and as specified in this Section and elsewhere in this Specification.
   1.4. Contractor's previous air testing data (Negative Exposure Assessments) will not be accepted by Owner to relieve the requirement for any testing.

2. WORK INCLUDED
   2.1. Provide a Certified Industrial Hygienist or a highly experienced Industrial Hygienist working under the direction of a Certified Industrial Hygienist, or approved Asbestos Contractor/ Supervisor, to conduct air sampling and analysis, project observation and oversight as described herein.
   2.2. Conduct work area sampling and analysis prior to, during and after removal of asbestos-containing materials as outlined in Section 02080. Conduct all sampling and analyses in accordance with procedures outlined in the National Institute for Occupational Safety and Health (NIOSH) 7400 method, except for Final Clearance Testing, which may be conducted in accordance with requirements of the AHERA TEM method.
   2.3. Observe and inspect work performed by Contractor for general compliance with Specification requirements and all federal, state and local regulations. Advise Owner's Representative of observations and related recommendations. Maintain a logbook containing observations and field notes made by Certified Industrial Hygienist or Certified Industrial Hygienist's Representative.
   2.4. Prepare a final report for the Project Manager describing a general sequence of project events, sampling methodology and locations, analytical procedures and results, and observations and field notes made by Certified Industrial Hygienist or Certified Industrial Hygienist's Representative, certifications and evidence of training and medical surveillance as required by

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29 CFR 1926.1101, and certificate of completion of NIOSH 582 course for asbestos air sampling and analysis.

3. WORK NOT INCLUDED
   3.1. Selection of Certified Industrial Hygienist.
   3.2. Payment for initial clearance testing.

4. QUALITY ASSURANCE
   4.1. All air testing during the progress of the work shall be performed in general accordance with the procedures outlined in the NIOSH 7400 method and also will follow guidelines issued by EPA regarding detection limits. All final air clearance testing analysis shall be by Phase Contrast Microscopy (PCM) unless determined otherwise by Owner.

5. PAYMENT FOR TESTING
   5.1. Initial Services: Owner will pay for initial clearance testing services required by the Specifications.
   5.2. Re-testing: When initial clearance tests indicate non-compliance with the Specifications, subsequent re-testing occasioned by the non-compliance shall be performed by the same testing agency, and costs thereof will be billed to the Contractor or deducted from any payment made to the Contractor, as determined by the Project Manager.

6. SCHEDULING
   6.1. Certified Industrial Hygienist or Certified Industrial Hygienist's Representative shall perform tests in areas and at times during the Work as deemed necessary by the Project Manager, the Project Manager's Representative, or as required in the Specification.
   6.2. Contractor shall notify Project Manager's Representative of need for preliminary final and final air testing at least 24 hours prior to desired time of testing so that Project Manager's Representative may notify Certified Industrial Hygienist or Certified Industrial Hygienist's Representative in sufficient time as to allow preparation for testing.
   6.3. Coordinate other scheduling with Certified Industrial Hygienist or Certified Industrial Hygienist's Representative as necessary.

7. RESULTS
   7.1. All testing and analysis shall be performed promptly and results issued expeditiously in order to minimize any possible delay in the progress of the Work.
   7.2. Test results shall be available to Project Manager's Representative and Contractor as follows:
      7.2.1. Air clearance results: No more than 48 hours after receipt of samples by analytical laboratory.

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7.2.2. Results of other tests deemed necessary by Certified Industrial Hygienist or Certified Industrial Hygienist's Representative as quickly as possible and within 24 hours following completion of test(s) and analytical results received, unless Project Manager or Certified Industrial Hygienist elect performance of air sample analysis by Transmission Electron Microscopy (TEM), in which case result shall be made available to Project Manager and Contractor no more than 48 hours after receipt of samples by analytical laboratory.

7.3. Air tests shall be made both inside and outside of work area(s). The Contractor is cautioned, however, that should interpretations be made, opinions be formed and conclusions be drawn as a result of examining the test results, these interpretations, opinions, and conclusions will be those made, formed and drawn solely by the Contractor. The Contractor is responsible for performing air tests required for his evaluation of the safety of his employees.

PART 2 - PRODUCTS

Not Used.

PART 3 - EXECUTION

Not Used.

END OF SECTION

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SECTION 15010

INCIDENTAL MECHANICAL WORK

PART 1 – GENERAL

1. WORK INCLUDED
   1.1. Coordinate with City of Albuquerque (Owner) or Owner's Representative to establish removal sequence or procedures to shutdown portions of building HVAC, electrical, mechanical, gas or other utilities.
   1.2. Perform other incidental mechanical work not specified herein but necessary for the successful execution of the Work as set forth in the Specifications.
   1.3. Coordinate the removal of mechanical systems as needed to gain access to asbestos-containing materials to be abated as noted in Section 02080.

PART 2 - PRODUCTS

Not used.

PART 3 - EXECUTION

1. GENERAL
   1.1. Install any temporary mechanical work necessary to comply with Section 02080.
   1.2. Remove any temporary mechanical work necessary to comply with Section 02080 at completion of the Project and correct any damage to property.
   1.3. Repair and replace any mechanical components removed but are still necessary for the operation of the structure. Return to the original condition.

END OF SECTION

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SECTION 16010

INCIDENTAL ELECTRICAL WORK

PART 1 - GENERAL

1. WORK INCLUDED
   1.1. Provide any temporary electrical power needed to perform the requirements of the Work. If an electrical panel is required, installation shall be coordinated through the use of a licensed electrician.
   1.2. Install temporary lighting and power necessary to perform the Work of the Specifications.

PART 2 - PRODUCTS

2. MATERIALS AND WORKMANSHIP
   2.1. All materials and equipment required shall be:
      2.1.1. Approved by UL and so labelled.
      2.1.2. For wire and cable, marked as required by Article 310-10 NEC.
      2.1.3. Installed by electricians skilled in their trades, working under the direct supervision of competent experienced foremen and/or superintendent.
      2.1.4. Installed in compliance with all applicable OSHA and NEC electrical codes.

3. TIMELY PLACING OF MATERIALS AND EQUIPMENT
   3.1. Install items specified in Paragraph 2 of this Section at the proper time during progress of construction. Coordinate work operations with other trades as necessary.

PART 3 - EXECUTION

4. GENERAL
   4.1. Provide temporary electrical power to respective work areas where cleaning and removal of suspect or confirmed ACM and associated debris is in progress.
   4.2. Decontaminate and remove all temporary lighting and other electrical items after ACM Abatement Activities are completed.
   4.3. The facility may not have operational electrical service. Contractor shall supply their own power and electrical equipment (generators, panels, or similar) for use at this location

END OF SECTION

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SECTION 02080

ACM ABATEMENT ACTIVITIES

PART 1 - GENERAL

1. SCOPE
   1.1. See Site Specific Scope of Work or associated drawings or site specific inspection reports for further assistance. It is the intent to have ACM removed from the City of Albuquerque (Owner) facilities while maintaining reduced pressure ventilation or regulated area work operations.
   1.2. It is the intent of Owner to provide a clean work area during all Asbestos-Containing Building Material (ACBM) abatement activities and finally provide a clean facility at the conclusion of the work for all visitors, employees, contractors and the public at the Owner facilities within the scope of these specifications.
   1.3. The Occupational Safety and Health Administration (OSHA) Construction Standard for Asbestos, 29 CFR 1926.1101, defines four types of asbestos-related work activities. These are:
      1.3.1. Class I: removal of asbestos-containing surfacing or thermal insulation materials
      1.3.2. Class II: removal of other ACBMs, such as roofing, floor coverings, or asbestos-cement board siding
      1.3.3. Class III: minor maintenance activities which may disturb small amounts of asbestos, which can include drilling of floor tile or planking
      1.3.4. Class IV: cleanup activities resulting from Class I - III activities
   1.4. The Owner has set high standards for the most qualified and most experienced Contractor to perform with the most stringent and challenging regulatory requirements applicable to this project. The Owner has incorporated its own definitions as a corporate policy to meet or exceed the requirements dictated by OSHA and or EPA. The Owner has indicated that the four defined recognized types of ACM Operations and Maintenance (O&M) activities are as follows:
      1.4.1. Class I: THESE ACM DISTURBANCES ARE ANTICIPATED
      1.4.2. Class II: THESE ACM DISTURBANCES OF AN INCIDENTAL NATURE ARE ANTICIPATED
      1.4.3. Class III: ACM DISTURBANCES OF < 3 SQUARE FEET ARE ANTICIPATED
      1.4.4. Class IV: ACM DISTURBANCES OF > 3 SQUARE FEET ARE ANTICIPATED
   1.5. The Owner has determined that specific areas where Class II, III and IV activities (normal maintenance activities, repairs, renovations, demolition) are to occur, these areas must be addressed for the ACBMs by safe, proper cleaning (and/or removal if required) and disposal.
   1.6. Only qualified Contractors shall perform ACBM Abatement Activities that include but are not limited to;
      1.6.1. Furnish all ACBM abatement work plans
      1.6.2. Furnish ACBM abatement trained labor
      1.6.3. Provide exceptionally clean equipment that operate impeccably for ACBM abatement
      1.6.4. Provide clean new supplies and materials for ACBM abatement
      1.6.5. Provide necessary transportation for the safe, proper ACBM disposal
      1.6.6. Other duties may be required

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1.7. Contractor is hereby notified that all designated floor, wall, ceiling surfaces, plumbing, mechanical or electronic equipment and other appurtenances may contain suspect ACBM, confirmed ACBM and associated debris.

1.8. The Owner has indicated that ECU™ system or the HEPACart System may be used on the project . These systems were selected for their engineered and patented design, to be extended or collapsed by one person in less than five minutes. They are large enough to provide ample workspace while ensuring that corridors and egress routes are in compliance with national fire/life safety standards.

1.9. Any other systems to be introduced to Owner ACBM Abatement Activities will require a vigorous review and approval by an appointed Certified Industrial Hygienist (CIH). The CIH will determine that the contractors specialized containment structure is equivalent to the ECU™, Hepacart ™or other applicable service to the scope of work or will be allowed to be used at the Owner's facility.

1.10. The ECU™ , Hepacart ™ or equivalent system shall be used for localized removal activities.

1.11. Cleaning and/or removal of all suspect ACBM, confirmed ACBM, associated debris in all target areas, and shall be conducted with an ECU™ system or equivalent and, where applicable, areas be placed under Negative Pressure Enclosure conditions.

1.11.1. The ACBM Abatement Activities; cleaning and/or removal of all suspect ACBM, confirmed ACBM, associated debris by HEPA vacuuming or wet wiping with towels all floor, wall and ceiling surfaces in designated rooms or areas, ceiling plenums, wall cavities, tunnels, mechanical heating and cooling systems defined in the Scope of Work for the Owners facility shall be conducted within the confines of an Environmental Containment Unit™ (ECU™) or equivalent, where applicable.

1.11.2. ACBMs associated with, but not limited to spray-on fire proofing, drywall, plaster, acoustical ceiling products, pipe insulation, pipe fitting insulation, elbows, tees, valves, and hangers. The material will also be associated with tanks, boilers, and mechanical components. Unless otherwise noted all fiberglass and tar wrap materials will be treated as ACBM and disposed of accordingly.

1.11.3. Flooring materials including but not limited to floor tile mastic, vinyl coverings may be removed under this contract. ACBM abatement activities involving flooring materials shall be conducted with an ECU™ system or equivalent, where applicable, under Negative Pressure Enclosure or reduced pressure conditions.

2. TERMINOLOGY

2.1. Abatement - procedures to decrease or eliminate fiber release from precast, spray-on, trowel-applied asbestos-containing building materials. Includes encapsulation, enclosure, and removal.

2.2. Air Monitoring - the process of measuring the fiber content of a specific volume of air during a stated period of time.

2.3. Airlock - system for permitting ingress or egress of personnel without permitting air movement between a contaminated area and an uncontaminated area, typically consisting of two curtained doorways at least three feet apart.

2.4. Amended Water - water to which a surfactant has been added.

2.5. Asbestos - a general term used to describe several fibrous mineral silicates. Although there are many asbestos minerals, only six are of commercial importance. They are: Actinolite, Amosite, Anthophyllite, Chrysotile, Crocidolite, and Tremolite. For the purposes of this Project the term "asbestos" is used interchangeable with "asbestos-containing sprayed material", "dust containing asbestos", and "friable insulating material containing asbestos".

2.6. Asbestos Control Area - an area where asbestos removal operations area performed and which is sealed and isolated by physical barriers to prevent the spread of asbestos contamination.

2.7. ANSI - American National Standards Institute.

2.8. ASTM - American Society for Testing and Materials.

2.9. Clean Room - an uncontaminated area, part of the worker decontamination unit, with provisions for storage of workers' clothes and equipment.

2.10. Critical Barrier - seal applied to openings connecting the abatement area with adjacent spaces that will not be included in the containment. This includes, but are not limited to: HVAC vents and diffusers; doorways; windows; floor, wall, and ceiling penetrations; and air plenums.

2.11. Curtained Doorway - a device to allow ingress or egress from one room to another while minimizing air movement between the rooms. Typically constructed by placing three overlapping sheets of 6-mil plastic over an existing or temporarily framed doorway, securing each along the top of the doorway, securing the vertical edges of the outer sheets along one vertical edge of the second or middle sheet along the opposite vertical side of the doorway, or an approved equal.

2.12. Decontamination Enclosure System - a series of connected rooms, with curtained doorways between any two adjacent rooms, for the decontamination of workers or of materials and equipment. A worker decontamination enclosure system always contains at least three airlocks (rooms). An equipment decontamination system always contains at least two airlocks (rooms).

2.13. ECU™ - is a clinically tested, portable containment product that provides a range of containment applications with the appropriate level of HEPA-filtered negative air pressure required by the Centers for Disease Control and Prevention (CDC). When collapsed, the ECU is compact and portable.

2.14. Encapsulation - the sealing of asbestos surfaces involving application of a material (encapsulant) that will envelop or coat the fiber matrix and eliminate fiber fallout and protect against contact damage.

2.15. Enclosure - procedures necessary to completely enclose materials containing asbestos behind airtight, impermeable, permanent barriers.

2.16. EPA - United States Environmental Protection Agency.

2.17. Equipment Decontamination Enclosure System - a decontamination enclosure system for materials and equipment, typically consisting of a washroom, and holding area.

2.18. Equipment Room - a contaminated area or room that is part of the worker decontamination enclosure system, with provisions for storage of contaminated clothing and equipment.

2.19. Fixed Object (Immovable Object) - a unit of equipment or furniture in the work area that cannot be removed from the work area.

2.20. HEPA - High Efficiency Particulate Air (HEPA) filter capable of trapping and retaining 99.97% of asbestos fibers greater than 0.3 microns in length.

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2.21. HEPA - High Efficiency Particulate Air (HEPA) filtered vacuuming equipment with a UL 586-filter system capable of collecting and retaining asbestos fibers.

2.22. Holding Area - a chamber between the washroom and uncontaminated area in the equipment decontamination enclosure system. The holding area comprises an airlock.

2.23. Movable Object - a unit of equipment or furniture in the work area can be removed from the work area.

2.24. NESHAP - National Emissions Standard for Hazardous Air Pollutants.

2.25. N.E.C. - National Electrical Code.

2.26. NIOSH - National Institute for Occupational Safety and Health.

2.27. Ordinary Light Fixture - any light fixture within the building, which has no specialized purpose other than normal room lighting.

2.28. OSHA - Occupational Safety and Health Administration.

2.29. Plastic Sheeting - plastic sheet material of specified thickness used for protection of walls, floors, etc., and used to seal openings into the work area.

2.30. Removal - the act of removing asbestos-containing or contaminated materials from the structure under properly controlled conditions to a suitable disposal site.

2.31. Shower Area - a room constituting an airlock, between the clean room and the equipment room in the worker decontamination enclosure system, with hot and cold or warm running water suitably arranged for complete showering during decontamination.

2.32. Special Light Fixtures - any light fixture or other lighting equipment which is used for a specialized purpose within the building other than providing normal room lighting.

2.33. Surfactant - a chemical wetting agent added to water to improve penetrating ability, thus reducing the quantity of water required to saturate asbestos-containing materials.

2.34. Wet Cleaning - the process of eliminating asbestos contamination from building surfaces and objects by using cloths, mops, or other cleaning tools which have been dampened with amended water, and by afterwards disposing or these cleaning tools asbestos-contaminated waste.

2.35. Washroom - a room between the work area and the holding area in the equipment decontamination enclosure system. The washroom comprises an airlock.

2.36. Work Area - area or areas of Project, which undergo abatement or are contaminated.

2.37. Worker Decontamination Enclosure System - a decontamination enclosure system for workers, typically consisting of a clean room, a shower room, and an equipment room.

3. QUALITY CRITERIA

3.1. Qualifications for Performance of Work for review by Owner appointed CIH.

3.1.1. Contractor (or subcontractor engaged to perform the Work of this Section) shall have a record of not less than two years successful experience in asbestos removal and related work similar in scope and magnitude to this project. Submit a list of successfully completed projects for verification.

3.1.2. Maintain, on site, a Superintendent and one Head Foreman. Superintendent and Head Foreman must have completed at least five jobs of similar scope and magnitude to this Project and must be approved by Owner or by Owner appointed CIH prior to the start of the Work and shall not be changed without prior approval from Owner. Head Foreman shall remain inside of the work area at all times the Work is in progress. Submit resumes as specified.

3.1.3. Provide one experienced Job Foreman for every eight asbestos removal workers (laborers) utilized on the Project. Foreman shall remain inside work area (s) at all times that the Work is in progress. Submit experience of each Job Foreman in the pre-job submittal package.

3.1.4. Use only trained and experienced asbestos removal workers to perform the Work. Submit documentation of each worker's training in the pre-job submittal package.

3.2. Reference Standards, Codes and Standards

3.2.1. Acknowledge, by executing the Contract, awareness and familiarity with the contents and requirements of the following regulations, codes, and standards, guidance documents, assume responsibility for the performance of the Work in strict compliance therewith and for every instance of failure to comply therewith. The current issue of document shall govern. Where conflict between requirements or with the Contract Documents exists, the more stringent requirements shall apply.

3.2.1.1. U.S. Environmental Protection Agency (EPA) Regulations for Asbestos (Code of Federal Regulations Title 40, Part 61, Subparts A and M: National Emissions Standards for Hazardous Air Pollutants (NESHAP).

3.2.1.2. U.S. Environmental Protection Agency (EPA) Regulation Title 40, Part 231 Appendix C, Procedures for Containing and Removing Building Materials Containing Asbestos.

3.2.1.3. U.S. Environmental Protection Agency (EPA) 40 CFR 260-265: Resource Conversation and Recovery Act.

3.2.1.4. U.S. Department of Labor, Occupational Safety and Health Administration (OSHA) Regulations (Code of Federal Regulations Title 29, Part 1910, Section 1910.1101, 1910.134, 1910.1200, 1910.20 and Part 1926, Section 1926.1101).

3.2.1.5. U.S. Department of Education, Office of Elementary and Secondary Education (Code of Federal Regulations Title 34, Parts 230 and 231), Federal Register, vol. 46, No. 11, January 16, 1981.

3.2.1.6. U.S. Environmental Protection Agency (EPA) Office of Pesticide and Toxic Substances Guidance Document, "Guidance for Controlling Friable Asbestos-Containing Materials in Buildings", EPA 560 / 5-85-024, June 1985.

3.2.1.7. U.S. Environmental Protection Agency (EPA) Office of Pesticide and Toxic Substances Guidance Document, "Managing Asbestos in Place: A Building Owner's Guide to Operations and Maintenance Programs for Asbestos- Containing Materials", EPA 20T-2003, July 1990.

3.2.1.8. All state, county, and city codes and ordinances as applicable. Make available for review at the site one copy of EPA, OSHA, and applicable state, county, and city Regulations governing the Work.

3.2.1.9. 40 CFR 763 Asbestos Standard. Subpart E, Asbestos Containing Materials in Schools Rule often referred to as the response to the Hazard Emergency Response Act (AHERA).

4. TEST REPORTS

4.1. Results of tests of asbestos-containing materials taken from building surfaces within the scope of this Project can be made available, if possible. However, the Contractor is cautioned that, should interpretations be made, opinions are formed, and conclusions drawn as a result of

examining the test results, those interpretations, opinions, and conclusions will be those made, formed and drawn solely by the Contractor.

4.2. In as much as randomly and/or arbitrarily selected areas were sampled, Owner makes no representation, warranty, or guaranty that the conditions indicated by the test reports either are representative of those conditions existing throughout the area, or that unforeseen developments may not occur, or that materials other than, or in proportions different from, those indicated may not exist.

5. SUBMITTALS
   5.1. Refer to Section 01300 for the submittals required by the Contract Documents.
6. PRODUCT HANDLING
   6.1. Deliver all materials, as much as possible, in the original packages, containers, or bundles bearing the name of the manufacturer and the brand name.
   6.2. Store all materials subject to damage off the ground away from wet or damp surfaces, and under cover sufficient to prevent damage or contamination.
   6.3. Remove from the premises all damaged or deteriorating materials. Dispose of materials that become contaminated with asbestos in accordance with applicable standards.
7. WORKER SAFETY AND PROTECTION
   7.1. Worker Training. The Contractor shall ensure that all of his employees have received training required by OSHA Standard 1926.1101 and applicable state regulations and that training records are on file in his office and available for review, and are maintained for one year beyond the last date of employment.
   7.2. Worker Physical Examinations. Contractor shall provide medical examinations for all employees in accordance with OSHA standards 1910.134 (b) and 1926.1101 and applicable state regulations. The Contractor shall ensure that all employee results are on file in his office and available for review.
   7.3. The Contractor shall further ensure that employee examination results, for each employee utilized on this Project, indicate that the employee is physically capable to perform the work and wear the respiratory protection required.
   7.4. Worker Protection and Decontamination. The contractor shall take all safety measures and precautions required to protect his employees and building occupants in accordance with OSHA 29 CFR 1926.1101, and EPA 40 CFR, Part 61, Subpart M, and applicable state regulations. The Contractor shall provide his employees a worker decontamination enclosure system in accordance with OSHA 29 CFR 1926.1101, and specified herein.
   7.5. The contractor shall maintain a minimum of one (1) fire extinguisher per 20,000 sf, a first-aid kit, and smoke detectors throughout the work site. The contractor shall establish emergency procedures and exits with Owner's Representative for evacuation in case of fire. Whenever possible, the Contractor shall utilize fire-retardant materials. Post emergency exits within the area and at the exit of the area.
   7.6. The contractor shall identify a local medical emergency facility in coordination with Owner's Representative. The emergency medical facility personnel (emergency room staff) shall be notified prior to commencement of abatement operations on the possibility of handling contaminated and/or injured workmen, and shall be advised on safe decontamination procedures.

7.7. The Contractor shall be prepared to administer first aid to injured personnel after decontamination. Seriously injured personnel shall be treated immediately or with delay for decontamination. When an injury occurs, the contractor shall stop work and implement fiber reduction techniques (e.g. wet methods, air cleaning, etc.) until the injured person has been removed from the work area.

8. BUILDING PROTECTION
   8.1. Fire rated plastic and fire rated protection barriers shall be utilized on this project.
   8.2. The Contractor shall protect building furnishings, equipment, and other surfaces from the effects of the work in accordance with EPA, 40 CFR, Part 61, Subpart A and Subpart M.
9. WORKSITE CONDITIONS
   9.1. Worker and Visitor Procedures: The Contractor is hereby advised that asbestos has been determined by the U.S. Government to be a CANCER-CAUSING AGENT and the Contractor shall provide workers and visitors with respirators which, as a minimum, shall meet the requirements of OSHA 29 CFR 1926.1101 and protective clothing, during preparation of system of enclosures, prior to commencing, during actual asbestos abatement, and until final air tests are accepted by Owner's Representative.
   9.2. The contractor is hereby advised that any facility can be contaminated with microbiological contaminants and biohazards of various kinds. Workers shall be trained on potential hazards and procedures to minimize spread of disease. Example training can be referenced against the Center for Disease Control documentation. Contractor shall further ensure that no Contractor personnel may be present at the job site unless each has been specifically trained.
10. PERSONNEL PROTECTION
   10.1. Prior to commencement of work, all workers shall be instructed by the Contractor, and shall be knowledgeable in the appropriate procedures for personnel protection, asbestos abatement, and hazard communication (including biohazards).
   10.2. Contractor acknowledges and agrees that he is solely responsible for enforcing worker protection requirements at least equal to those specified in this Section. Contractor shall further ensure that no Contractor personnel may be present at the job site unless each has been specifically trained.
   10.3. Contractor shall provide workers with personally issued and marked respiratory equipment approved by NIOSH and in compliance with OSHA Standards for the type of work being performed.
   10.4. Where respirators with disposable HEPA filters are used, provide sufficient filters for replacement, as necessary, by the workers, or as required by applicable regulations.
   10.5. Provide respiratory protection as needed from the time of the first operation involving preparation to abate asbestos-containing building materials (including pre-cleaning, construction of airtight barriers/barricades, and placing of plastic sheeting on walls) until acceptance of final air test results by s Representative.
   10.6. Provide up to three respirators to be used solely for Owner, Owner's Representative and or Governmental Agents or the Contracted Industrial Hygienist.
   10.7. Contractor shall be solely responsible for scheduling necessary air sampling by an independent testing laboratory for compliance of his respiratory protection with OSHA Regulations. Contractor shall pay for all costs associated with such testing. Contractor must provide documentation that personnel used to perform such sampling have received

appropriate training, such as the NIOSH 582 or equivalent course, and has successfully completed such sampling on at least three previous projects. Additionally, Contractor shall provide information regarding qualifications of testing laboratory. Permissible Exposure Limits (PELs) and Short Term Exposure Limits (STELs) results of personnel air monitoring shall be provided to Owner's Representative within 24 hours of completion of collection of air monitoring results.

10.8. Permit no visitors, except for governmental inspectors having jurisdiction and Government/Contracted Industrial Hygienist, or as authorized by Owner or Owner's Representative, in the work areas after commencement of asbestos disturbance or removal. Provide authorized visitors with suitable respirators and protective equipment. Authorized visitors must exhibit evidence of training in accordance with requirements of 29 CFR 1926.1101 prior to work area entry.

10.9. Provide workers with sufficient sets of protective disposable clothing, consisting of full-body coveralls, head covers, gloves, and foot covers, of sizes to properly fit individual workers. Require workers to wear such clothing from the time of the first operation involving preparation to abate asbestos-containing materials (including pre-cleaning, construction of airtight barriers/barricades, and placing of plastic sheeting on walls) until acceptance of final air test results by Owner's Representative.

10.10. Leave reusable equipment, apparel and protective devices (excluding respirators) in the contaminated equipment room until the end of the asbestos abatement work, at which time such items shall be disposed of as contaminated waste or decontaminated for reuse.

10.11. Provide authorized visitors with a set of suitable protective disposable clothing, headgear, eye protection, and footwear of sizes to properly fit visitors whenever they are required to enter the work area.

10.12. Provide, in addition to respirators and protective clothing provided for authorized visitors, protective clothing for use by Owner, Owner's representative and Owner's appointed Certified Industrial Hygienist. Furnish protective clothing in as many sets as required for monitoring performed by and Owner's appointed Certified Industrial Hygienist.

10.13. When supplied air respirators are used, provide emergency backup air supply for each worker in the work area at all times when supplied-air (Type C) respirator equipment is in use. Provide backup air supply of sufficient duration to allow all workers to safely exit the asbestos work area without removing respiratory protective equipment if a failure in the Type C air supply system occurs.

10.14. When supplied air respirators are used, provide for testing of compressor and supplied-air (Type C) respirator equipment during the course of the Project by an independent Testing laboratory competent in this field to verify that air supplied is Grade D or better.

PART 2 - PRODUCTS

11. MATERIALS

11.1. Plastic sheeting - shall be of the thicknesses specified, in sizes to minimize the frequency of joints. Use of "spray-on poly" is not permitted.

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11.2. Tape - Shall be glass, fiber or other type capable of sealing joints of adjacent plastic sheets and for attachment of plastic sheet on finished or unfinished surfaces, under dry or wet conditions.

11.3. Surfactant (wetting agent) - shall consist of mixture of "Dust-Set Amended Water Base" (Matheson Chemical Corporation), and water, mixed one part "Dust-Set Amended Water Base" to 19 parts water, or approved equivalent.

11.4. Sealant (encapsulant) - Shall be manufactured by reputable, established manufacturer of encapsulant/sealant for asbestos-contaminated environments. It is the responsibility of the Contractor to determine compatibility of the sealant with the materials and conditions and must have color dye readily identifiable after application.

11.5. Impermeable Containers - Shall be suitable to receive and retain any asbestos-containing or contaminated materials until disposal at an approved site and shall be labeled in accordance with OSHA Regulation 29 CFR 1926.1101. Containers shall be both air and watertight. Use two types of impermeable containers:

11.5.1. 1. Metal or fiber drums with tightly fitting lids, lined with 6-mil plastic, and

11.5.2. 2. Six-mil plastic bags.

11.6. 11.6 Other Materials - Provide all other materials, such as lumber, nails, and hardware, which may be required to construct and dismantle the decontamination system and the barriers that isolate the work area. Rigid plastic barriers are specified for this project along with the use of zippered doorways and adhesive step-off pads at entrances to the work areas.

12. TOOLS AND EQUIPMENT

12.1. Provide suitable tools for asbestos-containing material removal.

12.2. Water Sprayer - Utilize airless or other low-pressure sprayer for amended water application.

12.3. Air Purifying Equipment (for internal recirculation in the work area) - Shall be High Efficiency Particulate Absolute (HEPA) Filtration Systems. Ensure that no internal air movement system or purification equipment exhausts contaminated air from inside the work area into uncontaminated areas.

12.4. Scaffolding - Shall be as required to accomplish the specified work and shall meet all applicable safety regulations.

12.5. Transportation - As required for loading, temporary storage, transit, and unloading of contaminated waste without exposure to persons or property. Use only enclosed or covered trucks to haul waste containers in route to the landfill.

12.6. ECU™ - A clinically tested, portable containment product that provides a range of containment applications with the appropriate level of HEPA-filtered negative air pressure required by the Centers for Disease Control and Prevention (CDC).

13. RESPIRATORY PROTECTION

13.1. Types of Respirators. Contractor shall provide workers with and require the use of respirators approved by NIOSH for asbestos in accordance with OSHA Standard 1926.1101 and with OSHA 29 CFR 1910.134. Disposable single use respirators are not acceptable. The minimum protection allowable during worksite preparation shall be an approved, half-face, negative-pressure air-purifying respirator with HEPA cartridges. An approved, powered air-purifying respirator with HEPA cartridges shall provide the minimum protection allowable during asbestos abatement. When these respirators do not provide adequate protection as

determined by the daily air monitoring results, supplied air systems shall supply Grade D breathing air conforming to OSHA 1910.134.

13.2. Respirator Use. Respirators shall be worn at all times in the asbestos control area while the following activities are being performed:

13.2.1. During area preparation when such activities may result in contact with friable asbestos.

13.2.2. During any material or equipment removal when asbestos may be disturbed.

13.2.3. In the asbestos control area after the area has been prepared, while asbestos abatement and cleanup operations are being performed.

13.2.4. In the loading and asbestos control area while handling bags or sealed containers and while loading sealed containers onto the truck.

13.2.5. While unloading disposal containers at the landfill and placing them in the landfill.

13.2.6. After asbestos has been removed and an area has passed visual inspection and final clearance air sampling, respirators no longer need to be worn in that area.

13.3. Respirator Fitting and Training. The Contractor shall implement and maintain a Respiratory Protection Program in accordance with OSHA standards 1910.134 and 1926.1101. This program shall be described in a written program submitted as part of the Removal and Disposal Plan by the Contractor and shall incorporate the following elements:

13.3.1. Respirator Training. Employees shall be instructed in the selection, wearing, limitations, cleaning, storage, and maintenance of the type (s) of respirator (s) they will be using.

13.3.2. Face Piece Fit Testing. Each employee shall be fit-tested on the respirator (s) he is issued to ensure proper protection. Fit-testing shall be performed using isoamyl acetate ampoules, irritating smoke tubes, quantitative fit testing or equivalent methods according to OSHA Standard 29 CFR 1910.134. If necessary, the employee shall be given a choice of facepiece sizes or styles and respirator brands in order to ensure an adequate fit. Any facial hair that may interfere with the facepiece seal shall be removed prior to fit-testing and actual use. In addition, employees shall perform positive/negative pressure fit-tests on half-mask and full-facepiece air purifying respirators each time they don respirators. This shall be conducted in accordance with the manufacturer's instructions.

13.3.3. Respirators and Filter Cartridges shall be stored in a place and manner that they cannot become contaminated with asbestos. New cartridges shall be installed each time a worker enters the asbestos control area.

14. PROTECTIVE CLOTHING

14.1. All personnel engaged in asbestos abatement work shall wear approved protective clothing manufactured from TYVEK 1422 material or other material of equivalent resistance to penetration by asbestos. A full body suit is recommended in lieu of a separate set of coveralls, head covers, and shoe covers. Disposable whole body clothing including head covers, gloves, and shoe coverings shall be provided to and worn by all personnel in the asbestos control area. If attached and/or boots are not included, these shall be provided separately. If elastic sleeve closures are not provided, sleeves shall be secured to duct tape to gloves.

14.2. Contaminated clothing shall be treated as asbestos-containing material and undergo the same disposal procedures.

14.3. All disposable clothing shall be flame-retardant. All openings in clothing shall be taped to exclude penetration by asbestos fibers.

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14.4. Protective Equipment, Respirators and clothing for use by Owner and Owner's Representative and Contracted Industrial Hygienist: The Contractor shall, at all times, have available for use by Owner, Owner's Representative and Contracted Industrial Hygienist three clean sets of protective equipment (including appropriate respirators and disposable protective clothing).

15. WARNING SIGNS AND LABELS

15.1. Signs. The Contractor shall post warning signs prior to asbestos removal in accordance with OSHA, 29 CFR 1926.1101. The signs shall display the legend indicated below:

DANGER	Danger
ASBESTOS	Asbestos
CANCER AND LUNG DISEASE HAZARD	May Cause Cancer
AUTHORIZED PERSONNEL ONLY	Authorized Personnel Only
RESPIRATORS AND PROTECTIVE	Wear respirators and protective
CLOTHING ARE REQUIRED IN THIS AREA	Clothing in this area

15.2. Labels. The Contractor shall permanently affix warning labels to all products and bags/containers containing or contaminated with un-encapsulated friable asbestos in accordance with OSHA, 29 CFR 1926.1101. Labels shall be printed in large bold letters on a contrasting background and contain the following legend:

DANGER
CONTAINS ASBESTOS FIBERS
MAY CAUSE CANCER
CAUSES DAMAGE TO LUNGS
DO NOT BREATH DUST
AVOID CREATING DUST

PART 3 – EXECUTION

16. PREPARATION

16.1. Coordinate sequence of work area preparation throughout the building or on the roofs with Owner's Representative in order to properly segregate work areas from areas that must remain fully or partially operational. Proposed sequence of operations shall be as follows, but shall be confirmed by Owner's Representative at the Pre-Construction Meeting:

16.2. Remove and or clean by HEPA vacuuming or wiping with wet towels all floors, walls and ceiling surfaces in designated areas.

16.3. Contractor is hereby notified that top surfaces of ceiling surfaces, electronic equipment, connective cables, electrical conduit and other appurtenances may contain debris which must be cleaned and removed prior to the start-up of any other general work activities. These work activities shall be conducted within the confines of an Environmental Containment Unit™ (ECU™), or Negative Pressure Enclosure or equivalent, where applicable.

16.4. For removal of debris; HEPA-vacuum and wet clean equipment, floor and walls of the designated rooms.

16.5. Coordinate with Owner the window removal or placement of the HEPA Exhaust. Contractors will be responsible for the removal of windows and placement of exhaust air ductwork.

16.6. Contractor shall HEPA- vacuum, wet-wipe wrap in one layer of 6-mil plastic sheeting, inventory, and store as directed by Contracting Office's Representative for re-use, any movable object remaining in work area.

16.7. Seal HVAC diffusers and return vents in work area with two layers of 6-mil plastic sheeting. Cover all floor drains in the work area with a minimum of two layers 6-mil plastic sheeting. Ensure that water does not escape work area through existing drain systems.

16.8. Cover windows and perimeter doors in areas that are to receive asbestos-containing material for storage purposes ("storage areas") with a minimum of one layer 6-mil plastic sheeting.

16.9. Cover non-operating equipment and immovable objects of the designated rooms with a minimum of one layer of 6-mil plastic sheeting. No plastic sheeting or tape shall be attached to any asbestos-containing building material, but when necessary, shall be suspended from framing erected to support such. The effect of this preparation shall be to cover completely all surfaces beneath materials designated for abatement with a minimum of one layer of 6-mil plastic sheeting.

16.10. Construct barriers of two layers of 6-mil plastic sheeting around equipment that is designated to remain operational within the work area. Design barriers so as to permit the supply of low-volume, conditioned air to the equipment for the purpose of minimizing heat gain. Construct a tunnel or other exterior access to the equipment that may be utilized by non-protected, untrained personnel. Use of rigid plastic barriers, zippered doorways and adhesive step-off pads are required for decontamination areas extending into occupied areas.

16.11. Place each ECU™ work area under negative air pressure utilizing HEPA filtration systems that comply with ANSI Z9.2-79, local exhaust ventilation. Allow no air movement system or air-filtering equipment to discharge unfiltered air outside the work area. Maintain a negative pressure on the work area continuously (24 hours per day) until the area has been cleaned and certified as such by the required air testing. The Contractor shall submit the proposed route of exhaust to the Owner's Representative prior to initiating its use. Provide documentation that pressure differential maintained is at least 0.02 inches of water column.

16.12. Trap shower wastewater using filters having a pore size of not larger than 5.0 microns, and collect. Replace contaminated filters when they become clogged but not less than every third day. Dispose of filters as contaminated waste. All filtered water is to be collected and discharged in a sanitary sewer off of the premises. Submit a plan for discharging of filtered water.

16.13. Ensure that all barriers and plastic sheeting enclosures remain effectively sealed and taped for duration of abatement and subsequent cleaning. Repair damaged barriers and remedy defects immediately upon discovery. Visually inspect enclosures at the beginning of each work period. Repair damaged barriers and remedy defects immediately upon discovery. Use smoke tubes or other approved methods to test effectiveness of barriers each shift.

16.14. Maintain emergency and fire exits from the work areas, or establish alternative exits satisfactory to fire officials.

16.15. Provide temporary power and lighting as necessary to maintain safe and comfortable work environment.

16.16. Maintain a Sign In/Out log in the immediate area of the change room to be utilized by every person, each time upon entering and leaving the work area (s). Provide completed copy of sign in/out log to Owner's Representative daily.

16.17. Notify Owner's Representative for a visual inspection of the job-site preparation prior to any removal or disturbance of asbestos-containing building material. This visual inspection is to determine the complete plasticizing of work area and the construction of worker and barrel/equipment decontamination enclosure systems.

16.18. Initiate required personnel air monitoring. Provide results of personnel air monitoring to the Owner's Representative within 24 hours of completion of the testing. Post results of personnel air-monitoring daily in a location approved by Owner' Representative for all personnel to see.

17. REMOVAL AND ENCAPSULATION OF ASBESTOS-CONTAINING BUILDING MATERIAL

17.1. Remove and properly dispose of all asbestos-containing building materials indicated to be removed as described in the procedures outlined in the U.S. Department of Labor Occupational Safety and Health Administration (OSHA), Asbestos Regulations (Code of Federal Regulations Title 29, Part 1926, Section 1926.1101 and as more stringently specified herein.

17.2. Use an airless water sprayer or other low-pressure sprayer for amended water application. A surfactant (wetting agent) shall consist of mixture of "Dust-Set Amended Water Base" (Matheson Chemical Corporation), and water, mixed one part "Dust-Set Amended Water Base" to 19 parts water, or approved equivalent. Do not directly spray amended water on to electrical or communications equipment.

17.3. Use an airless water sprayer or other low-pressure sprayer for Sealant (encapsulant) application. The encapsulant for asbestos-contaminated environments shall be manufactured by reputable, established manufacturer. It is the responsibility of the Contractor to determine compatibility of the sealant with the materials, conditions and must have color dye readily identifiable after application. ENCAPSULANTS SHALL NOT BE USED ON STRUCTURAL STEEL WHERE NON-ACM FIREPROOFING WILL BE REAPPLIED.

18. CLEAN-UP AND CLEARANCE TESTING

18.1. Provide general clean-up of work area concurrent with the removal of all asbestos-containing materials. Do not permit accumulation of debris on workspace floor.

18.2. Standard of Cleaning for Final Clearance: Consider work areas and all other decontaminated and cleaned areas clean when:

18.2.1. Level of cleanliness has been approved by Owner's Representative; and

18.2.2. Air testing performed by the Contracted Industrial Hygienist indicates less than 0.01 fibers per cubic centimeter of air, using procedures outlined in the NIOSH 7400 method.

19. CLEAN-UP SEQUENCE

19.1. Remove all visible accumulations of asbestos-containing material and debris.

19.2. Wet-clean and HEPA-vacuum all surfaces in the work area.

19.3. Clean all equipment used in the work area and remove from work area via the equipment decontamination enclosure system.

19.4. Replace all pre-filters in negative air machines with clean filters. Wet-clean and HEPA-vacuum all equipment, tools and machinery remaining inside the work area. Clean all negative air machines.

19.5. Notify Owner's Representative for a visual inspection of cleaning and/or removal to determine completeness. Plastic sheeting surfaces shall be accepted as clean when free from dust, dirt, residue, film, or discoloration resultant from abatement operations or other activities subordinate to these operations.

19.6. Following acceptance of the initial cleaning and/or removal of the work area by Owner's Representative, carefully remove the inner layer of plastic sheeting, folding inward to trap debris. Dispose of as contaminated waste.

19.7. HEPA-vacuum and wet clean all surfaces in the work area. This includes floor, all equipment, tools, machines, and plastics sheeting remaining.

19.8. Notify Owner's Representative for a visual inspection of cleaning to determine completeness. Plastic sheeting surfaces shall be accepted as clean when free from dust, dirt, residue, film, or discoloration resultant from abatement operations.

19.9. Perform no activity in work area for a period sufficient to allow settlement of airborne fibers and drying of encapsulant used for lock-down purposes.

19.10. HEPA-vacuum and wet clean all surfaces in the work area. This includes all equipment, tools, machines, and plastic sheeting remaining.

19.11. Notify Owner's Representative for a visual inspection of cleaning to determine completeness of final cleaning.

19.12. Final Clearance Testing

19.12.1. Re-clean and continue to clean at Contractor's expense, areas that do not comply with the specified final clearance level. Contractor shall bear cost of all follow-up tests necessitated by the failure of the air tests to meet the specified final clearance level.

19.13. Dismantle decontamination enclosure systems and thoroughly HEPA- vacuum and wet clean immediate areas.

19.14. Dispose of debris from removal operation; used cleaning materials, unsalvageable materials used for barriers, and any other remaining materials. Consider the materials to be asbestos contaminated, and dispose of accordingly.

20. DISPOSAL OF ASBESTOS CONTAMINATED WASTE

20.1. Collection of asbestos waste materials. For the purpose of this paragraph, asbestos waste materials are all items not sealed with an asbestos encapsulant sealer at the job-site. These waste materials shall be collected in 6-mil polyethylene bags or other approved sealable, impermeable containers. A fine spray of amended water or removal encapsulant shall be used to keep asbestos damp in unfilled, unsealed containers to minimize airborne asbestos dust. Each filled disposal bag shall be sealed and cleaned with a fine mist or spray of amended water inside the shower area of the decontamination unit, where it shall then be placed into a second 6-mil disposal bag. The double-bagged asbestos material that has been abated shall be removed from containment at this point for disposal. Bagged material shall not be allowed to accumulate inside containment.

20.2. Disposal of asbestos waste materials. Double-bagged material shall move through the facility in a cart with a rigid cover. Materials shall be quantified before removal form the premises. Asbestos waste shall be hauled away by the Contractor as soon as there is a

sufficient quantity for a truckload. Procedures for hauling and disposal shall comply with EPA 40 CFR, Part 61, and other applicable state, regional and local Government standards.

20.2.1. Dump and other open trucks hauling asbestos double-bagged material shall be covered to prevent loss or damage to containers enroute to the disposal site.

20.2.2. Sealed plastic disposal bags shall be placed into the burial site. Damaged bags shall be buried in impermeable drum containers. Workers unloading and handling the sealed bags at the disposal site shall wear approved respiratory protection and appropriate personal protective equipment.

20.3. Allow only double-bags that are undamaged or sealed metal or fiber drum containers to be deposited in landfill.

20.4. Ensure that there are no visible emissions to the outside air from site where materials and waste are deposited.

20.5. Waste materials deposited in a landfill or Special Waste disposal site shall have the waste shipment record returned to DC Environmental within thirty (30) days of leaving the facility. Submit receipts from authorized representative of landfill operator for each delivery of waste material to Owner's Representative after each delivery. Upon completion of the project a submittal of the complete set of disposal documents shall be included before final payment is delivered. Delivery of materials to the disposal site or procedures for disposal shall be approved before disposal of the material is performed.

21. FIELD QUALITY CONTROL

21.1. Industrial Hygiene Services for Owner will provide air sampling, analysis, project observations, inspections and oversight at no cost to the Contractor, except as provided in this Section, to perform the air monitoring. Air samples will be collected inside and outside removal containment. The Industrial Hygiene Services will be provided by a Certified Industrial Hygienist or by a highly experienced Industrial Hygienist working under the direction of a Certified Industrial Hygienist. Personnel providing the Industrial Hygiene Services are identified as "Contracted Industrial Hygienist" for the purposes of this Specification.

21.1.1. When airborne fiber concentrations in or around the work area are greater than 0.1 f/cc, the Contracted Industrial Hygienist will immediately notify the Contractor and Owner's Representative. The Contractor shall begin an investigation immediately to determine the source (s) of the elevated fiber levels.

21.1.2. If subsequent air samples exceed 0.1 f/cc, Owner and Owner’s Representative will be notified by the Government Contracted Industrial Hygienist. The Contractor will stop work and take all corrective actions necessary to reduce the airborne fiber concentrations outside the work area containment to equal to or less than 0.1 f/cc.

21.2. The Contracted Industrial Hygienist shall conduct air monitoring prior to and throughout removal and cleaning operations.

21.3. The Contracted Industrial Hygienist shall perform air testing and progress work samples shall be analyzed in accordance with the procedures outlined in NIOSH 7400 method.

21.4. The Contracted Industrial Hygienist shall perform only Owner's testing. Such testing for Owner does not relieve the Contractor of responsibility for providing necessary tests required by other regulations, codes, standards for the protection of his workers, or for any other purposes.

21.5. A preliminary visual inspection will be performed in the work areas by Owner's Representative following notification by the Contractor that said areas have been properly cleaned and are ready for final air testing. Areas will be observed for the presence of visible dust, dirt, and debris.

21.6. Except for Final Clearance Testing, tests shall be reported in terms of total fiber count per cubic centimeter (f/cc), and samples will be collected in accordance with EPA recommended sampling volumes for appropriate detection limits. Final Clearance Testing results shall be reported in asbestos structures per square millimeter of collection filter area.

21.7. Any area (s) whose air test results fail to comply with clearance standards of this Section will be re-tested following re-cleaning of the area (s). Contractor shall pay for all costs associated with re-testing, including collection of samples and payment for sample analysis.

21.8. Visual inspections will be made by the Contractor accompanied by Owner's Representative after final clean-up to determine the presence of visible dust, dirt, debris, and areas of damage.

21.9. Contractor shall perform additional cleaning and/or removal at no additional expense to Owner if, in the opinion of Owner's Representative, based upon the final visual a visual inspection; previous clean-up operations were determined to be inadequate.

END OF SECTION

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DC Environmental
Consulting and Training Services

Certificate of Visual Inspection

Contractor Certification

In accordance with the Technical Specifications, the Contractor hereby certifies he has visually inspected the work area and has completed the required work including asbestos removal, substrate cleaning and regulated area cleaning and decontamination.

_____

Area Location Inspected or Project Name

_____ Project Number _____

Signature Date

_____

Printed Name Company and Title

Industrial Hygienist Certification

The DC Environmental Industrial Hygienist certifies that the Contractor's Statement above is true and correct. In signing this document the Industrial Hygienist acknowledges that they have performed an inspection in conjunction with the Contractor's Representative to determine that the above statement is true and correct.

_____ Project Number _____

Signature Date

_____

Printed Name Company and Title

ATTACHMENT 2

TECHNICAL SPECIFICATIONS

LEAD-BASED PAINT REMOVAL AND DISPOSAL

LEAD-BASED PAINT REMOVAL AND DISPOSAL

PART 1 - GENERAL

1.1 DESCRIPTION

The intent is to control lead exposures and safely handle select components from the Albuquerque Rail Yards Project. The Rail Yards buildings have been identified as containing lead in select material components or coatings. The actual paint on the structure has lead in the matrix. The City of Albuquerque representatives have identified the lead and are further endeavoring to analyze the materials by the Toxicity Characteristic Leachate Procedure. The TCLP testing will determine if the lead waste is considered to be hazardous waste as defined by the Resource Conservation and Recovery Act. This section specifies abatement and disposal of those materials with lead in the matrices and controls needed to limit occupational and environmental exposure to lead hazards.

1.2 RELATED WORK

Not Used

1.3 APPLICABLE PUBLICATIONS

A. The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by basic designation only.

B. Code of Federal Regulations (CFR):

CFR 29 Part 1910 .....Occupational Safety and Health Standards

CFR 29 Part 1926 .....Safety and Health Regulations for Construction

CFR 40 Part 260 .....Hazardous Waste Management System: General

CFR 40 Part 261 .....Identification and Listing of Hazardous Waste

CFR 40 Part 262 .....Standards Applicable to Generators of Hazardous Waste

CRF 40 Part 263 .....Standards Applicable to Transporters of Hazardous Waste

CFR 40 Part 264 .....Standards for Owners and Operations of Hazardous Waste Treatment, Storage, and Disposal Facilities

CFR 40 Part 265 .....Interim Status Standards for Owners and Operators of Hazardous Waste Treatment, Storage, and Disposal Facilities

CFR 40 Part 268 .....Land Disposal Restrictions

CFR 40 Part 745 .....Lead Based Paint Poisoning Prevention Regulation

CFR 49 Part 172 .....Hazardous Material Table, Special Provisions, Hazardous Material Communications, Emergency Response Information, and Training Requirements

CFR 49 Part 178 .....Specifications for Packaging

C. National Fire Protection Association (NFPA):

NFPA 701-2004.....Methods of Fire Test for Flame-Resistant Textiles and Films

D. National Institute for Occupational Safety And Health (NIOSH)

NIOSH OSHA Booklet 3142 ..... Lead in Construction

E. Underwriters Laboratories (UL)

UL 586-1996 (Rev 2009) ..... High-Efficiency, Particulate, Air Filter Units

F. American National Standards Institute

Z9.2-2006.....Fundamentals Governing the Design and Operation of Local Exhaust Systems

Z88.6-2006.....Respiratory Protection

1.4 DEFINITIONS

A. Action Level: Employee exposure, without regard to use of respirations, to an airborne concentration of lead of 30 micrograms per cubic meter of air averaged over an 8-hour period. As used in this section, “30 micrograms per cubic meter of air” refers to the action level.

B. Area Monitoring: Sampling of lead concentrations within the lead control area and inside the physical boundaries which is representative of the airborne lead concentrations which may reach the breathing zone of personnel potentially exposed to lead.

C. Physical Boundary: Area physically roped or partitioned off around an enclosed lead control area to limit unauthorized entry of personnel. As used in this section, "inside boundary" shall mean the same as "outside lead control area."

D. Certified Industrial Hygienist (CIH): As used in this section, refers to an Industrial Hygienist and independent of the Contractor and is certified by the American Board of Industrial Hygiene in comprehensive practice.

E. Change Rooms and Shower Facilities: Rooms within the designated physical boundary around the lead control area equipped with separate storage facilities for cleaning protective work clothing and equipment. Minimum of a hand and face wash area to be designated.

F. Competent Person: A person capable of identifying lead hazards in the work area and is authorized by the contractor to take corrective action.

G. Decontamination Room: Room for removal of contaminated personal protective equipment (PPE).

H. Eight-Hour Time Weighted Average (TWA): Airborne concentration of lead averaged over an 8-hour workday to which an employee is exposed.

I. High Efficiency Particulate Air (HEPA) Filter Equipment: HEPA filtered vacuuming equipment with a UL 586 filter system capable of collecting and retaining lead-contaminated paint dust. A high efficiency particulate filter means 99.97 percent efficient against 0.3 micron size particles.

J. Lead: Metallic lead, inorganic lead compounds, and organic lead soaps. Excluded from this definition are other organic lead compounds.

K. Lead Control Area: An enclosed area or structure with full containment to prevent the spread of lead dust, paint chips, or debris of lead-containing paint removal operations. The lead control area is isolated by physical boundaries to prevent unauthorized entry of personnel.

L. Lead Permissible Exposure Limit (PEL): Fifty micrograms per cubic meter of air as an 8-hour time weighted average as determined by 29 CFR 1910.1025 or 1926.62. If an employee is exposed for more than 8 hours in a work day, the PEL shall be determined by the following formula. PEL (micrograms/cubic meter of air) = 400/No. of hrs worked per day

M. Personnel Monitoring: Sampling of lead concentrations within the breathing zone of an employee to determine the 8-hour time weighted average concentration in accordance with 29 CFR 1910.1025. Samples shall be representative of the employee's work tasks. Breathing zone shall be considered an area within a hemisphere, forward of the shoulders, with a radius of 150 mm to 225 mm (6 to 9 inches) and the center at the nose or mouth of an employee.

1.5 QUALITY ASSURANCE

A. Before exposure to lead-contaminated dust, provide workers with a comprehensive medical examination as required by 29 CFR 1926.62 (I) (1) (i) & (ii). The examination shall not be required if adequate records show that employees have been examined as required by 29 CFR 1926.62(I) within the last year. Biological monitoring may not be required if the concentrations remain below the action level.

B. Medical Records: Maintain complete and accurate medical records of employees in accordance with 29 CFR 1910.1020.

C. CIH Responsibilities: The Certified Industrial Hygienist will be responsible for the following:

1. Reviewing the training records of the exposed employees.
2. Review the removal plan for conformance to the applicable referenced standards.
3. Inspect lead-containing paint removal work for conformance with the approved plan.
4. Review and approval of the monitoring plan.
5. Ensure work is performed in strict accordance with regulations and specifications at all times.
6. Ensure hazardous exposure to personnel and to the environment are adequately controlled at all times.

D. Training: Train each employee performing paint stabilization, paint removal, disposal, and air sampling operations prior to the time of initial job assignment, in accordance with 29 CFR 1926.62.

E. Training Certification: Submit certificates indicating each employee has received training in lead particulate control procedures.

F. Respiratory Protection Program:

1. Furnish each employee required to wear a negative pressure respirator or other appropriate type with a respirator fit test at the time of initial fitting and at least every 12 months thereafter.

2. Establish and implement a respiratory protection program as required by 29 CFR 1910.134, 29 CFR 1910.1025, and 29 CFR 1926.62.

G. Hazard Communication Program: Establish and implement a Hazard Communication Program as required by 29 CFR 1910.1200.

H. Hazardous Waste Management: Maintain the records provided indicating that the materials does not meet the criterion for hazardous waste and provide documentation to requesting agencies or authorized agents. Should the material exceed the TCLP testing criteria, then maintain the waste shipment and disposal records of the lead waste. Waste disposal records are required to be retained for five years.

I. Safety and Health Compliance:

1. In addition to the detailed requirements of this specification, comply with laws, ordinances, rules, and regulations of federal, state, and local authorities regarding removing, handling, storing, transporting, and disposing of lead waste materials. Comply with the applicable requirements of the current issue of 29 CFR 1910.1025. Submit matters regarding interpretation of standards to the City of Albuquerque Contract Representative for resolution before starting work.
2. Where specification requirements and the referenced documents vary, the most stringent requirements shall apply.
3. The following local laws, ordinances, criteria, rules and regulations regarding removing, handling, storing, transporting, and disposing of lead-contaminated materials apply:
   a. New Mexico Hazardous Waste Management Regulations NMAC 20.4.1

J. Pre-Construction Conference: A conference shall be coordinated on site the day before work operations commence to discuss, in detail, the lead hazards present and the removal work plan, including work procedures and precautions implemented to comply with the work plan.

1.6 SUBMITTALS

A. The Environmental Remediation Contractor shall submit the following: Any shop drawings or manufacturer cut sheets on products used to control lead hazards.

B. Manufacturer's Catalog Data:

Vacuum filters

Respirators

C. Instructions: Paint removal materials. Include applicable material safety data sheets.

D. Statements Certifications and Statements:

1. Qualifications of the CIH and the Industrial Hygiene Technician (IHT): DC Environmental will submit name, address, and telephone number of the CIH and IHT selected to perform work activities at the site.

2. Testing Laboratory: DC Environmental will submit the name, address, and telephone number of the testing laboratory selected to perform the analysis monitoring, testing, and reporting of airborne concentrations of lead.

PART 2 PRODUCTS

DC Environmental shall manage and retain copies of the Safety Data Sheets for paint removal products used in the paint stabilization process.

PART 3 EXECUTION

3.1 PROTECTION

A. DC Environmental in concert with the Environmental Remediation Contractor shall notify the General Contractor (or others as appropriate) within 5 days prior to the start of any lead disturbance activity.

B. Lead Control Area Requirements.
   1. Similar to asbestos control procedures, the lead control area shall be completely enclosed using six (6) mil polyethylene sheeting around the area or structure where lead hazards or disturbance will be performed.
   2. The area will placed under reduced pressure with the use of a containment system with at least one change room and exhausted with HEPA filtered exhaust units.

C. The lead disturbance activities will be performed to protect adjacent areas from contamination.

D. Physical boundaries around the lead control area will be posted.

E. Heating, Ventilating and Air Conditioning (HVAC) Systems: The air intakes of any HVAC System shall be isolated, locked out, and/or covered in 6-mil plastic.

F. Change Room and Hand/Face Wash facilities shall be established adjacent to the controlled area.

G. Mechanical Ventilation System:
   1. The areas shall be placed under reduced pressure while lead is disturbed.
   2. To the extent feasible, local exhaust ventilation connected to HEPA filters or other HEPA filtered vacuum systems shall be installed to assist in reducing exposures to below the exposure limits.

H. Personnel shall wear disposable clothing and use respiratory protection during lead disturbance. Eating, smoking, or drinking is not permitted in the lead control area. A separate area exterior to the regulated area shall be designated for eating and taking breaks.

I. Warning signs shall be posted at such a distance that personnel may read the sign and take the necessary precautions before entering the area. Signs shall comply with the requirements of 29 CFR 1926.62 and the Hazard Communication Standard

3.2 WORK PROCEDURES

A. The lead disturbance shall be performed concurrently with many of the asbestos containing material removal activities. The intent is to use methodologies and equipment to limit occupational exposures to

lead when materials are disturbed. Waste generated shall be promptly packaged and not allowed to accumulate.

B. Personnel Exiting Procedures:
   1. Whenever personnel exit the regulated area, they shall perform the following procedures:
      a. HEPA Vacuum themselves off.
      b. Remove protective clothing in the decontamination room, and place them in an approved impermeable disposal bag.
      c. Shower, or Hand and Face wash at minimum. .
      d. Change to clean clothes prior to leaving the physical boundary designated around the lead-contaminated job site.

C. Monitoring of airborne concentrations of lead shall be in accordance with 29 CFR 1910.1025 and as specified herein. Air monitoring, testing, and reporting shall be performed by an Industrial Hygiene Technician (IHT) who is under the direction of the CIH:
   1. The CIH or the IHT shall be on the job site as required to collect air samples, inspect the lead-disturbance activities, and visually inspect the area at completion.
   2. Personal air monitoring samples on employees who are anticipated to have the greatest risk of exposure as determined by the CIH.
   3. Samples shall be delivered to a recognized environmental testing laboratory. The Contractor or representative will be notified immediately of exposure to lead in excess of the action level of 30 micrograms per cubic meter of air.

3.3 LEAD COATING DISTURBANCE

A. Removal of paint or building materials containing lead shall be performed within the regulated areas. Precautions and experienced crews shall be instructed to take necessary actions to minimize damage to the underlying substrate.

B. Paint stabilization and Surface preparation activities shall incorporate manual sanding and scraping to the maximum extent feasible to protect both interior components and exterior weather products.

3.4 CLEANUP

A. Cleanup: The Environmental Remediation Contractor shall maintain surfaces of the lead control area free of accumulations of excess lead. The training and observations will reiterate that the use of dry sweeping or compressed air to clean up the area is not permissible. At regular intervals the area will be cleaned using HEPA Vacuums or cleaning cloths to control particulate.

B. The CIH or IHT shall accompany the site supervisor on the final visual inspection of the worker area and attest to the validity of the statement that the area is ready for the final testing and ultimately the release to the General Contractor. The regulated area shall not be dismantled until the criteria for clearance has been met. This criteria could include ensuring the area is less than 30 micrograms per cubic meter of air

and that the area has met the visual inspection criterion for cleanliness. In addition, wipe sampling of the controlled area flooring to meet the Environmental Protection Agency clearance dust loading levels as indicated in 40CFR745.

ATTACHMENT 3

PREVIOUS INVESTIGATION REPORTS

DC Environmental
Consulting and Training Services

ASBESTOS AND LEAD BASED PAINT SURVEY
City of Albuquerque Railyard Sheet Metal House
Parcel 10
Albuquerque, New Mexico

PREPARED FOR:
Intera, Inc.
6000 Uptown Blvd, Suite 220

PREPARED BY:
DC Environmental PO Box 9315
Albuquerque, New Mexico 87119

November 17, 2016
Project No. 16-185

DC Environmental
Consulting and Training Services

November 17, 2016
Project No. 16-185

Mr. Joe Tracy
Intera Inc.
6000 Uptown Boulevard, NE
Suite 200
Albuquerque, NM 87110

Subject: Asbestos and Lead Based Paint inspection of the Sheet Metal House Parcel 10 – City of Albuquerque Railyard

Dear Mr. Joe Tracy;

In accordance with our proposal, DC Environmental has performed asbestos and lead based paint inspections of the above-referenced facility, located at the City of Albuquerque Railyard, 1100 2nd St SW, Albuquerque, New Mexico. The attached report presents our methodology, findings, opinions, and recommendations regarding the survey.

Lead based paint and lead containing materials were identified at the Sheet Metal House. Asbestos-containing materials were not identified at the Sheet Metal House.

We appreciate the opportunity to be of service to you on this project. Should you have any questions regarding this report, please contact the undersigned at your convenience.

Sincerely,
ACME ENVIRONMENTAL INDUSTRIAL HYGIENE, INC.
dba DC Environmental

J. David Charlesworth, CIH

Karen Dremann, BS
Senior Scientist

Distribution: (2) Addressee

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EXECUTIVE SUMMARY

On October 27, 2016, DC Environmental performed an inspection of the Sheet Metal House located at the City of Albuquerque Railyard on 2nd Street in Albuquerque, New Mexico. The inspection was conducted in a response to a request to identify materials which may be impacted during future renovation or demolition activities. Previous sampling and analysis of building materials for lead had been conducted at the property by Innovar in 2011 and Rhoades in 2013. Previous sampling for asbestos had been conducted by Terracon in 2005, Innovar in 2011 and Rhoades in 2013 (See Appendix C). The focus of our inspection was to verify and determine the presence, location and quantity of asbestos remaining within the facility, and to establish the basis for the presence of lead containing finishes within the structure. The space is being evaluated for a confidential client and the concern is that existing materials may contain asbestos and lead in the finishes.

The inspection design was to conduct a room-by-room investigation for asbestos-containing building materials. Access the functional spaces, where appropriate; evaluate the exterior surfaces; and sample materials suspect for asbestos within the Sheet Metal House.

Asbestos-containing building materials are those containing greater than one percent asbestos as determined by polarized light microscopy. Asbestos was not identified in samples taken at the Sheet Metal House.

Lead-based paint is defined as coatings containing surface area lead of 1.0 milligrams per square centimeter (1.0 mg/cm^2) when evaluated by X-Ray Fluorescence. Lead based paint is further defined if laboratory analysis determines the lead content to be one half (0.5 %) percent by weight or greater. The lead inspection of the facility was conducted using an X-Ray Fluorescence (XRF) handheld instrument of select components or areas. The inspector identified painted surfaces with excess lead above the stated regulatory limit. Interior lead-based paint surfaces included: **white paint on standard wood door and red paint on wood entry door.**

Lead-containing materials are those with detectable levels of lead in the materials however not at levels above 1.0 mg/cm2. Lead containing materials **were** identified at the Sheet Metal House (see Appendix B XRF Lead Measurements).

Individuals bidding for work should be aware of the presence of lead when performing demolition and renovation activities involving these items. See attached drawing for location of room numbers.

1. INTRODUCTION

In accordance with our proposal, DC Environmental has performed an investigation of the Sheet Metal House located at the City of Albuquerque Railyard in Albuquerque, New Mexico.

The inspection was conducted in a response to a request to have building materials evaluated for future renovation or demolition activities. The focus of our inspection was to determine the presence, location and quantity of asbestos and lead based paint present within the facility. The building is being inspected for a confidential client and the concern is that existing materials may contain asbestos in building materials and lead in the painted finishes.

This report has been prepared in accordance with generally accepted environmental science and engineering practices. This report is based upon conditions at the subject building at the time of the sampling activities and provides documentation of our findings and recommendations.

2. PURPOSE AND SCOPE OF SERVICES

The inspection design was to conduct a room-by-room investigation and assess the facility for the presence of asbestos-containing building materials, and lead-based paint. The inspection included a quantitative determination of the asbestos and lead content within the structure.

The objective of this inspection was to perform the requisite sampling and present the findings along with any recommendations. The services performed by DC Environmental are outlined below.

- A reconnaissance of the area was conducted by Mr. Michael Nieman, and Mr. David Plante. Mr. Nieman is an accredited Asbestos Building Inspector, and Certified Lead Assessor and Inspector.
- Sampling was conducted using several different types of inspection tools and laboratory techniques including Polarized Light Microscopy and X-Ray Fluorescence.
- Report preparation summarizing our sampling methods and laboratory analysis are included. This report further details our conclusions and recommendations for the project.

3. SITE DESCRIPTION

The subject site consists of one structure, the Sheet Metal House.

Sheet Metal House

The Sheet Metal House consists of one building, roof and exterior. The Sheet Metal House is a wood frame and wood siding construction. The building is open to the outside on the east. Roofing appeared to be black roofing shingle with white gravel on top of wood.

4. ACTIVITIES

DC Environmental conducted a lead-based paint investigation and asbestos-containing building materials inspection on October 27, 2016 of the Sheet Metal House. Analysis of the Interior and exterior painted surfaces incorporated the use of an X-Ray Fluorescence Device. The Radiation Monitoring Device (RMD) LPA-1 X-Ray Fluorescence device was used to measure the lead content of surface coatings on representative homogenous components. Multiple XRF readings were recorded.

The site sampling activities are described below.

4.1. Asbestos-Containing Building Materials

Mr. Michael Nieman and Mr. David Plante conducted a visual inspection for asbestos-containing building materials at the above referenced building. Mr. Nieman collected a total of three (3) samples that were tested for asbestos using Polarized Light Microscopy and stereomicroscopy bulk asbestos analysis. Analysis was conducted by Crisp Analytical, LLC of Carrollton, Texas. Crisp Analytical is an accredited laboratory and recognized by the National Voluntary Laboratory Accreditation Program. Based upon the samples tested, **none** of the materials sampled were identified as asbestos-containing material building materials.

Previous asbestos surveys were also conducted in 2005, 2011 and 2013 (See Appendix C).

Asbestos sample results for the Sheet Metal House were not identified in the previous surveys.

The Environmental Protection Agency has established terminology regarding asbestos and specifically asbestos-containing building materials. Material which is friable are those materials which can be crushed, crumbled or reduced to powder by hand pressure. Non-friable materials are further characterized as Category I Non-Friable or Category II Non-Friable. Category I Non-Friable includes four specific items: Packings, Gaskets, Resilient Flooring and Asphalt Roofing. Category II Non-Friable is everything else which cannot be crumbled or pulverized by hand pressure. These items include materials of drywall systems, plasters, asbestos-containing cements (Transite ®) and other materials declared non-friable by the asbestos inspector.

The EPA then clarifies that certain materials are Regulated Asbestos Containing Materials (RACM) and these include the following four designations:

- Friable materials;
- Category I Non-Friable Materials which have become friable;
- Category I Non-Friable Materials which have been subject to sanding, grinding, cutting and abrading; and
- Category II Non-friable materials which will be, or have been, subject to force during demolition or renovation.

4.2. Lead Based Paint Inspection

The presence of lead based paint was assessed in substantial compliance with the Housing and Urban Development guidelines. DC Environmental conducted a lead-based surface coating screening survey of the interior and exterior of the property to generally identify building components coated with lead. The survey consisted of testing the lead concentrations of each of the accessible surfaces. Previous lead based paint surveys were also conducted in 2011 and 2013 (See Appendix C). Lead based paint survey results for the Sheet Metal House were not identified in the previous surveys.

To complete the survey, an X- Ray Fluorescence device was used to perform the lead based paint inspection. The Radiation Monitoring Device (RMD) LPA-1 X-Ray Fluorescence device is capable of detecting lead in lead-based paint. The determination of lead in paint is defined as a surface content of at least 1.0 milligrams per square centimeter. If the readings were between the 0.9 to 1.0 mg/cm^2 range, then the readings are declared as either lead-based paint or lead-containing materials and sampling is recommended.

Surfaces that were tested with the XRF device included, but were not limited to the following: doors, ceiling, painted walls, structural steel support, painted door components, roof components, ventilation duct, gates, and framing.

To determine the wall designations, the front entry off of the street or primary doorway is the A wall and interior in a clockwise direction are the B, C and D walls respectively. Exterior walls are similar in the designations.

The XRF device recorded readings did indicate lead based paint in surfaces on the interior and

exterior of architectural details and finishes, (see Appendix B

5. ANALYSES AND RESULTS

The results of samples and analysis are presented in the following tables. Copies of the laboratory analytical results are included in the appendix to this document.

5.1. Table 1: Asbestos Sample Analysis

Sample #	**Sheet Metal House** Analyst physical description of subsample	Asbestos Type/calibrated/Visual estimate percent
16-185-100	White Roofing Material	ND
16-185-101	White Roofing Material	ND
16-185-102	White Roofing Material	ND

ND – None Detected

6. FINDINGS AND CONCLUSIONS

The findings of this inspection are based on our visual observations and analysis of the measurements collected from the facility. Our findings are presented below.

6.1 Asbestos Sampling Analysis

The current visual inspection and sampling of building materials revealed sources of asbestos-containing building materials. Asbestos-containing building materials **were not** identified in the Sheet Metal Building.

Materials reported by Crisp Analytical Laboratory as asbestos-containing material are those materials with greater than one percent asbestos content by Polarized Light Microscopy. Materials with one percent asbestos were further characterized by the Point Count Method. The verification by Point Count Method using PLM determines if the material may be disposed as municipal waste and not as Regulated Asbestos Waste under the New Mexico Solid Waste Regulations.

Three (3) suspected asbestos samples **did not** identify sample layers that were shown to contain greater than one percent asbestos. Should demolition of the structures be planned, the materials would be considered Regulated Asbestos Containing Materials and Regulated Asbestos Waste by the New Mexico Solid Waste Regulations.

6.2 Lead Based Paint Analysis

DC Environmental conducted a lead-based surface coating inspection of the interior and exterior of the property to generally identify building components coated with or containing lead. The survey consisted of testing the lead concentrations of over the majority of the interior and exterior surfaces.

During the survey, testing combinations in representative room equivalents were sampled by X-Ray Fluorescence (XRF) in substantial compliance with the XRF protocols established by EPA and presented as guidance in the Housing and Urban Development (HUD) publications. Performance of this survey is consistent and in substantial compliance with the documented methodologies identified by EPA and HUD.

Based on the readings from the XRF device, materials at the Sheet Metal House were considered painted with Lead-based Paint (LBP). Lead-based paint surfaces included: **white paint on standard wood door and red paint on wood entry door.**

Lead-Based Paint (LBP) is defined by HUD and the EPA as paint containing lead in amounts greater than or equal to 1.0 mg/cm^2 lead when analyzed by XRF or greater than 5000 parts per million or 0.5 percent by weight when analyzed by Flame Atomic Absorption.

There are materials in this building though, that are considered "lead-containing". Those materials are listed in Appendix B, XRF Lead Measurements. Contractors should follow the elements of the standard promulgated by the Occupational Safety and Health Administration. The Lead in Construction Standard 29 CFR 1926.62 applies to exposures to materials containing lead. Lead containing materials **were** identified at the Sheet Metal House (see Appendix B XRF Lead Measurements). Individuals bidding for work should be aware of the presence of lead when performing demolition and renovation activities involving these items.

7 RECOMMENDATIONS

Based on our visual observations and the laboratory results, DC Environmental recommends the following:

- The Lead-based Paint inspection **did** identify "lead-based paint" at the Sheet Metal House. Lead-containing items **were** identified at the Sheet Metal House. Those materials are listed in Appendix B, XRF Lead Measurements. These materials are regulated by OSHA in regards to those individuals which could be exposed during repair, renovation or demolition. It is recommended to have trained professionals in the OSHA Lead Construction standard handle the lead-based paint and lead-containing materials during disturbance of the material. At the conclusion of the construction activities we recommend a Lead Risk Assessment to include soil testing and settled dust be performed. A Lead Risk Assessment is recommended for this property based on the age and that children **may** be expected to be present. A Risk Assessment should be conducted at the conclusions of operations to repair, renovate or abate the lead based coating.

We appreciate the opportunity to provide sampling and inspection of this area. Should you have additional questions, or if conditions change substantially, please contact us at your earliest convenience.

Sincerely,

DC Environmental
David Charlesworth
Certified Industrial Hygienist

LIMITATIONS

The environmental services described in this report have been conducted in general accordance with current regulatory guidelines and the standard-of-care exercised by environmental consultants performing similar work in the project area. No warranty, expressed or implied, is made regarding the professional opinions presented in this report. Variations in site conditions may exist and conditions not observed or described in this report may be encountered during subsequent activities.

The environmental interpretations and opinions contained in this report are based on the results of instrumentation, laboratory tests and/or analyses Acme Environmental Industrial Hygiene, Inc. dba DC Environmental, has no involvement in, or control over, such equipment, testing and/or analysis. Acme Environmental Industrial Hygiene, Inc., therefore, disclaims responsibility for any inaccuracy in such laboratory results.

Our conclusions, recommendations, and opinions are based on an analysis of the observed site conditions. It should be understood that the conditions of a site could change with time as a result of natural processes or the activities of man at the subject site or nearby sites. In addition, changes to the applicable laws, regulations, codes, and standards of practice may occur due to government action or the broadening of knowledge. The findings of this report may, therefore, be invalidated over time, in part or in whole, by changes over which Acme Environmental Industrial Hygiene, Inc., has no control.

This document is intended to be used only in its entirety. No portion of the document, by itself, is designed to completely represent any aspect of the project described herein. Acme Environmental Industrial Hygiene, Inc., should be contacted if the reader requires any additional information, or has questions regarding content, interpretations presented, or completeness of this document.

This report is intended exclusively for use by the client. Any use or reuse of the findings, conclusions, and/or recommendations of this report by parties other than the client is undertaken at said parties' sole risk.

Appendix A
Asbestos Laboratory Results

CA Labs
Dedicated to Quality

Crisp Analytical, L.L.C.
1929 Old Denton Road
Carrollton, TX 75006
Phone 972-242-2754
Fax 972-242-2798

CA Labs, L.L.C.
12232 Industriplex, Suite 32
Baton Rouge, LA 70809
Phone 225-751-5632
Fax 225-751-5634

Materials Characterization - Bulk Asbestos Analysis

Laboratory Analysis Report - Polarized Light

DC Environmental
PO Box 9315
Albuquerque, NM 87119

Attn: David Charlesworth
Customer Project: DCE 16-185, Rail Yard Parcel 10 Sheet Metal House
Reference #: CAL16117629CR Date: 11/14/2016

Analysis and Method

Summary of polarizing light microscopy (PLM / Stereomicroscopy bulk asbestos analysis) using the methods described in 40CFR Part 763 Appendix E to Subpart E (Interim and EPA 600 / R-93 / 116 (Improved). The sample is first viewed with the aid of stereomicroscopy. Numerous liquid slide preparations are created for analysis under the polarized microscope where identifications and quantifications are preformed. Calibrated liquid refractive oils are used as liquid mouting medium. These oils are used for identification (dispersion staining). A calibrated visual estimation is reported, should any asbestiform mineral be present. Other techniques such as acid washing are used in conjugation with refractive oils for detection of smaller quantities of asbestos. All asbestos percentages are based on calibrated visual estimation traceable to NIST standards for regulated of asbestos. Traceability to measurement and calibration is achieved by using known amounts and types of asbestos from standards where analyst and laboratory accuracy are measured. As little as 0.001% asbestos can be detected in favorable samples, while detection in unfavorable samples may approach the detection limit of 0.50% (well above the laboratory definition of trace).

Discussion

Vermiculite containing samples may have trace amounts of actinolite-tremolite, where not found be PLM should be analyzed using TEM methods and / or water separation techniques. Suspected actinolite/vermiculite presence will be indicated through the sample comment section of this report.

Fibrous talc containing samples may even contain a related asbestos fiber known as anthophyllite. Under certain conditions the same fiber may actually contain both talc and anthophyllite (a phenomenon called intergrowth). Again, TEM detection methods are recommended. CA Labs PLM report comments will denote suspected amounts of asbestiform anthophyllite with talc, where further analysis is recommended.

Some samples (floor tiles, surfacings, etc.) may contain fibers too small to be delectable by PLM analysis and should be analyzed by TEM bulk protocols.

A "trace asbestos" will be reported if the analyst observes far less than 1% asbestos. CA Labs defines "trace asbestos" as a few fibers detected by the analyst in several preparations and will indicate as such under these circumstances.

Quantification of <1% will actually be reported as <=1% (allowable variance close to 1% is high). Such results are ideal for point counting, and the technique is mandatory for friable samples (NESHAP, Nov. 1990 and clarification letter 8 May 1991) under 1% percent asbestos and the "trace asbestos". **In order to make all initial PLM reports issued from CA Labs NESHAP compliant, all <1% asbestos results (except floor tiles) will be point counted at no additional charge.**

Qualifications

CA Labs is accredited by the National Voluntary Accreditation Program (NVLAP) for selected test methods for airborne fiber analysis (TEM), and for bulk asbestos fiber analysis (PLM). CA Labs is also accredited by AIHA LAP, LLC. in the PLM asbestos field of testing for Industrial Hygiene. All analysts have a college degree in a natural science (geology, biology, or environmental science) or are recognized by a state professional board in one these disciplines .Extensive in-house training programs are used to augment education background of the analyst. The group leader of polarized light has received supplemental McCrone Research training for asbestos identification. Analysis performed at Crisp Analytical Labs, LLC 1929 Old Denton Road Carrollton, TX 75006

Dallas NVLAP Lab Code 200349-0 TEM/PLM TCEQ# T104704513-15-3 TDH 30-0235
AIHA LAP, LLC Laboratory #102929

CA Labs
Dedicated to Quality

Crisp Analytical, L.L.C.
1929 Old Denton Road
Carrollton, TX 75006
Phone 972-242-2754
Fax 972-242-2798

CA Labs, L.L.C.
12232 Industriplex, Suite 32
Baton Rouge, LA 70809
Phone 225-751-5632
Fax 225-751-5634

Overview of Project Sample Material Containing Asbestos

Customer Project: DCE 16-185, Rail Yard Parcel 10 Sheet Metal House **CA Labs Project #:** CAL16117629CR

Sample #	Layer #	Analysts Physical Description of Subsample	Asbestos type / calibrated visual estimate percent	List of Affected Building Material Types

No Asbestos Detected.

Dallas NVLAP Lab Code 200349-0 TEM/PLM TCEQ# T104704513-15-3 TDH 30-0235
AIHA LAP, LLC Laboratory #102929

Glossary of abbreviations (non-asbestos fibers and non-fibrous minerals):

ca - carbonate
gypsum - gypsum
bi - binder
or - organic
ma - matrix
mi - mica
ve - vermiculite
ot - other
pe - perlite
qu - quartz
fg - fiberglass
mw - mineral wool
wo - wollastinite
ta - talc
sy - synthetic
ce - cellulose
br - brucite
ka - kaolin (clay)
pa - palygorskite (clay)

CA Labs
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CA Labs, L.L.C.
12232 Industriplex, Suite 32
Baton Rouge, LA 70809
Phone 225-751-5632
Fax 225-751-5634

Polarized Light Asbestiform Materials Characterization

Customer Info: **Attn:** David Charlesworth
DC Environmental
PO Box 9315
Albuquerque, NM 87119

Phone # 505-869-8000
Fax # 505-869-9453

Customer Project:
DCE 16-185, Rail Yard Parcel
10 Sheet Metal House
Turnaround Time:
2 Days

CA Labs Project #:
CAL16117629CR

Date: 11/14/2016
Samples Received: 11/11/16 10:30 AM
Date Of Sampling: 10/28/16
Purchase Order #:

Sample #	Comment	Layer #	Analysts Physical Description of Subsample	Homogeneous (Y/N)	Asbestos type / calibrated visual estimate percent	Non-asbestos fiber type / percent	Non-fibrous type / percent
16-185-100		*16-185-100-1*	***White Roofing Material Sheet Metal House**/ black roofing shingle with white gravel*	*y*	***None Detected***	4% ce	96% qu,bi
16-185-101		*16-185-101-1*	***White Roofing Material Sheet Metal House**/ black roofing shingle with white gravel*	*y*	***None Detected***	4% ce	96% qu,bi
16-185-102		*16-185-102-1*	***White Roofing Material Sheet Metal House**/ black roofing shingle with white gravel*	*y*	***None Detected***	4% ce	96% qu,bi

Dallas NVLAP Lab Code 200349-0 TEM/PLM TCEQ# T104704513-15-3 TDH 30-0235

AIHA LAP, LLC Laboratory #102929

Analysis Method: Interim (40CFR Part 763 Appendix E to Subpart E) / Improved (EPA-600 / R-93/116). *All samples received in good condition unless noted.*
Preparation Method: HCL acid washing for carbonate based samples, chemical reduction for organically bound components, oil immersion for identification of asbestos types by dispersion attaining / becke line method.

ca - carbonate	mi - mica	fg - fiberglass	ce - cellulose
gypsum - gypsum	ve - vermiculite	mw - mineral wool	br - brucite
bi - binder	ot -other	wo - wollastinite	ka - kaolin (clay)
or - organic	pe - perlite	ta - talc	pa - palygorskite (clay)
ma - matrix	qu - quartz	sy - synthetic	

Approved Signatories:

Stanley Massett
Analyst

QAC
Leslie Crisp, P.G.

Technical Manager
Chad Lytle

1. Fire Damage significant fiber damage - reported percentages reflect unaltered fibers
2. Fire Damage no significant fiber damages effecting fibrous percentages
3. Actinolite in association with Vermiculite
4. Layer not analyzed - attached to previous positive layer and contamination is suspected
5. Not enough sample to analyze
6. Anthophyllite in association with Fibrous Talc
7. Contamination suspected from other building materials
8. Favorable scenario for water separation on vermiculite for possible analysis by another method
9. < 1% Result point counted positive
10. TEM analysis suggested

CAC1611629

DC Environmental
Consulting and Training Services

"Promoting Safety in the Workplace"

DC Environmental
PO Box 9315
Albuquerque, NM 87119

Contact:
J. David Charlesworth

Phone: 505.869.8000
Fax: 505.869.9453

E-mail:
JDCharlesworthcih@gmail.com

Site: City of Albuquerque (Intera)

Site Location: Rail Yard Parcel 10 Sheet Metal House

PO / Job#: DCE 16-185 Date:10/28/2016

Turn Around Time: Same Day / 1Day / (2Day) / 3Day / 4Day / 5Day

❒ PCM: ❒ NIOSH 7400A / ❒ NIOSH 7400B ❒ Rotometer

(❒ PLM:) ❒ Standard / ❒ Point Count 400 - 1000 / ❒ CARB 435

❒ TEM Air: ❒ AHERA / ❒ Yamate2 / ❒ NIOSH 7402
❒ TEM Bulk: ❒ Quantitative / ❒ Qualitative / ❒ Chatfield
❒ TEM Water: ❒ Potable / ❒ Non-Potable / ❒ Weight %
❒ TEM Microvac: ❒ Qual(+/-) / ❒ D5755(str/area) / ❒ D5756(str/mass)

❒ IAQ Particle Identification (PLM LAB) ❒ PLM Opaques/Soot
❒ Particle Identification (TEM LAB) ❒ Special Project

❒ Metals Analysis: Method:

Matrix:

Analytes:

Comments:

Sample ID	Date	Sample Location / Description / Task	FOR AIR SAMPLES ONLY				Sample Area / Air Volume
			Type	Time On/Off	Avg. LPM	Total Time	
16-185-100	10/28	White roofing material Sheet Metal House	A P C				
16-185-101	10/28	White roofing material Sheet Metal House	A P C				
16-185-102	10/28	White roofing material Sheet Metal House	A P C				
			A P C				
			A P C				
			A P C				
			A P C				
			A P C				
			A P C				
			A P C				

Sampled By: Steven Gutierrez

Shipped Via: ❒ Fed Ex ❒ DHL ❒ UPS ❒ US Mail ❒ Courier ❒ Drop Off ❒ Other:

Relinquished By: Steven Gutierrez Date / Time: 11/10/2016 5:00PM	Relinquished By: Date / Time:	Relinquished By: Date / Time:
Received By: Josh-FedEx Date / Time: 11/11/16 10:30am Condition Acceptable? ❒ Yes ❒ No	Received By: Date / Time: Condition Acceptable? ❒ Yes ❒ No	Received By: Date / Time: Condition Acceptable? ❒ Yes ❒ No

Appendix B
XRF Lead Measurements

Project #: 16-185 Project Name: Sheet Metal House Date: 10-27-2016
Address: City of Albuquerque Railyard
Technician: M. Nieman and D. Plante

	Time : 3:15 pm		Unit # 1731		Results	Average
1		Cal.			1.1	
2		Cal.			1.1	
3		Cal.			1.1	1.1
4		Cal.			0.0	
5		Cal			0.0	
6		Cal.			-0.1	-0.0
XRF Test Number	Location / Room	Component - Designation	Component Number	Color	Substrate	Result / Reading mg/cm2
7	Interior	A Wall		White	Wood	-0.3
8	Interior	B Wall		White	Wood	-0.3
9	Interior	D Wall		White	Wood	0.0
10	Interior	Sliding Door	A-1	White	Metal	-0.1
11	Interior	Door Std.	A-2	White	Wood	1.6
12	Interior	Door Frame	A-3	Red	Wood	0.2
13	Interior	Door Header	A-4	Red	Wood	-0.0
14	Interior	Post		Black	Wood	-0.1
15	Exterior	West Wall		Red	Wood	-0.0
16	Exterior	Downspout		White	Metal	0.2
17	Exterior	Entry Door		Red	Wood	1.4
18	Exterior	Entry Door Frame		Red	Wood	-0.1
19	Exterior	North Wall		Red	Wood	-0.1
	Time : 3:35 pm				Results	Average
33		Cal.			1.0	
34		Cal.			1.0	
35		Cal.			1.0	1.0
36		Cal.			-0.0	
37		Cal			0.0	
38		Cal.			-0.2	-0.1

Appendix C
Asbestos and LBP Data

ID	Read No/Sample ID	Lead	Units	LBP	Room Number	Building	Room Name	Wall	Structure	Location	Member	Mode	Substrate	Color	Location_2	Source
1	7	0.1	mg/cm2		1	Railyards Amtrack Office	Office	A	Window	Rgt	Sill	QM	Wood	Brown	Interior	Innovar, 2011
2	8	0.1	mg/cm2		1	Railyards Amtrack Office	Office	A	Window	Rgt	Sash	QM	Wood	Brown	Interior	Innovar, 2011
3	9	0.2	mg/cm2		1	Railyards Amtrack Office	Office	A	Window	Rgt	Lft casing	QM	Wood	Brown	Interior	Innovar, 2011
4	10	0.2	mg/cm2		1	Railyards Amtrack Office	Office	A	Wall	L Ctr		QM	Plaster	White	Interior	Innovar, 2011
5	11	-0.2	mg/cm2		1	Railyards Amtrack Office	Office	B	Wall	U Ctr		QM	Plaster	White	Interior	Innovar, 2011
6	12	0	mg/cm2		1	Railyards Amtrack Office	Office	C	Door	Ctr	U Ctr	QM	Steel	Brown	Interior	Innovar, 2011
7	13	0	mg/cm2		1	Railyards Amtrack Office	Office	C	Door	Ctr	Lft casing	QM	Steel	Brown	Interior	Innovar, 2011
8	14	0.2	mg/cm2		1	Railyards Amtrack Office	Office	B	Window	Ctr	Sill	QM	Wood	Brown	Interior	Innovar, 2011
9	15	0.2	mg/cm2		3	Railyards Amtrack	Office	B	Window	Ctr	Lft casing	QM	Wood	Brown	Interior	Innovar, 2011

						Office										
10	16	0.2	mg/cm2		3	Railyards Amtrack Office	Office	B	Window	Clr	Sash	QM	Wood	Brown	Interior	Innovar, 2011
11	17	0	mg/cm2		3	Railyards Amtrack Office	Office	A	Wall	L Ctr		QM	Plaster	White	Interior	Innovar, 2011
12	18	-0.2	mg/cm2		3	Railyards Amtrack Office	Office	A	Wall	L Rgi		QM	Plaster	White	Interior	Innovar, 2011
13	19	-0.2	mg/cm2		3	Railyards Amtrack Office	Office	D	Door	Rgi	U Rgt	QM	Steel	Brown	Interior	Innovar, 2011
14	20	0.1	mg/cm2		3	Railyards Amtrack Office	Office	D	Door	Rgt	LIt casing	QM	Steel	Brown	Interior	Innovar, 2011
15	21	0.7	mg/cm2		4	Railyards Amtrack Office	Break Rm	B	Chair rail	Clr		QM	Wood	Brown	Interior	Innovar, 2011
16	22	0.2	mg/cm2		4	Railyards Amtrack Office	Break Rm	B	Window	Ctr	Lft casing	QM	Wood	Brown	Interior	Innovar, 2011
17	23	>9.9	mg/cm2	Yes	4	Railyards Amtrack Office	Break Rm	B	Wall	L Ctr		QM	Plaster	Whiie	Interior	Innovar, 2011
18	24	0.2	mg/cm2		4	Railyards Amtrack Office	Break Rm	C	Baseboard	Clr		QM	Plaster	White	Interior	Innovar, 2011
19	25	>9.9	mg/cm2	Yes	4	Railyards Amtra	Break Rm	B	Wall	U Lft		QM	Plaster	White	Interior	Innovar, 2011

						ck Office										
20	26	>9.9	mg/cm2	Yes	4	Railyards Amtrack Office	Break Rm	B	Wall	L Rgt		QM	Plaster	White	Interior	Innovar, 2011
21	27	0.3	mg/cm2		4	Railyards Amtrack Office	Break Rm	C	Wall	L Clr		QM	Drywall	White	Interior	Innovar, 2011
22	28	0.2	mg/cm2		3	Railyards Amtrack Office	Office	B	Wall	L Ctr		QM	Plaster	White	Interior	Innovar, 2011
23	29	>9.9	mg/cm2	Yes	10	Railyards Amtrack Office	Lobby	A	Wall	L Ctr		QM	Plaster	White	Interior	Innovar, 2011
24	30	0.3	mg/cm2		10	Railyards Amtrack Office	Lobby	D	Wall	L Ctr		QM	Plaster	White	Interior	Innovar, 2011
25	31	0.3	mg/cm2		10	Railyards Amtrack Office	Lobby	A	Window	Ctr	Sash	QM	Wood	Brown	Interior	Innovar, 2011
26	32	>9.9	mg/cm2	Yes	10	Railyards Amtrack Office	Lobby	A	Column	Ctr		QM	Plaster	White	Interior	Innovar, 2011
27	33	>9.9	mg/cm2	Yes	10	Railyards Amtrack Office	Lobby	A	Column	Clr		QM	Plaster	White	Interior	Innovar, 2011
28	34	1.1	mg/cm2	Yes	12	Railyards Amtrack Office	Hallway	B	Wall	L Ctr		QM	Plaster	White	Interior	Innovar, 2011
29	35	>9.9	mg/cm2	Yes	12	Railyards	Hallway	D	Wall	L Ctr		QM	Plaster	White	Interior	Innovar,

						Amtrack Office										2011
30	36	0.1	mg/cm2		9	Railyards Amtrack Office	Wmns Rm	D	Wall	L Ctr		QM	Plaster	White	Interior	Innovar, 2011
31	37	0.1	mg/cm2		9	Railyards Amtrack Office	Wmns Rm	A	Wall	L Ctr		QM	Plaster	White	Interior	Innovar, 2011
32	38	0.3	mg/cm2		9	Railyards Amtrack Office	Wmns Rm	B	Door	Ctr	Lft casing	QM	Wood	Brown	Interior	Innovar, 2011
33	39	0.2	mg/cm2		9	Railyards Amtrack Office	Wmns Rm	B	Floor			QM	Cement	Brown	Interior	Innovar, 2011
34	40	-0.1	mg/cm2		11	Railyards Amtrack Office	Number Only	C	Stairs	Ctr	Treads	QM	Steel	Black	Interior	Innovar, 2011
35	41	0.1	mg/cm2		11	Railyards Amtrack Office	Number Only	C	Stairs	Ctr	Railing cap	QM	Steel	Black	Interior	Innovar, 2011
36	42	-0.1	mg/cm2		15	Railyards Amtrack Office	Upstairs	C	Wall	L Clr		QM	Plaster	White	Interior	Innovar, 2011
37	43	0.2	mg/cm2		15	Railyards Amtrack Office	Upstairs	B	Wall	L Ctr		QM	Plaster	White	Interior	Innovar, 2011
38	44	>9.9	mg/cm2	Yes	15	Railyards Amtrack Office	Upstairs	A	Wall	L Ctr		QM	Plaster	White	Interior	Innovar, 2011
3	45	6.6	mg/c	Ye	15	Railya	Upstai	A	Door	Ctr	U Ctr	QM	Wood	Whit	Interior	Innov

9			m2	s		rds Amtrack Office	rs							e		ar, 2011
40	46	0.3	mg/cm2		15	Railyards Amtrack Office	Upstairs	B	Wall	L Ctr		QM	Plaster	White	Interior	Innovar, 2011
41	47	0.3	mg/cm2		15	Railyards Amtrack Office	Upstairs	A	Wall	L Ctr		QM	Plaster	White	Interior	Innovar, 2011
42	54	0.2	mg/cm2		16	Railyards Amtrack Office	Museum	A	Floor			QM	Cement	Gray	Interior	Innovar, 2011
43	55	2.3	mg/cm2	Yes	16	Railyards Amtrack Office	Museum	A	Floor			QM	Cement	White	Interior	Innovar, 2011
44	56	0.3	mg/cm2		16	Railyards Amtrack Office	Museum	A	Floor			QM	Cement	White	Interior	Innovar, 2011
45	57	0.1	mg/cm2		16	Railyards Amtrack Office	Museum	D	Wall	L Ctr		QM	Cement	Gray	Interior	Innovar, 2011
46	58	0.2	mg/cm2		16	Railyards Amtrack Office	Museum	B	Wall	L Ctr		QM	Cement	Gray	Interior	Innovar, 2011

ID	Read No/Sample ID	Lead	Units	LBP	Room Number	Building	Room Name	Wall	Structure	Location	Member	Mode	Substrate	Color	Location_2	Source
47	59	0.1	mg/cm2		16	Railyards Amtrack Office	Museum	A	Wall	L Ctr		QM	Cement	Gray	Interior	Innovar, 2011
4	60	6.3	mg/c	Ye	16	Railyar	Muse	A	Floor			QM	Cemen	Yello	Interior	Innov

8			m2	s		ds Amtrack Office	um						t	w		ar, 2011
49	61	0.1	mg/cm2		16	Railyards Amtrack Office	Museum	A	Door	Ctr	U Ctr	QM	Steel	Green	Interior	Innovar, 2011
50	62	0.1	mg/cm2		16	Railyards Amtrack Office	Museum	A	Door	Ctr	U Ctr	QM	Steel	Black	Interior	Innovar, 2011
51	63	0.5	mg/cm2		16	Railyards Amtrack Office	Museum	A	Door	Ctr	Lft casing	QM	Steel	Black	Interior	Innovar, 2011
52	64	0.7	mg/cm2		16	Railyards Amtrack Office	Museum	A	Floor			QM	Cement	Red	Interior	Innovar, 2011
53	65	1.8	mg/cm2	Yes	1	Railyards Amtrack Office	Facility	B	Railing	Ctr	Railing	QM	Steel	Yellow	Exterior	Innovar, 2011
54	66	0.2	mg/cm2		1	Railyards Amtrack Office	Facility	B	Door	Ctr	U Ctr	QM	Steel	Red	Exterior	Innovar, 2011
55	67	-0.1	mg/cm2		1	Railyards Amtrack Office	Facility	D	Window	Ctr	Sill	QM	Wood	Black	Exterior	Innovar, 2011
56	68	0.2	mg/cm2		1	Railyards Amtrack Office	Facility	D	Window	Ctr	Sash	QM	Wood	Black	Exterior	Innovar, 2011
57	69	0	mg/cm2		1	Railyards Amtrack Office	Facility	C	Window	Rgt	Sill	QM	Wood	Black	Exterior	Innovar, 2011
58	7	5	mg/cm2	Yes	1	Main Machine Shop	Number Only	B	Column	Ctr		QM	Steel	Silver	Interior	Innovar, 2011
59	8	1.1	mg/cm2	Yes	1	Main Machine Shop	Number Only	C	Door	Ctr	U Ctr	QM	Steel	Silver	Interior	Innovar, 2011
60	9	2.2	mg/cm2	Yes	1	Main Machine Shop	Number Only	C	Column	Clr		QM	Sleel	Silver	Interior	Innovar, 2011

61	10	0.1	mg/cm2		1	Main Machine Shop	Number Only	A	Floor			QM	Ceramic	Red	Interior	Innovar, 2011
62	11	1.8	mg/cm2	Yes	1	Main Machine Shop	Number Only	B	Cnt Column	Ctr		QM	Steel	Silver	Interior	Innovar, 2011
63	12	0.7	mg/cm2		1	Main Machine Shop	Number Only	B	Stairs	Ctr	Treads	QM	Steel	Green	Interior	Innovar, 2011
64	13	1.9	mg/cm2	Yes	1	Main Machine Shop	Number Only	D	Column	Ctr		QM	Steel	Silver	Interior	Innovar, 2011
65	14	5.4	mg/cm2	Yes	1	Main Machine Shop	Number Only	D	Ceiling Beam	Beam	Ctr	QM	Steel	Silver	Interior	Innovar, 2011
66	15	4.2	mg/cm2	Yes	1	Main Machine Shop	Number Only	B	Column	Ctr		QM	Steel	Black	Exterior	Innovar, 2011
67	16	2.7	mg/cm2	Yes	1	Main Machine Shop	Number Only	B	Stairs	Ctr	Treads	QM	Wood	White	Interior	Innovar, 2011
68	1	3.4	mg/cm2	Yes		Boiler Shop	Number Only	B	Cnt Column	Ctr		QM	Steel	Silver	Interior	Innovar, 2011
69	2	0.1	mg/cm2			Boiler Shop	Number Only	A	Floor			QM	Cement	Red	Interior	Innovar, 2011
70	3	3.2	mg/cm2	Yes		Boiler Shop	Number Only	C	Cnt Column	Ctr		QM	Steel	Silver	Interior	Innovar, 2011
71	4	2.5	mg/cm2	Yes		Boiler Shop	Number Only	A	Column	Lft		QM	Steel	Silver	Interior	Innovar, 2011
72	5	-0.3	mg/cm2			Boiler Shop	Number Only	C	Door	Lft	U Ctr	QM	Steel	Silver	Interior	Innovar, 2011
73	1	1.1	mg/cm2	Yes		Blacksmith Shop	Number Only	B	Column	Ctr		QM	Steel	Silver	Interior	Innovar, 2011
74	2	3.1	mg/cm2	Yes		Blacksmith Shop	Number Only	C	Column	Ctr		QM	Steel	Silver	Interior	Innovar, 2011
75	3	2.1	mg/cm2	Yes		Blacksmith Shop	Number Only	D	Wall	L Ctr		QM	Brick	Silver	Interior	Innovar, 2011
76	4	0.2	mg/cm2			Blacksmith Shop	Number Only	D	Door	Ctr	U Ctr	QM	Steel	Silver	Interior	Innovar, 2011

77	5	0.1	mg/cm2			Blacksmith Shop	Number Only	D	Window	Ctr	Part. Bead	QM	Steel	Silver	Interior	Innovar, 2011
78	7	2.7	mg/cm2	Yes		Bldg North of Firehouse	Number Only	A	Bldg North of Firehouse	L Ctr		QM	Cement	Silver	Interior	Innovar, 2011
79	8	2.3	mg/cm2	Yes		Bldg North of Firehouse	Number Only	A	Window	Ctr	Lft casing	QM	Steel	Silver	Interior	Innovar, 2011
80	9	5.6	mg/cm2	Yes		Bldg North of Firehouse	Number Only	A	Door	Ctr	U Ctr	QM	Steel	Silver	Interior	Innovar, 2011
81	10	1.1	mg/cm2	Yes		Bldg North of Firehouse	Number Only	A	Window	Ctr	Rgt casin	QM	Steel	Silver	Interior	Innovar, 2011
82	11	2.4	mg/cm2	Yes		Bldg North of Firehouse	Number Only	C	Frame	Ctr		QM	Steel	Silver	Interior	Innovar, 2011
83	12	1.1	mg/cm2	Yes		Bldg North of Firehouse	Number Only	C	Wall	L Ctr		QM	Cement	Silver	Interior	Innovar, 2011
84	13	0.2	mg/cm2			Bldg North of Firehouse	Number Only	D	Wall	L Ctr		QM	Cement	Silver	Interior	Innovar, 2011
85	1	1.1	mg/cm2	Yes		Bldg South of Firehouse	Number Only	A	Wall	L Ctr		QM	Cement	White	Interior	Innovar, 2011
86	2	0.1	mg/cm2			Bldg South of Firehouse	Number Only	B	Wall	L Ctr		QM	Cement	White	Interior	Innovar, 2011
8	3	0	mg/c			Bldg	Numb	A	Door	Ctr	Lft	QM	Cemen	Whit	Interior	Innov

7			m2			South of Firehouse	er Only		Cnt		casing		t	e		ar, 2011
88	4	1.1	mg/cm2	Yes		Bldg South of Firehouse	Number Only	A	Column	Ctr		QM	Cement	Green	Interior	Innovar, 2011
89	5	1.2	mg/cm2	Yes		Bldg South of Firehouse	Number Only	B	Wall	L Ctr		QM	Cement	Green	Interior	Innovar, 2011
90	6	0.5	mg/cm2			Bldg South of Firehouse	Number Only	C	Door	Ctr	U Ctr	QM	Cement	Green	Interior	Innovar, 2011
91	13029.029-020513-01L	150	ppm			Blacksmith Shop			Interior Walls	NW Corner			Paint	Silver		Rhoades, 2013
92	13029.029-020513-02L	410	ppm			Blacksmith Shop			Interior Walls	NE Corner			Paint	Silver		Rhoades, 2013

ID	Read No/Sample ID	Lead	Units	LBP	Room Number	Building	Room Name	Wall	Structure	Location	Member	Mode	Substrate	Color	Location_2	Source
93	13029.029-020513-03L	100	ppm			Blacksmith Shop			Interior Walls	SW Corner			Paint	Silver		Rhoades, 2013
94	13029.029-020513-04L	150	ppm			Blacksmith Shop			Interior Walls	SE Corner			Paint	Silver		Rhoades, 2013
95	13029.029-020513-05L	2570	ppm			Blacksmith Shop			Overhead Piping				Paint	Red		Rhoades, 2013
96	13029.029-020513-06L	2640	ppm			Blacksmith Shop			Exterior Brick Walls		Trim		Paint	Rust		Rhoades, 2013

97	13029.029-020513-07L	4040	ppm			Blacksmith Shop			Interior Walls Office Shack				Paint	Cream		Rhoades, 2013
98	13029.029-020513-08L	250	ppm			Blacksmith Shop			Building	NW Corner			Surface Dust			Rhoades, 2013
99	13029.029-020513-09L	400	ppm			Blacksmith Shop			Building	NE Corner			Surface Dust			Rhoades, 2013
100	13029.029-020513-10L	100	ppm			Blacksmith Shop			Building	Center			Surface Dust			Rhoades, 2013
101	13029.029-020513-11L	710	ppm			Blacksmith Shop			Building	SW Corner			Surface Dust			Rhoades, 2013
102	13029.029-020513-12L	970	ppm			Blacksmith Shop			Building	SE Corner			Surface Dust			Rhoades, 2013

ID	Sample Number	Date	Description	Location	Percent Asbestos	Asbestos Type	Classification	Source
1	577007-NB.NS.1	Sep-05	Silver glaze coating window pane	Boiler Shop, South Side	0%			Terracon, 2005
2	577007-NB.NS.2	Sep-05	Silver glaze coating window pane	Boiler Shop, South Side	0%			Terracon, 2005
3	577007-NB.NS.3	Sep-05	Silver glaze coating window pane	Boiler Shop, South Side	0%			Terracon, 2005
4	577007-NB.SS.4	Sep-05	Green painted window pane	Boiler Shop, South Side	0%			Terracon, 2005
5	577007-NB.SS.5	Sep-05	Green painted window pane	Boiler Shop, South Side	0%			Terracon, 2005
6	577007-NB.SS.6	Sep-05	Green painted window pane	Boiler Shop, North Side	0%			Terracon, 2005
7	577007-NB.NS.7	Sep-05	Silver glaze coating window pane	Boiler Shop, North Side	0%			Terracon, 2005
8	577007-NB.NS.8	Sep-05	Silver glaze coating window pane	Boiler Shop, North Side	0%			Terracon, 2005
9	577707-NB.NS.9	Sep-05	Silver glaze/black spray-on with pane	Boiler Shop, North Side	0%			Terracon, 2005
10	577007 -NB.NS.10	Sep-05	Silver glaze/black spray-on with pane	Boiler Shop, North Side	0%			Terracon, 2005
11	577007-NB.NS.11	Sep-05	Silver glaze/black spray-on with pane	Boiler Shop, North Side	0%			Terracon, 2005
12	577007-SB.SS.F1.1	Sep-05	Silver glaze coating window pane	Main Machine Shop, South Side, First Floor	0%			Terracon, 2005
13	577007 -SB.SS.F1.2	Sep-05	Glaze coating on window pane (silverlblack)	Main Machine Shop, South Side, First Floor	0%			Terracon, 2005
14	577007-SB.SS.F1.3	Sep-05	Glaze coating on window pane (silver)	Main Machine Shop, South Side, First Floor	0%			Terracon, 2005
15	577007 -SB.SS.F1.4	Sep-05	Glaze coating on window pane (silver)	Main Machine Shop, South Side, First Floor	0%			Terracon, 2005
16	577007 -SB.SS.F1.5	Sep-05	Glaze coating on window pane (silver)	Main Machine Shop, South Side, First Floor	0%			Terracon, 2005
17	577007-SB.SS.F1.6	Sep-05	Glaze coating on window pane (silver)	Main Machine Shop, South Side, First Floor	0%			Terracon, 2005
18	577007 -SB.SS.F1.7	Sep-05	Glaze coating on window pane (silver/green)	Main Machine Shop, South Side, First Floor	0%			Terracon, 2005
19	577007-SB.SS.F2.1	Sep-05	Glaze coating on window pane (beige/green)	Main Machine Shop, South Side, Second Floor	0%			Terracon, 2005
20	577007-SB.SS.F2.2	Sep-05	Glaze coating on window pane (tanJbrown)	Main Machine Shop, South Side, Second Floor	0%			Terracon, 2005
21	577007-SB.SS.F2.3	Sep-05	Glaze coating on window pane (off-white)	Main Machine Shop, South Side, Second Floor	0%			Terracon, 2005
22	577007-SB.SS.F2.4	Sep-05	Glaze coating on window pane (grey/green)	Main Machine Shop, South Side, Second Floor	0%			Terracon, 2005
23	577007-SB.SS.F2.5	Sep-05	Glaze coating on window pane (off-white)	Main Machine Shop, South Side, Second Floor	0%			Terracon, 2005
24	577007-SB.SS.F2.6	Sep-05	Plaster over cc wall (grey with paint)	Main Machine Shop, South Side, Second Floor	0%			Terracon, 2005
25	577007-SB.SS.F2.7	Sep-05	Plaster over cc wall (grey with paint)	Main Machine Shop, South Side, Second Floor	0%			Terracon, 2005
26	577007-NB.SS.1	Sep-05	Window glazing (tan)	Boiler Shops, South Side	Trace <1%			Terracon, 2005
27	577007-NB.SS.2	Sep-05	Window glazing (tan)	Boiler Shops, South Side	2%	Chrysotile	Non-Friable	Terracon, 2005
28	577007-NB.SS.3	Sep-05	Window glazing (tan)	Boiler Shops, South Side	2%	Chrysotile	Non-Friable	Terracon, 2005
29	577007-NB.SS.01	Sep-05	Window glazing (beige)	Boiler Shops, South Side	Trace <1%	Chrysotile		Terracon, 2005
30	577007-NB.SS.02	Sep-05	Window glazing (beige)	Boiler Shops, South Side	Trace <1%	Chrysotile		Terracon, 2005
31	577007-NB.SS.03	Sep-05	Window glazing (beige)	Boiler Shops, South Side	Trace <1%	Chrysotile		Terracon, 2005
32	577007 -NB.ES.01	Sep-05	Window glazing (beige)	Boiler Shops, East Side	Trace <1%	Chrysotile		Terracon, 2005
33	577007-NB.ES.02	Sep-05	Window glazing (beige)	Boiler Shops, East Side	Trace <1%	Chrysotile		Terracon, 2005

34	577007 -N.O.01	Sep-05	Outside shingle (red with granules)	Outside the Boiler Shop	0%			Terracon, 2005
35	577007-N.O.02	Sep-05	Outside shingle (red with granules)	Outside the Boiler Shop	0%			Terracon, 2005
36	577007-N.O.03	Sep-05	Outside shingle (red with granules)	Outside the Boiler Shop	0%			Terracon, 2005
37	577007-N.O.G.01	Sep-05	White insulation	100 ft North of CWE Strorage Shed	NA			Terracon, 2005
38	577007-N.O.G.02	Sep-05	White insulation	100 ft North of CWE Strorage Shed	NA			Terracon, 2005
39	577007-N.O.G.03	Sep-05	White insulation	100 ft North of CWE Strorage Shed	NA			Terracon, 2005
40	577007 -NTE. WS-1	Sep-05	Transite pipe (grey)	Former Transformer Area, West Side	25%	Chrysotile	Friable	Terracon, 2005
41	577007 -NTE. WS-1	Sep-05	Transite pipe (grey)	Former Transformer Area, West Side	5%	Crocidolite		Terracon, 2005
42	577007 -NTE.ES-3	Sep-05	Transite pipe (grey)	Former Transformer Area	25%	Chrysotile	Friable	Terracon, 2005
43	577007 -NTE.ES-3	Sep-05	Transite pipe (grey)	Former Transformer Area	5%	Crocidolite		Terracon, 2005
44	577007-NTE.ES-1 (577007-NTE.NS-1??)	Sep-05	Transite pipe (grey)	Former Transformer Area	25%	Chrysotile	Friable	Terracon, 2005
45	577007-NTE.ES-1 (577007-NTE.NS-1??)	Sep-05	Transite pipe (grey)	Former Transformer Area	3%	Crocidolite		Terracon, 2005
46	577007-SWB.WW.01	Sep-05	Window putty/glazing (beige)	Babbit Shop, West Wall	Trace <1%	Chrysotile		Terracon, 2005
47	577007-SWB.WW.02	Sep-05	Window putty/glazing (beige)	Babbit Shop, West Wall	Trace <1%	Chrysotile		Terracon, 2005
48	577007-FH.01	Sep-05	Insulation/plaster over brick	Fire House	0%			Terracon, 2005
49	577007-FH.02	Sep-05	Insulation/plaster over brick	Fire House	0%			Terracon, 2005
50	577007-FH.03	Sep-05	Insulation/plaster over brick	Fire House	4%	Chrysotile	Friable	Terracon, 2005
51	577007-FH.04	Sep-05	Insulation/plaster over brick	Fire House	5%	Chrysotile	Friable	Terracon, 2005
52	01-DW1-1	Aug-10	off-white surfaced white compound (drywall)	Amtrack Office	none detected			Innovar, 2011
53	01-DW1-2	Aug-10	white drywall with brown paper (drywall)	Amtrack Office	none detected			Innovar, 2011
54	02-DW1-1	Aug-10	white surfaced white compound (drywall)	Amtrack Office	none detected			Innovar, 2011

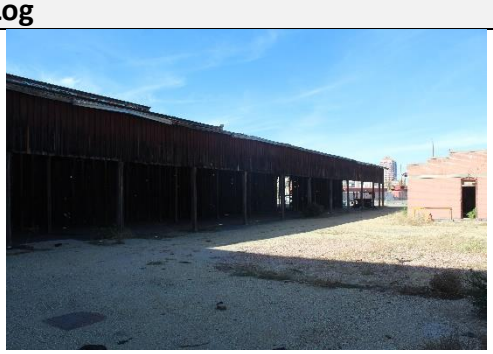
ID	Sample Number	Date	Description	Location	Percent Asbestos	Asbestos Type	Classification	Source
55	03-DW1-1	Aug-10	white surfaced white compound (drywall)	Amtrack Office	none detected			Innovar, 2011
56	04-P1-1	Aug-10	white surfaced tan plaster (plaster)	Amtrack Office	none detected			Innovar, 2011
57	05-P1-1	Aug-10	white surfaced tan plaster (plaster)	Amtrack Office	none detected			Innovar, 2011
58	06-P1-1	Aug-10	white surfaced white compound (plaster)	Amtrack Office	none detected			Innovar, 2011
59	06-P1-2	Aug-10	tan plaster (plaster)	Amtrack Office	none detected			Innovar, 2011
60	07-CB1-1	Aug-10	pink cover base (cover base)	Amtrack Office	none detected			Innovar, 2011
61	07-CB1-2	Aug-10	tan mastic (cover base)	Amtrack Office	none detected			Innovar, 2011
62	07-CB1-3	Aug-10	white surfaced white compound (cover base)	Amtrack Office	none detected			Innovar, 2011
63	07-CB1-4	Aug-10	brown mastic (cover base)	Amtrack Office	<1%	Anthophyllite		Innovar, 2011
64	07-CB1-5	Aug-10	tan plaster (cover base)	Amtrack Office	none detected			Innovar, 2011
65	08-CB1-1	Aug-10	pink cover base (cover base)	Amtrack Office	none detected			Innovar, 2011
66	08-CB1-2	Aug-10	tan mastic (cover base)	Amtrack Office	none detected			Innovar, 2011

67	08-CB1-3	Aug-10	brown mastic (cover base)	Amtrack Office	<1%	Anthophyllite		Innovar, 2011
68	08-CB1-4	Aug-10	tan plaster (cover base)	Amtrack Office	none detected			Innovar, 2011
69	09-CB1-1	Aug-10	pink cover base (cover base)	Amtrack Office	none detected			Innovar, 2011
70	09-CB1-2	Aug-10	tan mastic (cover base)	Amtrack Office	none detected			Innovar, 2011
71	09-CB1-3	Aug-10	brown mastic (cover base)	Amtrack Office	<1%	Anthophyllite		Innovar, 2011
72	09-CB1-4	Aug-10	tan plaster (cover base)	Amtrack Office	none detected			Innovar, 2011
73	10-CT1-1	Aug-10	white surfacing (ceiling tile)	Amtrack Office	none detected			Innovar, 2011
74	10-CT1-2	Aug-10	tan ceiling (ceiling tile)	Amtrack Office	none detected			Innovar, 2011
75	10-CT1-3	Aug-10	brown mastic (ceiling tile)	Amtrack Office	none detected			Innovar, 2011
76	11-CT1-1	Aug-10	white surfacing (ceiling tile)	Amtrack Office	none detected			Innovar, 2011
77	11-CT1-2	Aug-10	tan ceiling tile (ceiling tile)	Amtrack Office	none detected			Innovar, 2011
78	11-CT1-3	Aug-10	brown mastic (ceiling tile)	Amtrack Office	none detected			Innovar, 2011
79	12-CT1-1	Aug-10	tan ceilign tile (no surfacing) (ceiling tile)	Amtrack Office	none detected			Innovar, 2011
80	12-CT1-2	Aug-10	brown mastic (ceiling tile)	Amtrack Office	none detected			Innovar, 2011
81	13-WC1-1	Aug-10	black surfacing white caulking (Window Caulk)	Amtrack Office	none detected			Innovar, 2011
82	14-WC1-1	Aug-10	black surfacing white caulking (Window Caulk)	Amtrack Office	none detected			Innovar, 2011
83	15-WC1-1	Aug-10	black surfacing white caulking (Window Caulk)	Museum	none detected			Innovar, 2011
84	16-CT2-1	Aug-10	white surfacing (ceiling tile)	Museum	none detected			Innovar, 2011
85	16-CT2-2	Aug-10	Gray ceiling tile (ceiling tile)	Museum	none detected			Innovar, 2011
86	17-CT2-1	Aug-10	White Surfacing (ceiling tile)	Museum	none detected			Innovar, 2011
87	17-CT2-2	Aug-10	Gray ceiling tile (ceiling tile)	Museum	none detected			Innovar, 2011
88	18-CT2-1	Aug-10	white surfacing (ceiling tile)	Museum	none detected			Innovar, 2011
89	18-CT2-2	Aug-10	Gray ceiling tile (ceiling tile)	Museum	none detected			Innovar, 2011
90	19-W1-1	Aug-10	black woven covering (Wiring)	Museum	none detected			Innovar, 2011
91	20-W1-1	Aug-10	black woven covering (Wiring)	Museum	none detected			Innovar, 2011
92	13029.029-020513-01	Feb-13	12'' Spline Ceiling Tile	Office Shack, Blacksmith Shop	none detected		Poor/Friable	Rhoades, 2013
93	13029.029-020513-02	Feb-13	12'' Spline Ceiling Tile	Office Shack, Blacksmith Shop	none detected		Poor/Friable	Rhoades, 2013
94	13029.029-020513-03	Feb-13	12'' Spline Ceiling Tile	Office Shack, Blacksmith Shop	none detected		Poor/Friable	Rhoades, 2013
95	13029.029-020513-04	Feb-13	Interior Plaster - Surface Coat	Office Shack, Blacksmith Shop	none detected		Poor/Friable	Rhoades, 2013
96	13029.029-020513-05	Feb-13	Interior Plaster - Surface Coat	Office Shack, Blacksmith Shop	2%	Chrysotile	Poor/Friable	Rhoades, 2013
97	13029.029-020513-06	Feb-13	Interior Plaster - Surface Coat	Office Shack, Blacksmith Shop	2%	Chrysotile	Poor/Friable	Rhoades, 2013
98	13029.029-020513-07	Feb-13	Interior Plaster - Surface Coat	Office Shack, Blacksmith Shop	none detected		Poor/Friable	Rhoades, 2013
99	13029.029-020513-08	Feb-13	Interior Plaster - Surface Coat	Office Shack, Blacksmith Shop	none detected		Poor/Friable	Rhoades, 2013
100	13029.029-020513-09	Feb-13	Interior Plaster - Surface Coat	Office Shack, Blacksmith Shop	none detected		Poor/Friable	Rhoades, 2013
101	13029.029-020513-10	Feb-	Window Glazing	Reinforced Glass, Blacksmith Shop	none		Poor/Friable	Rhoades,

		13			detected			2013
102	13029.029-020513-11	Feb-13	Window Glazing	Reinforced Glass, Blacksmith Shop	none detected		Poor/Friable	Rhoades, 2013
103	13029.029-020513-12	Feb-13	Window Glazing	Reinforced Glass, Blacksmith Shop	none detected		Poor/Friable	Rhoades, 2013
104	13029.029-020513-13	Feb-13	Window Glazing	Clear Glass, Blacksmith Shop	2%	Chrysotile	Poor/Friable	Rhoades, 2013
105	13029.029-020513-14	Feb-13	Window Glazing	Clear Glass, Blacksmith Shop	none detected		Poor/Friable	Rhoades, 2013
106	13029.029-020513-15	Feb-13	Window Glazing	Clear Glass, Blacksmith Shop	none detected		Poor/Friable	Rhoades, 2013
107	13029.029-020513-16	Feb-13	Window Glazing	Wood Panes, Blacksmith Shop	<1%	Chrysotile	Poor/Friable	Rhoades, 2013
108	13029.029-020513-17	Feb-13	Window Glazing	Wood Panes, Blacksmith Shop	2%	Chrysotile	Poor/Friable	Rhoades, 2013

ID	Sample Number	Date	Description	Location	Percent Asbestos	Asbestos Type	Classification	Source
109	13029.029-020513-18	Feb-13	Window Glazing	Wood Panes, Blacksmith Shop	none detected		Poor/Friable	Rhoades, 2013
110	13029.029-020513-19	Feb-13	Gray Parapet Tar	Throughout Roof, Blacksmith Shop	10%	Chrysotile	Poor/Non-Friable	Rhoades, 2013
111	13029.029-020513-20	Feb-13	Gray Parapet Tar	Throughout Roof, Blacksmith Shop	10%	Chrysotile	Poor/Non-Friable	Rhoades, 2013
112	13029.029-020513-21	Feb-13	Gray Parapet Tar	Throughout Roof, Blacksmith Shop	10%	Chrysotile	Poor/Non-Friable	Rhoades, 2013
113	13029.029-020513-22	Feb-13	Black Roofing Tar	Throughout Roof, Blacksmith Shop	none detected		Poor/Non-Friable	Rhoades, 2013
114	13029.029-020513-23	Feb-13	Black Roofing Tar	Throughout Roof, Blacksmith Shop	none detected		Poor/Non-Friable	Rhoades, 2013
115	13029.029-020513-24	Feb-13	Black Roofing Tar	Throughout Roof, Blacksmith Shop	none detected		Poor/Non-Friable	Rhoades, 2013
116	13029.029-020513-25	Feb-13	Black Penetration Tar	Throughout Roof, Blacksmith Shop	none detected		Poor/Non-Friable	Rhoades, 2013
117	13029.029-020513-26	Feb-13	Black Penetration Tar	Throughout Roof, Blacksmith Shop	none detected		Poor/Non-Friable	Rhoades, 2013
118	13029.029-020513-27	Feb-13	Black Penetration Tar	Throughout Roof, Blacksmith Shop	none detected		Poor/Non-Friable	Rhoades, 2013
119	13029.029-020513-28	Feb-13	Gray Roofing Felt	Throughout Roof, Blacksmith Shop	none detected		Poor/Non-Friable	Rhoades, 2013
120	13029.029-020513-29	Feb-13	Gray Roofing Felt	Throughout Roof, Blacksmith Shop	none detected		Poor/Non-Friable	Rhoades, 2013
121	13029.029-020513-30	Feb-13	Gray Roofing Felt	Throughout Roof, Blacksmith Shop	none detected		Poor/Non-Friable	Rhoades, 2013
122	13029.029-020513-31	Feb-13	Black Parapet Tar	Throughout Roof, Blacksmith Shop	8%	Chrysotile	Poor/Non-Friable	Rhoades, 2013
123	13029.029-020513-32	Feb-13	Black Parapet Tar	Throughout Roof, Blacksmith Shop	none detected		Poor/Non-Friable	Rhoades, 2013
124	13029.029-020513-33	Feb-13	Black Parapet Tar	Throughout Roof, Blacksmith Shop	none detected		Poor/Non-Friable	Rhoades, 2013
125	13029.029-020513-34	Feb-13	Black Roofing Felt - Patching	Throughout Roof, Blacksmith Shop	none detected		Poor/Non-Friable	Rhoades, 2013
126	13029.029-020513-35	Feb-13	Black Roofing Felt - Patching	Throughout Roof, Blacksmith Shop	none detected		Poor/Non-Friable	Rhoades, 2013
127	13029.029-020513-36	Feb-13	Black Roofing Felt - Patching	Throughout Roof, Blacksmith Shop	none detected		Poor/Non-Friable	Rhoades, 2013
128	13029.029-020513-34a	Feb-13	Black Roofing Felt - Patching	Throughout Roof, Blacksmith Shop	none detected		Poor/Non-Friable	Rhoades, 2013
129	13029.029-020513-35a	Feb-13	Black Roofing Felt - Patching	Throughout Roof, Blacksmith Shop	none detected		Poor/Non-Friable	Rhoades, 2013
130	13029.029-020513-36a	Feb-13	Black Roofing Felt - Patching	Throughout Roof, Blacksmith Shop	none detected		Poor/Non-Friable	Rhoades, 2013
131	13029.029-020513-37	Feb-13	Window Glazing	Plastic Panes, Blacksmith Shop	2%	Chrysotile	Poor/Friable	Rhoades, 2013
132	13029.029-020513-38	Feb-13	Window Glazing	Plastic Panes, Blacksmith Shop	3%	Chrysotile	Poor/Friable	Rhoades, 2013
133	13029.029-020513-39	Feb-13	Window Glazing	Plastic Panes, Blacksmith Shop	3%	Chrysotile	Poor/Friable	Rhoades, 2013

Appendix D
Photography Log

Photographic Log	
 Figure 1, Open Side of Sheet Metal House	 Figure 2, Sheet Metal House, East Side
 Figure 3, Sheet Metal House, NE Corner	

Appendix E Certificates

CERTIFICATE OF TRAINING

EPA/AHERA Training Program

This is to certify that

MICHAEL NIEMAN

NM. DL. 006 087 493

Has completed 4 hours of training and **PASSED** the test required by **Section 206 of TSCA Title II** and in accordance with **LOUISIANA STATE ASBESTOS REGULATIONS** entitled,

ASBESTOS BUILDING INSPECTOR REFRESHER

PRESENTED BY
Mendez Environmental™
1005 Veterans Mem Blvd
Suite, 101
Kenner, LA 70062
Tel: (504) 468-8858

Director: _____
Rodolfo G. Mendez

IN COLLABORATION WITH
DC Environmental
P.O. Box 9315
Albuquerque, NM 87119
Tel: (505) 869-8000
www.dcenvironmental.net

NM Program Manager: _____
David Charlesworth

Course Date: 04-12-2016
Certificate Number: AS0416KNMPMN17906

Test Date: 04-12-2016 Grade: **PASS**
Expiration Date: 04-12-2017

United States Environmental Protection Agency

This is to certify that

Michael Neiman

has fulfilled the requirements of the Toxic Substances Control Act (TSCA) Section 402, and has received certification to conduct lead-based paint activities pursuant to 40 CFR Part 745.226 as:

Inspector

In the Jurisdiction of:

New Mexico

This certification is valid from the date of issuance and expires September 25, 2017

NM-I-129246-1
Certification #

September 11, 2014
Issued On

Adrienne Priselac, Manager, Toxics Office
Land Division

GORDON PSC ENVIRONMENTAL

333 Rio Rancho Blvd. NE, Suite 400
Rio Rancho, New Mexico 87124
505.867.6990

November 21, 2018

Transmitted Via E-mail: bfaris@cabq.gov
sherrera@cabq.gov
Hard Copy Upon Request

Mr. Bart Faris
Environmental Health Manager
Albuquerque Environmental Health Department
City of Albuquerque
Room 3023, 3rd Floor, City Hall
One Civic Plaza NW
Albuquerque, NM 87103

Re: City of Albuquerque Rail Yard Redevelopment
Phase 1 of Buildings Assessments
North Washroom Abatement Plan Package

Dear Mr. Faris:

As part of the Task Order for the City of Albuquerque Rail Yard Redevelopment project, please find attached the Abatement Plan package for the North Washroom. As requested by the City, this package contains the following elements to be used by contractors for the remediation and/or demolition of this structure:

Attachment 1	**Abatement Plan**
Attachment 2	**Technical Specifications (ACBM and LBP)**
Attachment 3	**Previous Investigation Reports**

We appreciate the opportunity of providing the City of Albuquerque with the enclosed information, and we look forward to working with you on this important project. Please contact us if you have any questions or if we can be of additional assistance.

Sincerely,
GORDON ENVIRONMENTAL/PSC

Michael A. Baca, P.E.,
Project Engineer

Michael J. Crepeau, P.E.
Senior Project Director

cc: Mr. Stacy Herrera, Construction Project Manager, DMD, City of Albuquerque

ATTACHMENT 1

ABATEMENT PLAN

November 21, 2018

Mr. Michael Crepeau

Gordon Environmental/PSC

333 Rio Rancho Blvd, NE

Suite 400

Rio Rancho, New Mexico 87124

MCrepeau@Team-psc.com

RE: North Washroom

Building Specific Abatement for Asbestos and Lead Based Paint Removal 18-406

Mr. Crepeau:

The Albuquerque Railyard North Washroom Building is located at 1100 2nd Street SW near downtown Albuquerque. The initial inspection dated November 2016 indicated that portions of the structure were suspect for asbestos-containing building material and Lead-based Paint (LBP). Sampling conducted at that time indicated the window putty on the building was asbestos-containing building material (ACBM). The window putty shall be handled as ACBM for the purposes of the abatement activities. The interior brick walls, the concrete floor, and wood ceiling, along with the window headers, frames, sills, and doors, are coated with lead-based paint in poor condition. There is also metal pipe work inside of the structure that is coated with lead-based paint.

The work plan included here is for the associated window putty, interior brick walls, the concrete floor, and wood ceiling, window headers, frames, sills, doors, and door frames. There is also some metal pipe work inside of the structure that is coated lead-based paint. However, metal items may be handled as recyclable material. The ACBM removal and the LBP abatement follows:

1. The initial step is to ensure that the public is protected from the abatement area and that no visible emissions occur. The intent is to have the entire area isolated during the LBP abatement phase of work. During the ACBM and LBP abatement phase, all identified materials in the November 2016 inspection report will be removed.

2. The Contractor shall visually inspect the surrounding area for the presence of ACBM and LBP debris, and any associated material which has fallen to the ground surrounding the structure. The isolation of the work area and the surroundings will be determined and established by the abatement Contractor to keep the abatement within the confines of a regulated area.

3. Hardscape material or concrete walkways adjacent to the structure shall be protected with a 6-mil drop cloth beneath the areas to be worked. Drop cloths, or full containment, internal to the structure will also be required. The balance of any stored items shall be removed from the work area. These items will either be cleaned and stored for future use or discarded.

4. Access to the windows or interior ceilings over six feet high shall be made from ladders or scaffolds. The Contractor shall develop and implement a fall protection plan indicating the method(s) that will be incorporated to protect workers engaged in elevated work activities.

5. The area shall be demarcated using barrier tape or similar and posted with "Danger Signs" indicating the hazard present. A decontamination area shall be identified at the point of entry to the structure for workers to enter and exit and provide the protection for cleanliness and removal of debris from suits and allow for site hygiene. At minimum, a hand and face wash station, along with an area to remove contamination from the workers is required. Standard decontamination layout may be required for this endeavor and must conform to the Occupational Safety and Health Administration 29 CFR 1926.62 (i).

6. A staging area for the placement of containerized debris and waste shall be determined in advance. The debris holding area shall have a drop cloth consisting of 6-mil polyethylene sheeting to accept any waste lowered from elevated positions.

7. The Asbestos and LBP trained employees entering the work area shall don protective clothing and, at minimum, a half-face air-purifying respirators equipped with P100 cartridges. The P100 designation is for High Efficiency Particulate Air filters. Other personal protective equipment to perform the associated tasks shall be donned.

8. Application of amended water, to the extent feasible, will be used to wet the window putty materials. Removed material shall be wrapped in two (2) layers of six-mil plastic sheeting or placed in equivalent disposal bags.

9. The remediation contractor shall submit to the City of Albuquerque for approval their intended work practices to remove the LBP. The submitted procedure shall prohibit the use of methylene chloride or heat in excess of 1100^{o}F. The abatement plan shall include the procedures, waste segregation and disposition of the removed material.

10. The ACBM and LBP control area shall only be entered after the area has passed the pre-entry visual inspection and the removal methodology submitted has been accepted.

11. Removed and packaged material shall be placed in the debris holding area until the end of the shift when the material shall be removed from the holding area and placed in a secure container and not be allowed to remain near the abatement area unattended overnight. The window putty materials shall be handled as asbestos waste. The removed paint, paint debris and components not being released for recycling shall be handled as hazardous waste constituent as defined by the Resource Conservation and Recovery Act.

12. Once the area has been abated and work is complete, a final visual and air clearance shall be conducted in the area. The lead clearance dust sampling protocol may be selected as an option by the City of Albuquerque at the conclusion of the LBP remediation activities. Once the final clearances are achieved, the abatement contractor shall request a final visual inspection from the City of Albuquerque.

13. The City of Albuquerque shall conduct a visual inspection at the conclusion of the abatement activities to ensure that the methods have met the intended goal of removing the identified ACBM and LBP. At the successful completion of all work, the isolation barriers, control signage to keep unauthorized personnel out, and other control measures shall be removed.

14. Waste manifests and documentation required for project completion shall be received by the City of Albuquerque before completion and payment are remitted.

15. Demolition activities, in general, will include a variety of procedures. The most important aspect in the development of these procedures will be the safe conduct of the work. Contractors should limit the use of labor to the most controlled and safe conditions and rely upon mechanized means of removal, wherever possible. The structure will be removed to ground level.

16. Dust control will be considered an important part of the overall project. Contractor will utilize a water truck and/or fire hose attached to a local hydrant during demolition operations. Contractor will direct a localized fine water spray to the source of demolition activities, as required, thereby reducing airborne dust particles. To minimize the run off, the water supply will be used only when necessary.

Abatement Contractors: This information provided by DC Environmental represents a best effort in the identification of ACBM and LBP located in the building. However, there may be other hidden or suspect ACBM or LBP discovered during the abatement and demolition phases. DC Environmental believes these other suspect materials do not represent a significant amount of additional waste or effort but this discussion is meant to alert the abatement contractor and demolition contractor as to their potential existence. Each building and site shall be rendered free of ACBM prior to the Construction/Demolition phase.

We appreciate the opportunity to provide assistance to the City of Albuquerque and Gordon Environmental/PSC. Should you require additional information, please contact us at your earliest convenience.

Sincerely,

DC Environmental

J. David Charlesworth, CIH

PO Box 9315
Albuquerque, NM 87119
505.869.8000

ATTACHMENT 2

TECHNICAL SPECIFICATIONS

- ASBESTOS ABATEMENT ACTIVITIES
- LEAD-BASED PAINT REMOVAL AND DISPOSAL

Technical Specifications

For Asbestos Abatement Activities

PREPARED FOR:

City of Albuquerque
Environmental Health Manager
PO Box 1293
Albuquerque, NM 87103

PREPARED BY:

Gordon Environmental PSC and DC Environmental
333 Rio Rancho Boulevard, Suite 400
Rio Rancho, New Mexico 87124
505.869.8000

November 1, 2018

Table Of Contents

SECTION 01010

SUMMARY OF WORK

PART 1 - GENERAL

1. DESCRIPTION

1.1. The intent of the specification and the City of Albuquerque (Owner) is to provide a clean work environment to all Asbestos Containing Materials (ACMs) Abatement activities and provide a provide a structure free of Asbestos Containing Building Materials at the conclusion of the construction scope of work performance. The structures, facilities and work areas shall be released clean to all Owner's employees, guests, visitors, contractors at the conclusion of the abatement activities. The Contractor will be directed to meet or exceed any requirements express or implied within these specifications for the cleaning, removal and disposal of suspect ACMs and associated debris in specific Owner facilities. The intent for the removal, cleaning and disposal of suspect ACMs and associated debris in specific Owner facilities to provide a clean work environment for future renovation activities. The ACM Abatement activities will be conducted in a manner that minimizes disturbance to all occupants and provide normal work environments in the facilities.

1.2. Except as otherwise expressly provided herein, Asbestos Abatement Contractor (Contractor) shall supply all labor, supervision, materials, equipment, tools, storage and any and all items necessary for the supply, fabrication, erection, construction, disposal (including handling, transportation, loading, unloading and receiving) of the abatement of asbestos-containing or asbestos-contaminated materials and designated as the Work. Require that all phases of the Work be executed by skilled and certified craftsmen, trained and experienced in their respective trades.

1.3. Contractor may subcontract any phase or portion of the Work. However, such subcontract shall not relieve Contractor from enforcing the use of all required safety equipment and supplies by the subcontractor and his employees providing any phase of the Work in contaminated areas. Contractor shall require and verify that all materials and methods used by subcontractors are consistent with materials and methods for established and safe asbestos removal or encapsulation procedures and consistent with the Contract Documents.

1.4. AEIH, Inc. dba DC Environmental in association with Gordon Environmental PSC was selected as the Owner's Representative for this project. Correspondence and submittals shall be directed to the Owner's Representative for coordination and dissemination. Gordon Environmental PSC has selected DC Environmental to act as the Owner's Certified Industrial Hygienist.

2. WORK INCLUDED IN THE SPECIFICATIONS

2.1. Pre-clean by HEPA vacuuming or wiping with wet towels all floor and wall surfaces in the designated rooms of the facility. Contractor is hereby notified that the top surfaces of some electronic equipment, connective cables, electrical conduit and other appurtenances may contain debris which must be cleaned and removed prior to installation of a Hepacart™, ECU™ or construction of enclosure system described herein.

2.2. Construct specialized containment structure for all equipment that is designated to remain operational in the work area. Specialized containment structure shall provide conditioned air

to operational equipment to maintain temperature control. It is not anticipated that any equipment will need to be in operation while containment structures are in place. Boilers and mechanical units may need to be in operation if the Contractor requires hot water or heating.

2.3. Remove debris from work areas that has delaminated or is damaged. Clean all surfaces in work area before preparation begins. Floors and horizontal surfaces will require additional cleaning before barriers are erected.

2.4. Asbestos containing materials will be removed in Negative Pressure Enclosure Systems or approved equal. Removal methods ultimately selected by Contractor shall be submitted and approved by Owner Representative before being initiated. Submit written or diagrammatic representations of removal technique selected in accordance with the Submittal Section.

2.5. Apply encapsulation as directed by the Owner Representative and install enclosure systems to seal any and all existing asbestos-containing material which, by means of location, cannot be removed.

2.6. Additional materials may need to be removed by this contract to assist other renovation or demolition activities therefore other ACMs may need to be removed. Removal shall occur only after Owner has determined a need for additional work.

2.7. All ACMs shall be removed under Negative Pressure Enclosure or by approved technique. The use of the methods recommended by the Resilient Floor Covering Institute will not be considered as an approved equal.

2.8. Clearance criteria with respect to Negative Pressure Enclosure systems shall be based on visual inspections accompanied by Owner representative and Phase Contrast Microscopy.

3. WORK NOT INCLUDED IN THE SPECIFICATIONS

3.1. Air monitoring for the Owner by the Certified Industrial Hygienist / Owner Representative. The Contractor shall be responsible for air monitoring required for the safety of his employees. Daily reporting of air monitoring results shall be provided to the Owner Representative.

3.2. Replacement of removed components including but not limited to, insulation, carpeting, ceiling systems, grid, light fixtures, walls, floor tile, paint coatings or other components is not part of this contract.

4. EXISTING CONDITIONS

4.1. Existing conditions are reflected correctly to the best of the Owner knowledge. Should minor conditions be encountered which are not exactly as indicated, modification to new work shall be made as required at no additional expense to the Owner.

4.2. Certain materials in the work area were tested at the Owner request. Copies of these reports are available.

4.3. Contractor is advised that the locations of asbestos-containing materials are not clearly known and that he shall proceed with caution in all phases of the Work. Additional asbestos-containing material may be uncovered during the course of the work and the Contractor may be directed by Owner to include this material in the Work at an agreed upon unit price.

5. STORAGE

5.1. The Owner will not provide storage space inside the building. Contractor shall supply temporary storage required for storage of equipment and materials for duration of Project. Supply temporary construction office to be located as designated by the Owner.

6. BUILDING OCCUPANCY

6.1. The Owner may occupy portions of the facility during the abatement operations. Contractor shall coordinate work with Owner Representative to minimize conflict and facilitate usage of the building. Contractor shall conduct his activities to minimize disruption to the building occupants and the surrounding community.

6.2. Vertical and horizontal transportation routes shall be predetermined and approved in advance by Owner Representative. This includes the transportation of contaminated waste materials, labor, and construction materials in and out of the building.

7. WORKING HOURS

7.1. Contractor shall submit his work schedule to the Owner for approval. The management prefers normal building hours for abatement activities.

8. PARKING

8.1. Parking is available in specific areas around the building. Contractor shall park in areas designated by Owner or Owner Representative. Limited parking will be available for one supply vehicle at designated area.

9. BUILDING SECURITY

9.1. Contractor shall maintain security of the site at all times during the Project.

9.2. The Owner has elevated concerns of building safety and security while contractor supervisors and workers are expected to perform many work tasks outside of regulated work areas in front of the general public (moving supplies, materials and equipment).

9.3. Contractor shall provide workers with sufficient sets of highly visible safety vests that meet ANSI standard for Conspicuity Class 2 garments/ISEA 107 requirements. Safety vest shall be worn in plain view outside of any other garments worn.

9.4. Contractor shall provide identification badges to supervisors and workers to be worn in plain view outside of safety vest and any other garments worn. Badges and name of the employee shall be identified on the hard hat and visible.

9.5. Contractor shall require all supervisors and workers to wear safety vests and identification badges from the time contractor arrives onsite until contractor leaves the property.

9.6. Contractor supervisors and workers will only be allowed in pre-designated work areas, take specific routes, use only specific facilities and equipment (restrooms, elevators) defined by the Owner or Owner's representative.

10. SEGREGATION OF WORK AREAS

10.1. The Contractor may be required to segregate work areas by means of temporary barriers (such as plywood walls and lockable doors) or, if appropriate, by opaque curtains. In addition, appropriate warning signs and barrier tape shall be used to identify the work area. The use of rigid plastic walls is being specified for corridor abatement activities or decontamination units extending into the hallways. Indicate the materials to be used for abatement barriers. This includes the use White Cap® or similar materials as approved. Barriers remaining in place for more than forty-eight (48) hours are to be rigid and washable.

11. PRE-JOB DAMAGE SURVEY OF FACILITY

11.1. A thorough survey of property and all affected areas of the building shall be made by the Contractor and Owner or Owner Representative prior to starting the Work in order to document existing damage. Items identified on this list will not be the responsibility of Contractor unless further damaged by the Contractor during the Project.

12. CORRECTION OF DAMAGE TO PROPERTY

12.1. Consider any damage to building or property not identified in the pre-job damage survey as having resulted from execution of this Contract and correct at no additional expense to the Owner.

13. SITE ORGANIZATION AND RESPONSIBILITIES

13.1. Project Oversight:

13.1.1. The Owner shall provide Industrial Hygiene Technician services to oversee the Project. The Owner shall rely on recommendations made by the Contracted Industrial Hygienist to initiate abatement actions and removal strategies. The Owner is responsible for the enforcement of the provision of this Specification.

13.1.2. The individual designated by the Owner to provide Technical Services for this Project is referred to herein as "Owner Representative".

13.2. Inspection. Owner Representative will inspect the status and progress of the Work for completeness and general compliance with the requirements of the Contract Documents. At a minimum, the inspections will be conducted at the following times during the Project:

13.2.1. Following complete preparation of the work area(s) and prior to proceeding with actual removal of asbestos-containing material;

13.2.2. Following initial cleaning of the work area(s) prior to preliminary final air testing.

13.2.3. Following final cleaning of the work area(s) prior to final air testing.

13.3. Notification for Inspections. Contractor shall notify Owner Representative at least twenty-four (24) hours in advance of the need and readiness for such observations. Should advance notice not be given, the Owner Representative will make reasonable effort to comply with time of requested observations. Contractor may not proceed until such inspections by Owner Representative are made. Any delay in the completion of the Project caused by lack of advance notice by Contractor to Owner Representative shall not be sufficient cause for any extension of time or extension of the Project completion deadline. Also, compensation for time spent by Owner Representative on the Project resulting from prearranged meetings at which the Work has not progressed to the designated point shall be the responsibility of the Contractor and will be deducted from future payments due to Contractor.

13.4. Authority to Stop Work on Behalf of Owner:

13.4.1. Stop Work Order. The Owner is the sole official with authority to issue a Stop Work order for indefinite cessation of all activities associated with this Project. A Stop Work order issued by the Owner requires complete and immediate implementation. A Stop Work order may occur any time the Owner determines that conditions at the Project site do not meet the requirements of this Specification, or if they determines that there is threat to human health or safety exists.

13.4.2. Resumption. Resumption of work following a Stop Work order will not be permitted until the Owner Representative receives formal authorization from the Owner. While a

Stop Work order is in effect, Contractor shall maintain all work areas under containment in a negative pressure setting, and the Contracted Industrial Hygienist shall continue air monitoring as required by this Specification.

13.4.3. Suspend Work Order. The Owner Representative has the authority to issue a Suspend Work order in the event that he determines that there is an imminent danger to the health and safety of employees or other individuals at the site, including Contractor employees; or if work interferes with other tenant operations. A Suspend Work order requires Contractor to cease all activities associated with a particular operation or task in areas in which the Owner Representative has determined that a potential risk to employee safety and health or interference with tenants operations may exist.

13.4.4. Resumption. Resumption of work following a Suspend Work order shall be allowed once the Owner Representative, under the advisement of the Contracted Industrial Hygienist, is satisfied that conditions prompting the order have been corrected.

13.4.5. Documentation. Issuance of Stop Work orders and Suspend Worker orders, as well as orders for resumption of work under either cessation, shall be made in writing. All conditions prompting either order shall be documented, as well as corrective actions taken prior to resumption of work.

13.4.6. Standby time. Contractor shall bear responsibility for all costs associated with Contractor personnel and equipment during the period of work stoppage or work suspension dictated by an order.

14. SIGN-IN/OUT LOG

14.1. Contractor shall maintain a sign-in/out log in the immediate vicinity of the change room of the personnel decontamination enclosure. Maintain sign-in/out log from the time the first activity involving preparation for the disturbance ACMs, until acceptance of the final air test results by the Owner Representative.

14.2. Require all persons entering the work area, including the Contractor's workers, Owner, Owner Representative, Contracted Industrial Hygienist, and government officials to sign in and out each time upon entering and leaving the work area. Indicate name, unique identifying number, time, company or agency represented and reasons for entering work area.

14.3. Contractor shall insure through use of the sign-in/out log and other means that no person enters the work area unless that person has received training as required by 29 CFR 1926.1101.

15. SUPERVISOR/WORKER TRAINING DOCUMENTATION

15.1. Provide documentation that all supervision and workers to be used on the Project have successfully participated in an extensive training program, which instructed personnel on proper respirator use, hazards of asbestos exposure and OSHA Asbestos Regulations. Provide documentation that all supervisors and workers are certified asbestos abatement supervisors and workers as required by the Toxic Substance Control Act (Asbestos Hazard Emergency Response Act (AHERA)). Provide such documentation on supervisors with Contractor's bid. Provide such documentation on workers at pre-construction meeting. No worker shall be utilized on any portion of the work until documentation has been provided.

16. UTILITIES

16.1. Contractor may temporarily connect to existing permanent utilities during execution of Project. A licensed electrician will make any electrical connections. The Owner will coordinate this process. Make connections in locations designated by Owner Representative. Remove connections and all extensions of utilities at Project completion. The Owner understands that the properties are without electrical service and that the Contractor shall provide the electrical utilities as part of their Scope of Work. Wastewater disposal will be made off the facility site at an approved sanitary sewer or equal.

17. SALVAGEABLE MATERIALS

17.1. Consider all materials and items demolished or removed in execution of the Work unsalvageable unless specifically noted otherwise in these Specifications. Material for salvage shall be considered as contaminated or as general demolition debris. Contractor personnel shall salvage no material.

18. CLEAN-UP

18.1. Leave all areas visibly clean at completion of Work.

19. FINAL COMPLETION

19.1. Final Completion will be determined as follows:

19.1.1. The Owner Representative will, within a reasonable time period, inspect the Work to determine status of final completion when the Contractor certifies to the Owner Representative that:

1) the Work has been completed in compliance with the Specifications;

2) the Contractor has inspected the Work for such compliance; and

3) the Work is ready for final inspection.

19.1.2. The Owner Representative will promptly notify the Contractor if he determines that the Work is incomplete or defective, and give the reasons therefore.

19.1.3. Contractor shall, upon receipt of notice from Owner Representative that the Work is not complete, promptly remedy the deficiencies noted by Owner Representative and notify the Owner Representative when the Work is ready for re-inspection. Owner Representative will then within a reasonable time period, re-inspect the Work.

19.1.4. Contractor shall submit three complete bound copies and one electronic copy of the following post-job submittals to the Owner when the Owner Representative determines that the Work is acceptable and complete. This shall include, at a minimum:

a. Any outstanding Pre-Job Submittals described in Section 01300.

b. Post-Job Submittals as described in Section 01300.

c. List of extra materials stock to Owner Representative as required.

19.2. Contractor shall, upon determination of final completion by Owner Representative, submit a final Certification and Application for Payment.

PART 2- PRODUCTS

Not Used.

PART 3 - EXECUTION

Not Used.

PART 4 - FIGURES

See Attached Drawings or previous inspection reports for clarification of locations

END OF SECTION

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SECTION 01040

COORDINATION AND SCHEDULING

PART 1 - GENERAL

1. DESCRIPTION
   1.1. Provide coordination and scheduling of all phases of the Work of the Contract Documents with the City of Albuquerque (Owner), Owner's Representative, subcontractors, material suppliers and other parties, as necessary, to assure the smooth and orderly transition of separate phases, timely placement of items and materials, complete cooperation between parties and proper execution of the Work.
   1.2. Create scheduling consistent with all phases of work as described in Section 02080.
2. MEETINGS
   2.1. Conduct all meetings with appropriate parties as scheduled and as otherwise necessary to accomplish the Work. See Section 01200 for more details. Meeting shall include the following :
   2.2. One pre-construction meeting.
   2.3. Weekly progress meetings. Current meetings are scheduled for Monday afternoons. Contractor shall supply a three week schedule indicating the current week and two week look ahead.
   2.4. Other meetings as necessary or as requested by Owner or Owners' Representative. This may include Tuesday weekly meetings with the Owner and General Contractor.
3. SUBMITTALS
   3.1. Prepare and distribute submittals as specified in Section 01300.
4. SPECIAL COORDINATION
   4.1. Coordinate with Owner's Representative for timely observations of the progress of the Work at point of progress in the work as specified elsewhere.
   4.2. Coordinate with Owner's Representative to provide for timely air monitoring at points of progress in the work as specified elsewhere.
   4.3. Coordinate and schedule the requirements for determination of final completion.
   4.4. Coordinate disposal schedule with Owner's Representative at least 72 hours prior to desired disposal time so that waste disposal site coordination may occur.

PART 2 - PRODUCTS

Not Used.

PART 3 - EXECUTION

1. Not Used

END OF SECTION

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SECTION 01200

PROGRESS MEETINGS

PART 1 - GENERAL

1. DESCRIPTION
   1.1. Conduct progress meetings on a regular basis throughout the construction period, including one pre-construction conference prior to the start of the Work, to enable orderly review of the progress of the Work and to provide for a systematic discussion and evaluation of problems encountered.
2. QUALITY ASSURANCE

Provide or designate only persons with authority to commit the Contractor, subcontractors and suppliers to revisions, modifications and solutions agreed upon to attend the progress meetings.

3. SUBMITTALS

3.1 Agenda Items: Advise the Owner's Representative at least 24 hours in advance of progress meetings regarding items to be added to the agenda.

3.2 Minutes: The Owner's Representative will compile minutes of each progress meeting, and will furnish copies to the Contractor, and Owner.

PART 2 - PRODUCTS

Not Used.

PART 3 - EXECUTION

4. MEETING SCHEDULE
   4.1. Progress meetings, except for the pre-construction meetings, will be held weekly. Progress meetings shall be held at the end of the workday on each Monday during the performance of the abatement activities.
   4.2. Coordinate as necessary to establish mutually acceptable schedule for meetings.
5. MEETING LOCATION
   5.1. Pre-construction meeting and progress meetings will be held at the project site.
   5.2. Other meetings, as necessary, will be held in the Contractor's field office.
6. PRE-CONSTRUCTION MEETINGS
   6.1. Schedule pre-construction meeting with Owner shortly after approval of pre-job submittals to clarify construction contract administration procedures and address potential problems.
   6.2. Provide for attendance by authorized representatives of the Owner, Owner's Representative, Contractor, Contracted Industrial Hygienist and others, as needed.

END OF SECTION

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SECTION 01300

SUBMITTALS

PART 1 - GENERAL

1. DESCRIPTION
   1.1. Make submittals required by this Section in a timely manner and at approximate times in the execution of the Work to allow for sufficient and prompt review by the City of Albuquerque (Owner). Revise and resubmit as necessary to establish compliance with the specified requirements.
2. WORK INCLUDED
   2.1. Submit complete bound sets of the submittals required in this Section. Submit separate sheets, in the required number of copies, entitled "Pre-Job Submittals" and "Post-Job Submittals".
   2.2. Submit complete sets of "Pre-Job Submittals" to the Owner for his review, in the required number of copies, at the pre-construction meeting (see Section 01200 for more details). The Work may not proceed until the complete pre-job submittal package has been reviewed and approved by the Owner.
   2.3. Submit complete sets of "Post-Job Submittals" to the Owner for his review, in the required number of copies, following the final completion of the Work. Requests for final payment will not be approved until the post-job submittal package has been reviewed and approved by Owner.
   2.4. Identify individual submittals by name and include a Table of Contents in each submittal package.
3. NUMBER OF COPIES
   3.1. Provide three complete bound sets and one electronic copy of each submittal package to the Owner for review and distribution.
4. QUALITY ASSURANCE - Coordination of Submittals
   4.1. Carefully review and coordinate all aspects of each item being submitted.
   4.2. Verify that each item and its appropriate submittal conform in all respects with the specified requirements.
   4.3. Certify, by affixing signature of Contractor's authorized representative to a cover letter of each submittal package, that this coordination has taken place.
   4.4. Verify that each applicable license, certification, permit, avowal and other time-sensitive document be in force throughout the duration of the project.
5. SUMMARY OF WORK
   5.1. Pre-Job Submittals Prior to Notice to Proceed - Submit complete information relative to the following:
      5.1.1. Copy of License to conduct asbestos removal in the State of New Mexico.
      5.1.2. List of any fines, citations, notices of failure or discontinuance, or any similar notifications of non-compliance received within the last three years.
      5.1.3. Notice of impending commencement of asbestos removal work executed in writing by the Contractor to the following as appropriate:

City of Albuquerque
Environmental Health Department
Air Quality Division
3rd Floor, Room 3047, Albuquerque, NM 87102
505.768.1972

and comply with the applicable notice period set forth in Title 40, Part 61, Subpart M., Section 61.145 of the Code of Federal Regulations. Include one copy of notification in submittal package. If the time of Signing of the Contract to the scheduled start of work is less than the applicable notice period, Contractor shall seek a waiver of the notice period. Without written approval from all of said agencies, Contractor shall not shorten the applicable notice period. Owner reserves the right to submit the ten day notification. Upon award of contract, Contractor may submit changes to the notification with approval of Owner.

5.1.4. All required permits, site location, and arrangements for transport and disposal of asbestos-containing or contaminated materials.

5.1.5. Any building permits as required by the city, state, county or federal requirements for the construction or demolition work required during the progress of the Work.

5.1.6. Written description, sketch, or combination thereof, of the plans for construction of a worker and barrel/equipment decontamination enclosure system and for isolation of the work areas in compliance with this Specification.

5.1.7. Alphabetical listing of individuals to be used on the project, the individuals certificate number and expiration date. Contractor shall assure each individual receives training in Hazard Communication and Lead in Construction. {Successful Contractor shall have on the project the complete copy of documentation that each and every employee to be utilized on the project has had instruction on the potential hazards and the exposure to asbestos, protective equipment, use of showers, entry to and exit from procedures and protective measures regarding asbestos and other hazardous materials removal.}

5.1.8. Written description, and/or sketch, of the security plan to be utilized.

5.1.9. Insurance certificate issued to the Owner by the Contractor's insurance carrier listing all coverages required by the Owner.

5.1.10. Listing of supervisory personnel (including foremen). Any change of personnel must be submitted in writing once the foreman has been approved.

5.1.11. Work procedures or practices to be utilized on the project.

5.1.12. Written company employee respirator protection program including appropriate training of respiratory protection.

5.1.13. Any special equipment, techniques, etc., to be used on the Project.

5.1.14. Proposed preliminary progress schedule for the Work. Revise and submit progress schedule on a weekly basis.

5.1.15. Contractor shall notify the fire department and local emergency medical facility before commencement of abatement activities. The fire department and local emergency

medical facility shall be provided with written information regarding abatement activities, decontamination practices, and the dangers of entering the work areas. The contractor shall make every effort to assist these agencies in forming a plan of action should their personnel need to enter the contaminated work area.

5.2. Post-Job Submittals - Submit complete information relative to the following:

5.2.1. Receipts or manifests from the landfill operator which acknowledge the Contractor's delivery(s) of waste material. Receipts shall include date, quantity of material delivered, and signature of authorized representative of landfill.

5.2.2. A copy of the sign in/out log showing the following: date, name, worker identification number or certificate number, entering and leaving time, company or agency represented and reason for entry for all persons entering the work area.

5.2.3. An alphabetical listing of each employee used on the project and the exact dates on which he was present in the work area.

5.2.4. A copy of employee air monitoring results relative to OSHA respiratory protection level compliance.

5.2.5. An alphabetical listing of each workers' medical examination dates, worker release forms, asbestos training date and expiration date, certificate number, and respirator training fit testing date of all employees used on the Project.

5.2.6. Asbestos waste log showing date, type of container removed from work areas, signature of recorder, and time of day. Waste shipment records signed by the disposal site

5.2.7. Certification of Completion or Certification of Substantial Completion.

5.2.8. Copies of negative pressure logs, if utilized.

5.2.9. Any additional documents required by the Owner.

6. SAMPLES

6.1. Provide samples identical to the precise materials or articles proposed to be provided. Identify as described under "Identification of Submittals" below.

6.2. Number of Samples required:

6.3. Submit a minimum of three samples of each proposed material to the Owner, except as provided below.

6.4. By pre-arrangement in specific cases a single sample may be submitted for review and, upon approval, be returned to the Contractor for installation in the Work.

7. MANUFACTURER'S LITERATURE

7.1. Where contents of submitted literature from manufacturer's includes data not pertinent to the submittal, clearly show which portions of the contents are being submitted for review.

7.2. Submit a minimum of two copies to the Owner for his review.

8. "OR EQUIVALENT"

8.1. Where the phrases "or equivalent", or "equivalent as approved by the Owner", or similar wording occurs in the Contract Documents, the specific materials, equipment, or methods will not be considered as equivalent unless the item has been specifically so approved for this Work by the Owner.

8.2. Wherever a particular item is listed by manufacturer's name, brand name, or other identifying information, it shall be interpreted to include equivalent products of other manufacturers whether "approved equivalent", etc., is stated or not.
8.3. Whenever a manufacturer's product is specified to the exclusion of all other products, it shall be so identified and declared.
8.4. Decision of the Owner regarding "equivalent" products will be final.

PART 2 - PRODUCTS

Not used

PART 3 - EXECUTION

9. IDENTIFICATION OF SUBMITTALS
   9.1. Number consecutively and clearly identify all submittals. Show identification on at least the first page of each submittal, and elsewhere as necessary for positive identification of the submittal.
   9.2. Accompany each submittal package with a letter of transmittal showing all information required for identification and checking.
10. GROUPING OF SUBMITTALS
   10.1. Group submittals into packages identified as "Pre-Job Submittals" and "Post-Job Submittals".
   10.2. Partial submittals may be rejected for non-compliance with the Contract Documents.
11. TIMING OF SUBMITTALS
   11.1. Make submittals far enough in advance of scheduled dated of commencement, execution or installation to provide time required for reviews, for securing necessary approvals, for possible revisions and resubmittals, and for placing orders and securing delivery.
   11.2. Allow in scheduling, at least five working days for review by the Owner following his receipt of submittals.
   11.3. Contractor will be held responsible for delays resulting from incomplete submittal packages.
12. OWNER’S REVIEW
   12.1. Review by the Owner does not relieve the Contractor from responsibility for errors which may exist in the submitted data.
   12.2. Make revisions when required by the Owner and resubmit for approval.

END OF SECTION

SECTION 01410

INDUSTRIAL HYGIENE SERVICES

PART 1 - GENERAL

1. DESCRIPTION
   1.1. The City of Albuquerque will provide a qualified Industrial Hygienist to perform routine and special testing of the work performed under this Specification to assist the Project Manager or the Project Manager's Representative, Owners' Representative, or Certified Industrial Hygienist in determining general compliance therewith, as well as general compliance with federal, state and local regulations.
   1.2. Certified Industrial Hygienist or Certified Industrial Hygienist's Representative shall perform required air monitoring inside and outside the work area on a regular basis.
   1.3. Provision of the Industrial Hygienist by the Project Manager to perform testing for the Owner shall not relieve the Contractor from providing his own air testing for compliance with all applicable codes, regulations, requirements and as specified in this Section and elsewhere in this Specification.
   1.4. Contractor's previous air testing data (Negative Exposure Assessments) will not be accepted by Owner to relieve the requirement for any testing.

2. WORK INCLUDED
   2.1. Provide a Certified Industrial Hygienist or a highly experienced Industrial Hygienist working under the direction of a Certified Industrial Hygienist, or approved Asbestos Contractor/ Supervisor, to conduct air sampling and analysis, project observation and oversight as described herein.
   2.2. Conduct work area sampling and analysis prior to, during and after removal of asbestos-containing materials as outlined in Section 02080. Conduct all sampling and analyses in accordance with procedures outlined in the National Institute for Occupational Safety and Health (NIOSH) 7400 method, except for Final Clearance Testing, which may be conducted in accordance with requirements of the AHERA TEM method.
   2.3. Observe and inspect work performed by Contractor for general compliance with Specification requirements and all federal, state and local regulations. Advise Owner's Representative of observations and related recommendations. Maintain a logbook containing observations and field notes made by Certified Industrial Hygienist or Certified Industrial Hygienist's Representative.
   2.4. Prepare a final report for the Project Manager describing a general sequence of project events, sampling methodology and locations, analytical procedures and results, and observations and field notes made by Certified Industrial Hygienist or Certified Industrial Hygienist's Representative, certifications and evidence of training and medical surveillance as required by

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29 CFR 1926.1101, and certificate of completion of NIOSH 582 course for asbestos air sampling and analysis.

3. WORK NOT INCLUDED
   3.1. Selection of Certified Industrial Hygienist.
   3.2. Payment for initial clearance testing.

4. QUALITY ASSURANCE
   4.1. All air testing during the progress of the work shall be performed in general accordance with the procedures outlined in the NIOSH 7400 method and also will follow guidelines issued by EPA regarding detection limits. All final air clearance testing analysis shall be by Phase Contrast Microscopy (PCM) unless determined otherwise by Owner.

5. PAYMENT FOR TESTING
   5.1. Initial Services: Owner will pay for initial clearance testing services required by the Specifications.
   5.2. Re-testing: When initial clearance tests indicate non-compliance with the Specifications, subsequent re-testing occasioned by the non-compliance shall be performed by the same testing agency, and costs thereof will be billed to the Contractor or deducted from any payment made to the Contractor, as determined by the Project Manager.

6. SCHEDULING
   6.1. Certified Industrial Hygienist or Certified Industrial Hygienist's Representative shall perform tests in areas and at times during the Work as deemed necessary by the Project Manager, the Project Manager's Representative, or as required in the Specification.
   6.2. Contractor shall notify Project Manager's Representative of need for preliminary final and final air testing at least 24 hours prior to desired time of testing so that Project Manager's Representative may notify Certified Industrial Hygienist or Certified Industrial Hygienist's Representative in sufficient time as to allow preparation for testing.
   6.3. Coordinate other scheduling with Certified Industrial Hygienist or Certified Industrial Hygienist's Representative as necessary.

7. RESULTS
   7.1. All testing and analysis shall be performed promptly and results issued expeditiously in order to minimize any possible delay in the progress of the Work.
   7.2. Test results shall be available to Project Manager's Representative and Contractor as follows:
      7.2.1. Air clearance results: No more than 48 hours after receipt of samples by analytical laboratory.

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7.2.2. Results of other tests deemed necessary by Certified Industrial Hygienist or Certified Industrial Hygienist's Representative as quickly as possible and within 24 hours following completion of test(s) and analytical results received, unless Project Manager or Certified Industrial Hygienist elect performance of air sample analysis by Transmission Electron Microscopy (TEM), in which case result shall be made available to Project Manager and Contractor no more than 48 hours after receipt of samples by analytical laboratory.

7.3. Air tests shall be made both inside and outside of work area(s). The Contractor is cautioned, however, that should interpretations be made, opinions be formed and conclusions be drawn as a result of examining the test results, these interpretations, opinions, and conclusions will be those made, formed and drawn solely by the Contractor. The Contractor is responsible for performing air tests required for his evaluation of the safety of his employees.

PART 2 - PRODUCTS

Not Used.

PART 3 - EXECUTION

Not Used.

END OF SECTION

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SECTION 15010

INCIDENTAL MECHANICAL WORK

PART 1 – GENERAL

1. WORK INCLUDED
   1.1. Coordinate with City of Albuquerque (Owner) or Owner's Representative to establish removal sequence or procedures to shutdown portions of building HVAC, electrical, mechanical, gas or other utilities.
   1.2. Perform other incidental mechanical work not specified herein but necessary for the successful execution of the Work as set forth in the Specifications.
   1.3. Coordinate the removal of mechanical systems as needed to gain access to asbestos-containing materials to be abated as noted in Section 02080.

PART 2 - PRODUCTS

Not used.

PART 3 - EXECUTION

1. GENERAL
   1.1. Install any temporary mechanical work necessary to comply with Section 02080.
   1.2. Remove any temporary mechanical work necessary to comply with Section 02080 at completion of the Project and correct any damage to property.
   1.3. Repair and replace any mechanical components removed but are still necessary for the operation of the structure. Return to the original condition.

END OF SECTION

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SECTION 16010

INCIDENTAL ELECTRICAL WORK

PART 1 - GENERAL

1. WORK INCLUDED
   1.1. Provide any temporary electrical power needed to perform the requirements of the Work. If an electrical panel is required, installation shall be coordinated through the use of a licensed electrician.
   1.2. Install temporary lighting and power necessary to perform the Work of the Specifications.

PART 2 - PRODUCTS

2. MATERIALS AND WORKMANSHIP
   2.1. All materials and equipment required shall be:
      2.1.1. Approved by UL and so labelled.
      2.1.2. For wire and cable, marked as required by Article 310-10 NEC.
      2.1.3. Installed by electricians skilled in their trades, working under the direct supervision of competent experienced foremen and/or superintendent.
      2.1.4. Installed in compliance with all applicable OSHA and NEC electrical codes.

3. TIMELY PLACING OF MATERIALS AND EQUIPMENT
   3.1. Install items specified in Paragraph 2 of this Section at the proper time during progress of construction. Coordinate work operations with other trades as necessary.

PART 3 - EXECUTION

4. GENERAL
   4.1. Provide temporary electrical power to respective work areas where cleaning and removal of suspect or confirmed ACM and associated debris is in progress.
   4.2. Decontaminate and remove all temporary lighting and other electrical items after ACM Abatement Activities are completed.
   4.3. The facility may not have operational electrical service. Contractor shall supply their own power and electrical equipment (generators, panels, or similar) for use at this location

END OF SECTION

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SECTION 02080

ACM ABATEMENT ACTIVITIES

PART 1 - GENERAL

1. SCOPE
   1.1. See Site Specific Scope of Work or associated drawings or site specific inspection reports for further assistance. It is the intent to have ACM removed from the City of Albuquerque (Owner) facilities while maintaining reduced pressure ventilation or regulated area work operations.
   1.2. It is the intent of Owner to provide a clean work area during all Asbestos-Containing Building Material (ACBM) abatement activities and finally provide a clean facility at the conclusion of the work for all visitors, employees, contractors and the public at the Owner facilities within the scope of these specifications.
   1.3. The Occupational Safety and Health Administration (OSHA) Construction Standard for Asbestos, 29 CFR 1926.1101, defines four types of asbestos-related work activities. These are:
      1.3.1. Class I: removal of asbestos-containing surfacing or thermal insulation materials
      1.3.2. Class II: removal of other ACBMs, such as roofing, floor coverings, or asbestos-cement board siding
      1.3.3. Class III: minor maintenance activities which may disturb small amounts of asbestos, which can include drilling of floor tile or planking
      1.3.4. Class IV: cleanup activities resulting from Class I - III activities
   1.4. The Owner has set high standards for the most qualified and most experienced Contractor to perform with the most stringent and challenging regulatory requirements applicable to this project. The Owner has incorporated its own definitions as a corporate policy to meet or exceed the requirements dictated by OSHA and or EPA. The Owner has indicated that the four defined recognized types of ACM Operations and Maintenance (O&M) activities are as follows:
      1.4.1. Class I: THESE ACM DISTURBANCES ARE ANTICIPATED
      1.4.2. Class II: THESE ACM DISTURBANCES OF AN INCIDENTAL NATURE ARE ANTICIPATED
      1.4.3. Class III: ACM DISTURBANCES OF < 3 SQUARE FEET ARE ANTICIPATED
      1.4.4. Class IV: ACM DISTURBANCES OF > 3 SQUARE FEET ARE ANTICIPATED
   1.5. The Owner has determined that specific areas where Class II, III and IV activities (normal maintenance activities, repairs, renovations, demolition) are to occur, these areas must be addressed for the ACBMs by safe, proper cleaning (and/or removal if required) and disposal.
   1.6. Only qualified Contractors shall perform ACBM Abatement Activities that include but are not limited to;
      1.6.1. Furnish all ACBM abatement work plans
      1.6.2. Furnish ACBM abatement trained labor
      1.6.3. Provide exceptionally clean equipment that operate impeccably for ACBM abatement
      1.6.4. Provide clean new supplies and materials for ACBM abatement
      1.6.5. Provide necessary transportation for the safe, proper ACBM disposal
      1.6.6. Other duties may be required

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1.7. Contractor is hereby notified that all designated floor, wall, ceiling surfaces, plumbing, mechanical or electronic equipment and other appurtenances may contain suspect ACBM, confirmed ACBM and associated debris.

1.8. The Owner has indicated that ECU™ system or the HEPACart System may be used on the project . These systems were selected for their engineered and patented design, to be extended or collapsed by one person in less than five minutes. They are large enough to provide ample workspace while ensuring that corridors and egress routes are in compliance with national fire/life safety standards.

1.9. Any other systems to be introduced to Owner ACBM Abatement Activities will require a vigorous review and approval by an appointed Certified Industrial Hygienist (CIH). The CIH will determine that the contractors specialized containment structure is equivalent to the ECU™, Hepacart ™or other applicable service to the scope of work or will be allowed to be used at the Owner's facility.

1.10. The ECU™ , Hepacart ™ or equivalent system shall be used for localized removal activities.

1.11. Cleaning and/or removal of all suspect ACBM, confirmed ACBM, associated debris in all target areas, and shall be conducted with an ECU™ system or equivalent and, where applicable, areas be placed under Negative Pressure Enclosure conditions.

1.11.1. The ACBM Abatement Activities; cleaning and/or removal of all suspect ACBM, confirmed ACBM, associated debris by HEPA vacuuming or wet wiping with towels all floor, wall and ceiling surfaces in designated rooms or areas, ceiling plenums, wall cavities, tunnels, mechanical heating and cooling systems defined in the Scope of Work for the Owners facility shall be conducted within the confines of an Environmental Containment Unit™ (ECU™) or equivalent, where applicable.

1.11.2. ACBMs associated with, but not limited to spray-on fire proofing, drywall, plaster, acoustical ceiling products, pipe insulation, pipe fitting insulation, elbows, tees, valves, and hangers. The material will also be associated with tanks, boilers, and mechanical components. Unless otherwise noted all fiberglass and tar wrap materials will be treated as ACBM and disposed of accordingly.

1.11.3. Flooring materials including but not limited to floor tile mastic, vinyl coverings may be removed under this contract. ACBM abatement activities involving flooring materials shall be conducted with an ECU™ system or equivalent, where applicable, under Negative Pressure Enclosure or reduced pressure conditions.

2. TERMINOLOGY

2.1. Abatement - procedures to decrease or eliminate fiber release from precast, spray-on, trowel-applied asbestos-containing building materials. Includes encapsulation, enclosure, and removal.

2.2. Air Monitoring - the process of measuring the fiber content of a specific volume of air during a stated period of time.

2.3. Airlock - system for permitting ingress or egress of personnel without permitting air movement between a contaminated area and an uncontaminated area, typically consisting of two curtained doorways at least three feet apart.

2.4. Amended Water - water to which a surfactant has been added.

2.5. Asbestos - a general term used to describe several fibrous mineral silicates. Although there are many asbestos minerals, only six are of commercial importance. They are: Actinolite, Amosite, Anthophyllite, Chrysotile, Crocidolite, and Tremolite. For the purposes of this Project the term "asbestos" is used interchangeable with "asbestos-containing sprayed material", "dust containing asbestos", and "friable insulating material containing asbestos".

2.6. Asbestos Control Area - an area where asbestos removal operations area performed and which is sealed and isolated by physical barriers to prevent the spread of asbestos contamination.

2.7. ANSI - American National Standards Institute.

2.8. ASTM - American Society for Testing and Materials.

2.9. Clean Room - an uncontaminated area, part of the worker decontamination unit, with provisions for storage of workers' clothes and equipment.

2.10. Critical Barrier - seal applied to openings connecting the abatement area with adjacent spaces that will not be included in the containment. This includes, but are not limited to: HVAC vents and diffusers; doorways; windows; floor, wall, and ceiling penetrations; and air plenums.

2.11. Curtained Doorway - a device to allow ingress or egress from one room to another while minimizing air movement between the rooms. Typically constructed by placing three overlapping sheets of 6-mil plastic over an existing or temporarily framed doorway, securing each along the top of the doorway, securing the vertical edges of the outer sheets along one vertical edge of the second or middle sheet along the opposite vertical side of the doorway, or an approved equal.

2.12. Decontamination Enclosure System - a series of connected rooms, with curtained doorways between any two adjacent rooms, for the decontamination of workers or of materials and equipment. A worker decontamination enclosure system always contains at least three airlocks (rooms). An equipment decontamination system always contains at least two airlocks (rooms).

2.13. ECU™ - is a clinically tested, portable containment product that provides a range of containment applications with the appropriate level of HEPA-filtered negative air pressure required by the Centers for Disease Control and Prevention (CDC). When collapsed, the ECU is compact and portable.

2.14. Encapsulation - the sealing of asbestos surfaces involving application of a material (encapsulant) that will envelop or coat the fiber matrix and eliminate fiber fallout and protect against contact damage.

2.15. Enclosure - procedures necessary to completely enclose materials containing asbestos behind airtight, impermeable, permanent barriers.

2.16. EPA - United States Environmental Protection Agency.

2.17. Equipment Decontamination Enclosure System - a decontamination enclosure system for materials and equipment, typically consisting of a washroom, and holding area.

2.18. Equipment Room - a contaminated area or room that is part of the worker decontamination enclosure system, with provisions for storage of contaminated clothing and equipment.

2.19. Fixed Object (Immovable Object) - a unit of equipment or furniture in the work area that cannot be removed from the work area.

2.20. HEPA - High Efficiency Particulate Air (HEPA) filter capable of trapping and retaining 99.97% of asbestos fibers greater than 0.3 microns in length.

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2.21. HEPA - High Efficiency Particulate Air (HEPA) filtered vacuuming equipment with a UL 586-filter system capable of collecting and retaining asbestos fibers.

2.22. Holding Area - a chamber between the washroom and uncontaminated area in the equipment decontamination enclosure system. The holding area comprises an airlock.

2.23. Movable Object - a unit of equipment or furniture in the work area can be removed from the work area.

2.24. NESHAP - National Emissions Standard for Hazardous Air Pollutants.

2.25. N.E.C. - National Electrical Code.

2.26. NIOSH - National Institute for Occupational Safety and Health.

2.27. Ordinary Light Fixture - any light fixture within the building, which has no specialized purpose other than normal room lighting.

2.28. OSHA - Occupational Safety and Health Administration.

2.29. Plastic Sheeting - plastic sheet material of specified thickness used for protection of walls, floors, etc., and used to seal openings into the work area.

2.30. Removal - the act of removing asbestos-containing or contaminated materials from the structure under properly controlled conditions to a suitable disposal site.

2.31. Shower Area - a room constituting an airlock, between the clean room and the equipment room in the worker decontamination enclosure system, with hot and cold or warm running water suitably arranged for complete showering during decontamination.

2.32. Special Light Fixtures - any light fixture or other lighting equipment which is used for a specialized purpose within the building other than providing normal room lighting.

2.33. Surfactant - a chemical wetting agent added to water to improve penetrating ability, thus reducing the quantity of water required to saturate asbestos-containing materials.

2.34. Wet Cleaning - the process of eliminating asbestos contamination from building surfaces and objects by using cloths, mops, or other cleaning tools which have been dampened with amended water, and by afterwards disposing or these cleaning tools asbestos-contaminated waste.

2.35. Washroom - a room between the work area and the holding area in the equipment decontamination enclosure system. The washroom comprises an airlock.

2.36. Work Area - area or areas of Project, which undergo abatement or are contaminated.

2.37. Worker Decontamination Enclosure System - a decontamination enclosure system for workers, typically consisting of a clean room, a shower room, and an equipment room.

3. QUALITY CRITERIA

3.1. Qualifications for Performance of Work for review by Owner appointed CIH.

3.1.1. Contractor (or subcontractor engaged to perform the Work of this Section) shall have a record of not less than two years successful experience in asbestos removal and related work similar in scope and magnitude to this project. Submit a list of successfully completed projects for verification.

3.1.2. Maintain, on site, a Superintendent and one Head Foreman. Superintendent and Head Foreman must have completed at least five jobs of similar scope and magnitude to this Project and must be approved by Owner or by Owner appointed CIH prior to the start of the Work and shall not be changed without prior approval from Owner. Head Foreman shall remain inside of the work area at all times the Work is in progress. Submit resumes as specified.

3.1.3. Provide one experienced Job Foreman for every eight asbestos removal workers (laborers) utilized on the Project. Foreman shall remain inside work area (s) at all times that the Work is in progress. Submit experience of each Job Foreman in the pre-job submittal package.

3.1.4. Use only trained and experienced asbestos removal workers to perform the Work. Submit documentation of each worker's training in the pre-job submittal package.

3.2. Reference Standards, Codes and Standards

3.2.1. Acknowledge, by executing the Contract, awareness and familiarity with the contents and requirements of the following regulations, codes, and standards, guidance documents, assume responsibility for the performance of the Work in strict compliance therewith and for every instance of failure to comply therewith. The current issue of document shall govern. Where conflict between requirements or with the Contract Documents exists, the more stringent requirements shall apply.

3.2.1.1. U.S. Environmental Protection Agency (EPA) Regulations for Asbestos (Code of Federal Regulations Title 40, Part 61, Subparts A and M: National Emissions Standards for Hazardous Air Pollutants (NESHAP).

3.2.1.2. U.S. Environmental Protection Agency (EPA) Regulation Title 40, Part 231 Appendix C, Procedures for Containing and Removing Building Materials Containing Asbestos.

3.2.1.3. U.S. Environmental Protection Agency (EPA) 40 CFR 260-265: Resource Conversation and Recovery Act.

3.2.1.4. U.S. Department of Labor, Occupational Safety and Health Administration (OSHA) Regulations (Code of Federal Regulations Title 29, Part 1910, Section 1910.1101, 1910.134, 1910.1200, 1910.20 and Part 1926, Section 1926.1101).

3.2.1.5. U.S. Department of Education, Office of Elementary and Secondary Education (Code of Federal Regulations Title 34, Parts 230 and 231), Federal Register, vol. 46, No. 11, January 16, 1981.

3.2.1.6. U.S. Environmental Protection Agency (EPA) Office of Pesticide and Toxic Substances Guidance Document, "Guidance for Controlling Friable Asbestos-Containing Materials in Buildings", EPA 560 / 5-85-024, June 1985.

3.2.1.7. U.S. Environmental Protection Agency (EPA) Office of Pesticide and Toxic Substances Guidance Document, "Managing Asbestos in Place: A Building Owner's Guide to Operations and Maintenance Programs for Asbestos- Containing Materials", EPA 20T-2003, July 1990.

3.2.1.8. All state, county, and city codes and ordinances as applicable. Make available for review at the site one copy of EPA, OSHA, and applicable state, county, and city Regulations governing the Work.

3.2.1.9. 40 CFR 763 Asbestos Standard. Subpart E, Asbestos Containing Materials in Schools Rule often referred to as the response to the Hazard Emergency Response Act (AHERA).

4. TEST REPORTS

4.1. Results of tests of asbestos-containing materials taken from building surfaces within the scope of this Project can be made available, if possible. However, the Contractor is cautioned that, should interpretations be made, opinions are formed, and conclusions drawn as a result of

examining the test results, those interpretations, opinions, and conclusions will be those made, formed and drawn solely by the Contractor.

4.2. In as much as randomly and/or arbitrarily selected areas were sampled, Owner makes no representation, warranty, or guaranty that the conditions indicated by the test reports either are representative of those conditions existing throughout the area, or that unforeseen developments may not occur, or that materials other than, or in proportions different from, those indicated may not exist.

5. SUBMITTALS
   5.1. Refer to Section 01300 for the submittals required by the Contract Documents.
6. PRODUCT HANDLING
   6.1. Deliver all materials, as much as possible, in the original packages, containers, or bundles bearing the name of the manufacturer and the brand name.
   6.2. Store all materials subject to damage off the ground away from wet or damp surfaces, and under cover sufficient to prevent damage or contamination.
   6.3. Remove from the premises all damaged or deteriorating materials. Dispose of materials that become contaminated with asbestos in accordance with applicable standards.
7. WORKER SAFETY AND PROTECTION
   7.1. Worker Training. The Contractor shall ensure that all of his employees have received training required by OSHA Standard 1926.1101 and applicable state regulations and that training records are on file in his office and available for review, and are maintained for one year beyond the last date of employment.
   7.2. Worker Physical Examinations. Contractor shall provide medical examinations for all employees in accordance with OSHA standards 1910.134 (b) and 1926.1101 and applicable state regulations. The Contractor shall ensure that all employee results are on file in his office and available for review.
   7.3. The Contractor shall further ensure that employee examination results, for each employee utilized on this Project, indicate that the employee is physically capable to perform the work and wear the respiratory protection required.
   7.4. Worker Protection and Decontamination. The contractor shall take all safety measures and precautions required to protect his employees and building occupants in accordance with OSHA 29 CFR 1926.1101, and EPA 40 CFR, Part 61, Subpart M, and applicable state regulations. The Contractor shall provide his employees a worker decontamination enclosure system in accordance with OSHA 29 CFR 1926.1101, and specified herein.
   7.5. The contractor shall maintain a minimum of one (1) fire extinguisher per 20,000 sf, a first-aid kit, and smoke detectors throughout the work site. The contractor shall establish emergency procedures and exits with Owner's Representative for evacuation in case of fire. Whenever possible, the Contractor shall utilize fire-retardant materials. Post emergency exits within the area and at the exit of the area.
   7.6. The contractor shall identify a local medical emergency facility in coordination with Owner's Representative. The emergency medical facility personnel (emergency room staff) shall be notified prior to commencement of abatement operations on the possibility of handling contaminated and/or injured workmen, and shall be advised on safe decontamination procedures.

7.7. The Contractor shall be prepared to administer first aid to injured personnel after decontamination. Seriously injured personnel shall be treated immediately or with delay for decontamination. When an injury occurs, the contractor shall stop work and implement fiber reduction techniques (e.g. wet methods, air cleaning, etc.) until the injured person has been removed from the work area.

8. BUILDING PROTECTION
   8.1. Fire rated plastic and fire rated protection barriers shall be utilized on this project.
   8.2. The Contractor shall protect building furnishings, equipment, and other surfaces from the effects of the work in accordance with EPA, 40 CFR, Part 61, Subpart A and Subpart M.
9. WORKSITE CONDITIONS
   9.1. Worker and Visitor Procedures: The Contractor is hereby advised that asbestos has been determined by the U.S. Government to be a CANCER-CAUSING AGENT and the Contractor shall provide workers and visitors with respirators which, as a minimum, shall meet the requirements of OSHA 29 CFR 1926.1101 and protective clothing, during preparation of system of enclosures, prior to commencing, during actual asbestos abatement, and until final air tests are accepted by Owner's Representative.
   9.2. The contractor is hereby advised that any facility can be contaminated with microbiological contaminants and biohazards of various kinds. Workers shall be trained on potential hazards and procedures to minimize spread of disease. Example training can be referenced against the Center for Disease Control documentation. Contractor shall further ensure that no Contractor personnel may be present at the job site unless each has been specifically trained.
10. PERSONNEL PROTECTION
   10.1. Prior to commencement of work, all workers shall be instructed by the Contractor, and shall be knowledgeable in the appropriate procedures for personnel protection, asbestos abatement, and hazard communication (including biohazards).
   10.2. Contractor acknowledges and agrees that he is solely responsible for enforcing worker protection requirements at least equal to those specified in this Section. Contractor shall further ensure that no Contractor personnel may be present at the job site unless each has been specifically trained.
   10.3. Contractor shall provide workers with personally issued and marked respiratory equipment approved by NIOSH and in compliance with OSHA Standards for the type of work being performed.
   10.4. Where respirators with disposable HEPA filters are used, provide sufficient filters for replacement, as necessary, by the workers, or as required by applicable regulations.
   10.5. Provide respiratory protection as needed from the time of the first operation involving preparation to abate asbestos-containing building materials (including pre-cleaning, construction of airtight barriers/barricades, and placing of plastic sheeting on walls) until acceptance of final air test results by s Representative.
   10.6. Provide up to three respirators to be used solely for Owner, Owner's Representative and or Governmental Agents or the Contracted Industrial Hygienist.
   10.7. Contractor shall be solely responsible for scheduling necessary air sampling by an independent testing laboratory for compliance of his respiratory protection with OSHA Regulations. Contractor shall pay for all costs associated with such testing. Contractor must provide documentation that personnel used to perform such sampling have received

appropriate training, such as the NIOSH 582 or equivalent course, and has successfully completed such sampling on at least three previous projects. Additionally, Contractor shall provide information regarding qualifications of testing laboratory. Permissible Exposure Limits (PELs) and Short Term Exposure Limits (STELs) results of personnel air monitoring shall be provided to Owner's Representative within 24 hours of completion of collection of air monitoring results.

10.8. Permit no visitors, except for governmental inspectors having jurisdiction and Government/Contracted Industrial Hygienist, or as authorized by Owner or Owner's Representative, in the work areas after commencement of asbestos disturbance or removal. Provide authorized visitors with suitable respirators and protective equipment. Authorized visitors must exhibit evidence of training in accordance with requirements of 29 CFR 1926.1101 prior to work area entry.

10.9. Provide workers with sufficient sets of protective disposable clothing, consisting of full-body coveralls, head covers, gloves, and foot covers, of sizes to properly fit individual workers. Require workers to wear such clothing from the time of the first operation involving preparation to abate asbestos-containing materials (including pre-cleaning, construction of airtight barriers/barricades, and placing of plastic sheeting on walls) until acceptance of final air test results by Owner's Representative.

10.10. Leave reusable equipment, apparel and protective devices (excluding respirators) in the contaminated equipment room until the end of the asbestos abatement work, at which time such items shall be disposed of as contaminated waste or decontaminated for reuse.

10.11. Provide authorized visitors with a set of suitable protective disposable clothing, headgear, eye protection, and footwear of sizes to properly fit visitors whenever they are required to enter the work area.

10.12. Provide, in addition to respirators and protective clothing provided for authorized visitors, protective clothing for use by Owner, Owner's representative and Owner's appointed Certified Industrial Hygienist. Furnish protective clothing in as many sets as required for monitoring performed by and Owner's appointed Certified Industrial Hygienist.

10.13. When supplied air respirators are used, provide emergency backup air supply for each worker in the work area at all times when supplied-air (Type C) respirator equipment is in use. Provide backup air supply of sufficient duration to allow all workers to safely exit the asbestos work area without removing respiratory protective equipment if a failure in the Type C air supply system occurs.

10.14. When supplied air respirators are used, provide for testing of compressor and supplied-air (Type C) respirator equipment during the course of the Project by an independent Testing laboratory competent in this field to verify that air supplied is Grade D or better.

PART 2 - PRODUCTS

11. MATERIALS

11.1. Plastic sheeting - shall be of the thicknesses specified, in sizes to minimize the frequency of joints. Use of "spray-on poly" is not permitted.

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11.2. Tape - Shall be glass, fiber or other type capable of sealing joints of adjacent plastic sheets and for attachment of plastic sheet on finished or unfinished surfaces, under dry or wet conditions.

11.3. Surfactant (wetting agent) - shall consist of mixture of "Dust-Set Amended Water Base" (Matheson Chemical Corporation), and water, mixed one part "Dust-Set Amended Water Base" to 19 parts water, or approved equivalent.

11.4. Sealant (encapsulant) - Shall be manufactured by reputable, established manufacturer of encapsulant/sealant for asbestos-contaminated environments. It is the responsibility of the Contractor to determine compatibility of the sealant with the materials and conditions and must have color dye readily identifiable after application.

11.5. Impermeable Containers - Shall be suitable to receive and retain any asbestos-containing or contaminated materials until disposal at an approved site and shall be labeled in accordance with OSHA Regulation 29 CFR 1926.1101. Containers shall be both air and watertight. Use two types of impermeable containers:

11.5.1. 1. Metal or fiber drums with tightly fitting lids, lined with 6-mil plastic, and

11.5.2. 2. Six-mil plastic bags.

11.6. 11.6 Other Materials - Provide all other materials, such as lumber, nails, and hardware, which may be required to construct and dismantle the decontamination system and the barriers that isolate the work area. Rigid plastic barriers are specified for this project along with the use of zippered doorways and adhesive step-off pads at entrances to the work areas.

12. TOOLS AND EQUIPMENT

12.1. Provide suitable tools for asbestos-containing material removal.

12.2. Water Sprayer - Utilize airless or other low-pressure sprayer for amended water application.

12.3. Air Purifying Equipment (for internal recirculation in the work area) - Shall be High Efficiency Particulate Absolute (HEPA) Filtration Systems. Ensure that no internal air movement system or purification equipment exhausts contaminated air from inside the work area into uncontaminated areas.

12.4. Scaffolding - Shall be as required to accomplish the specified work and shall meet all applicable safety regulations.

12.5. Transportation - As required for loading, temporary storage, transit, and unloading of contaminated waste without exposure to persons or property. Use only enclosed or covered trucks to haul waste containers in route to the landfill.

12.6. ECU™ - A clinically tested, portable containment product that provides a range of containment applications with the appropriate level of HEPA-filtered negative air pressure required by the Centers for Disease Control and Prevention (CDC).

13. RESPIRATORY PROTECTION

13.1. Types of Respirators. Contractor shall provide workers with and require the use of respirators approved by NIOSH for asbestos in accordance with OSHA Standard 1926.1101 and with OSHA 29 CFR 1910.134. Disposable single use respirators are not acceptable. The minimum protection allowable during worksite preparation shall be an approved, half-face, negative-pressure air-purifying respirator with HEPA cartridges. An approved, powered air-purifying respirator with HEPA cartridges shall provide the minimum protection allowable during asbestos abatement. When these respirators do not provide adequate protection as

determined by the daily air monitoring results, supplied air systems shall supply Grade D breathing air conforming to OSHA 1910.134.

13.2. Respirator Use. Respirators shall be worn at all times in the asbestos control area while the following activities are being performed:

13.2.1. During area preparation when such activities may result in contact with friable asbestos.

13.2.2. During any material or equipment removal when asbestos may be disturbed.

13.2.3. In the asbestos control area after the area has been prepared, while asbestos abatement and cleanup operations are being performed.

13.2.4. In the loading and asbestos control area while handling bags or sealed containers and while loading sealed containers onto the truck.

13.2.5. While unloading disposal containers at the landfill and placing them in the landfill.

13.2.6. After asbestos has been removed and an area has passed visual inspection and final clearance air sampling, respirators no longer need to be worn in that area.

13.3. Respirator Fitting and Training. The Contractor shall implement and maintain a Respiratory Protection Program in accordance with OSHA standards 1910.134 and 1926.1101. This program shall be described in a written program submitted as part of the Removal and Disposal Plan by the Contractor and shall incorporate the following elements:

13.3.1. Respirator Training. Employees shall be instructed in the selection, wearing, limitations, cleaning, storage, and maintenance of the type (s) of respirator (s) they will be using.

13.3.2. Face Piece Fit Testing. Each employee shall be fit-tested on the respirator (s) he is issued to ensure proper protection. Fit-testing shall be performed using isoamyl acetate ampoules, irritating smoke tubes, quantitative fit testing or equivalent methods according to OSHA Standard 29 CFR 1910.134. If necessary, the employee shall be given a choice of facepiece sizes or styles and respirator brands in order to ensure an adequate fit. Any facial hair that may interfere with the facepiece seal shall be removed prior to fit-testing and actual use. In addition, employees shall perform positive/negative pressure fit-tests on half-mask and full-facepiece air purifying respirators each time they don respirators. This shall be conducted in accordance with the manufacturer's instructions.

13.3.3. Respirators and Filter Cartridges shall be stored in a place and manner that they cannot become contaminated with asbestos. New cartridges shall be installed each time a worker enters the asbestos control area.

14. PROTECTIVE CLOTHING

14.1. All personnel engaged in asbestos abatement work shall wear approved protective clothing manufactured from TYVEK 1422 material or other material of equivalent resistance to penetration by asbestos. A full body suit is recommended in lieu of a separate set of coveralls, head covers, and shoe covers. Disposable whole body clothing including head covers, gloves, and shoe coverings shall be provided to and worn by all personnel in the asbestos control area. If attached and/or boots are not included, these shall be provided separately. If elastic sleeve closures are not provided, sleeves shall be secured to duct tape to gloves.

14.2. Contaminated clothing shall be treated as asbestos-containing material and undergo the same disposal procedures.

14.3. All disposable clothing shall be flame-retardant. All openings in clothing shall be taped to exclude penetration by asbestos fibers.

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14.4. Protective Equipment, Respirators and clothing for use by Owner and Owner's Representative and Contracted Industrial Hygienist: The Contractor shall, at all times, have available for use by Owner, Owner's Representative and Contracted Industrial Hygienist three clean sets of protective equipment (including appropriate respirators and disposable protective clothing).

15. WARNING SIGNS AND LABELS

15.1. Signs. The Contractor shall post warning signs prior to asbestos removal in accordance with OSHA, 29 CFR 1926.1101. The signs shall display the legend indicated below:

DANGER	Danger
ASBESTOS	Asbestos
CANCER AND LUNG DISEASE HAZARD	May Cause Cancer
AUTHORIZED PERSONNEL ONLY	Authorized Personnel Only
RESPIRATORS AND PROTECTIVE	Wear respirators and protective
CLOTHING ARE REQUIRED IN THIS AREA	Clothing in this area

15.2. Labels. The Contractor shall permanently affix warning labels to all products and bags/containers containing or contaminated with un-encapsulated friable asbestos in accordance with OSHA, 29 CFR 1926.1101. Labels shall be printed in large bold letters on a contrasting background and contain the following legend:

DANGER
CONTAINS ASBESTOS FIBERS
MAY CAUSE CANCER
CAUSES DAMAGE TO LUNGS
DO NOT BREATH DUST
AVOID CREATING DUST

PART 3 – EXECUTION

16. PREPARATION

16.1. Coordinate sequence of work area preparation throughout the building or on the roofs with Owner's Representative in order to properly segregate work areas from areas that must remain fully or partially operational. Proposed sequence of operations shall be as follows, but shall be confirmed by Owner's Representative at the Pre-Construction Meeting:

16.2. Remove and or clean by HEPA vacuuming or wiping with wet towels all floors, walls and ceiling surfaces in designated areas.

16.3. Contractor is hereby notified that top surfaces of ceiling surfaces, electronic equipment, connective cables, electrical conduit and other appurtenances may contain debris which must be cleaned and removed prior to the start-up of any other general work activities. These work activities shall be conducted within the confines of an Environmental Containment Unit™ (ECU™), or Negative Pressure Enclosure or equivalent, where applicable.

16.4. For removal of debris; HEPA-vacuum and wet clean equipment, floor and walls of the designated rooms.

16.5. Coordinate with Owner the window removal or placement of the HEPA Exhaust. Contractors will be responsible for the removal of windows and placement of exhaust air ductwork.

16.6. Contractor shall HEPA- vacuum, wet-wipe wrap in one layer of 6-mil plastic sheeting, inventory, and store as directed by Contracting Office's Representative for re-use, any movable object remaining in work area.

16.7. Seal HVAC diffusers and return vents in work area with two layers of 6-mil plastic sheeting. Cover all floor drains in the work area with a minimum of two layers 6-mil plastic sheeting. Ensure that water does not escape work area through existing drain systems.

16.8. Cover windows and perimeter doors in areas that are to receive asbestos-containing material for storage purposes ("storage areas") with a minimum of one layer 6-mil plastic sheeting.

16.9. Cover non-operating equipment and immovable objects of the designated rooms with a minimum of one layer of 6-mil plastic sheeting. No plastic sheeting or tape shall be attached to any asbestos-containing building material, but when necessary, shall be suspended from framing erected to support such. The effect of this preparation shall be to cover completely all surfaces beneath materials designated for abatement with a minimum of one layer of 6-mil plastic sheeting.

16.10. Construct barriers of two layers of 6-mil plastic sheeting around equipment that is designated to remain operational within the work area. Design barriers so as to permit the supply of low-volume, conditioned air to the equipment for the purpose of minimizing heat gain. Construct a tunnel or other exterior access to the equipment that may be utilized by non-protected, untrained personnel. Use of rigid plastic barriers, zippered doorways and adhesive step-off pads are required for decontamination areas extending into occupied areas.

16.11. Place each ECU™ work area under negative air pressure utilizing HEPA filtration systems that comply with ANSI Z9.2-79, local exhaust ventilation. Allow no air movement system or air-filtering equipment to discharge unfiltered air outside the work area. Maintain a negative pressure on the work area continuously (24 hours per day) until the area has been cleaned and certified as such by the required air testing. The Contractor shall submit the proposed route of exhaust to the Owner's Representative prior to initiating its use. Provide documentation that pressure differential maintained is at least 0.02 inches of water column.

16.12. Trap shower wastewater using filters having a pore size of not larger than 5.0 microns, and collect. Replace contaminated filters when they become clogged but not less than every third day. Dispose of filters as contaminated waste. All filtered water is to be collected and discharged in a sanitary sewer off of the premises. Submit a plan for discharging of filtered water.

16.13. Ensure that all barriers and plastic sheeting enclosures remain effectively sealed and taped for duration of abatement and subsequent cleaning. Repair damaged barriers and remedy defects immediately upon discovery. Visually inspect enclosures at the beginning of each work period. Repair damaged barriers and remedy defects immediately upon discovery. Use smoke tubes or other approved methods to test effectiveness of barriers each shift.

16.14. Maintain emergency and fire exits from the work areas, or establish alternative exits satisfactory to fire officials.

16.15. Provide temporary power and lighting as necessary to maintain safe and comfortable work environment.

16.16. Maintain a Sign In/Out log in the immediate area of the change room to be utilized by every person, each time upon entering and leaving the work area (s). Provide completed copy of sign in/out log to Owner's Representative daily.

16.17. Notify Owner's Representative for a visual inspection of the job-site preparation prior to any removal or disturbance of asbestos-containing building material. This visual inspection is to determine the complete plasticizing of work area and the construction of worker and barrel/equipment decontamination enclosure systems.

16.18. Initiate required personnel air monitoring. Provide results of personnel air monitoring to the Owner's Representative within 24 hours of completion of the testing. Post results of personnel air-monitoring daily in a location approved by Owner' Representative for all personnel to see.

17. REMOVAL AND ENCAPSULATION OF ASBESTOS-CONTAINING BUILDING MATERIAL

17.1. Remove and properly dispose of all asbestos-containing building materials indicated to be removed as described in the procedures outlined in the U.S. Department of Labor Occupational Safety and Health Administration (OSHA), Asbestos Regulations (Code of Federal Regulations Title 29, Part 1926, Section 1926.1101 and as more stringently specified herein.

17.2. Use an airless water sprayer or other low-pressure sprayer for amended water application. A surfactant (wetting agent) shall consist of mixture of "Dust-Set Amended Water Base" (Matheson Chemical Corporation), and water, mixed one part "Dust-Set Amended Water Base" to 19 parts water, or approved equivalent. Do not directly spray amended water on to electrical or communications equipment.

17.3. Use an airless water sprayer or other low-pressure sprayer for Sealant (encapsulant) application. The encapsulant for asbestos-contaminated environments shall be manufactured by reputable, established manufacturer. It is the responsibility of the Contractor to determine compatibility of the sealant with the materials, conditions and must have color dye readily identifiable after application. ENCAPSULANTS SHALL NOT BE USED ON STRUCTURAL STEEL WHERE NON-ACM FIREPROOFING WILL BE REAPPLIED.

18. CLEAN-UP AND CLEARANCE TESTING

18.1. Provide general clean-up of work area concurrent with the removal of all asbestos-containing materials. Do not permit accumulation of debris on workspace floor.

18.2. Standard of Cleaning for Final Clearance: Consider work areas and all other decontaminated and cleaned areas clean when:

18.2.1. Level of cleanliness has been approved by Owner's Representative; and

18.2.2. Air testing performed by the Contracted Industrial Hygienist indicates less than 0.01 fibers per cubic centimeter of air, using procedures outlined in the NIOSH 7400 method.

19. CLEAN-UP SEQUENCE

19.1. Remove all visible accumulations of asbestos-containing material and debris.

19.2. Wet-clean and HEPA-vacuum all surfaces in the work area.

19.3. Clean all equipment used in the work area and remove from work area via the equipment decontamination enclosure system.

19.4. Replace all pre-filters in negative air machines with clean filters. Wet-clean and HEPA-vacuum all equipment, tools and machinery remaining inside the work area. Clean all negative air machines.

19.5. Notify Owner's Representative for a visual inspection of cleaning and/or removal to determine completeness. Plastic sheeting surfaces shall be accepted as clean when free from dust, dirt, residue, film, or discoloration resultant from abatement operations or other activities subordinate to these operations.

19.6. Following acceptance of the initial cleaning and/or removal of the work area by Owner's Representative, carefully remove the inner layer of plastic sheeting, folding inward to trap debris. Dispose of as contaminated waste.

19.7. HEPA-vacuum and wet clean all surfaces in the work area. This includes floor, all equipment, tools, machines, and plastics sheeting remaining.

19.8. Notify Owner's Representative for a visual inspection of cleaning to determine completeness. Plastic sheeting surfaces shall be accepted as clean when free from dust, dirt, residue, film, or discoloration resultant from abatement operations.

19.9. Perform no activity in work area for a period sufficient to allow settlement of airborne fibers and drying of encapsulant used for lock-down purposes.

19.10. HEPA-vacuum and wet clean all surfaces in the work area. This includes all equipment, tools, machines, and plastic sheeting remaining.

19.11. Notify Owner's Representative for a visual inspection of cleaning to determine completeness of final cleaning.

19.12. Final Clearance Testing

19.12.1. Re-clean and continue to clean at Contractor's expense, areas that do not comply with the specified final clearance level. Contractor shall bear cost of all follow-up tests necessitated by the failure of the air tests to meet the specified final clearance level.

19.13. Dismantle decontamination enclosure systems and thoroughly HEPA- vacuum and wet clean immediate areas.

19.14. Dispose of debris from removal operation; used cleaning materials, unsalvageable materials used for barriers, and any other remaining materials. Consider the materials to be asbestos contaminated, and dispose of accordingly.

20. DISPOSAL OF ASBESTOS CONTAMINATED WASTE

20.1. Collection of asbestos waste materials. For the purpose of this paragraph, asbestos waste materials are all items not sealed with an asbestos encapsulant sealer at the job-site. These waste materials shall be collected in 6-mil polyethylene bags or other approved sealable, impermeable containers. A fine spray of amended water or removal encapsulant shall be used to keep asbestos damp in unfilled, unsealed containers to minimize airborne asbestos dust. Each filled disposal bag shall be sealed and cleaned with a fine mist or spray of amended water inside the shower area of the decontamination unit, where it shall then be placed into a second 6-mil disposal bag. The double-bagged asbestos material that has been abated shall be removed from containment at this point for disposal. Bagged material shall not be allowed to accumulate inside containment.

20.2. Disposal of asbestos waste materials. Double-bagged material shall move through the facility in a cart with a rigid cover. Materials shall be quantified before removal form the premises. Asbestos waste shall be hauled away by the Contractor as soon as there is a

sufficient quantity for a truckload. Procedures for hauling and disposal shall comply with EPA 40 CFR, Part 61, and other applicable state, regional and local Government standards.

20.2.1. Dump and other open trucks hauling asbestos double-bagged material shall be covered to prevent loss or damage to containers enroute to the disposal site.

20.2.2. Sealed plastic disposal bags shall be placed into the burial site. Damaged bags shall be buried in impermeable drum containers. Workers unloading and handling the sealed bags at the disposal site shall wear approved respiratory protection and appropriate personal protective equipment.

20.3. Allow only double-bags that are undamaged or sealed metal or fiber drum containers to be deposited in landfill.

20.4. Ensure that there are no visible emissions to the outside air from site where materials and waste are deposited.

20.5. Waste materials deposited in a landfill or Special Waste disposal site shall have the waste shipment record returned to DC Environmental within thirty (30) days of leaving the facility. Submit receipts from authorized representative of landfill operator for each delivery of waste material to Owner's Representative after each delivery. Upon completion of the project a submittal of the complete set of disposal documents shall be included before final payment is delivered. Delivery of materials to the disposal site or procedures for disposal shall be approved before disposal of the material is performed.

21. FIELD QUALITY CONTROL

21.1. Industrial Hygiene Services for Owner will provide air sampling, analysis, project observations, inspections and oversight at no cost to the Contractor, except as provided in this Section, to perform the air monitoring. Air samples will be collected inside and outside removal containment. The Industrial Hygiene Services will be provided by a Certified Industrial Hygienist or by a highly experienced Industrial Hygienist working under the direction of a Certified Industrial Hygienist. Personnel providing the Industrial Hygiene Services are identified as "Contracted Industrial Hygienist" for the purposes of this Specification.

21.1.1. When airborne fiber concentrations in or around the work area are greater than 0.1 f/cc, the Contracted Industrial Hygienist will immediately notify the Contractor and Owner's Representative. The Contractor shall begin an investigation immediately to determine the source (s) of the elevated fiber levels.

21.1.2. If subsequent air samples exceed 0.1 f/cc, Owner and Owner’s Representative will be notified by the Government Contracted Industrial Hygienist. The Contractor will stop work and take all corrective actions necessary to reduce the airborne fiber concentrations outside the work area containment to equal to or less than 0.1 f/cc.

21.2. The Contracted Industrial Hygienist shall conduct air monitoring prior to and throughout removal and cleaning operations.

21.3. The Contracted Industrial Hygienist shall perform air testing and progress work samples shall be analyzed in accordance with the procedures outlined in NIOSH 7400 method.

21.4. The Contracted Industrial Hygienist shall perform only Owner's testing. Such testing for Owner does not relieve the Contractor of responsibility for providing necessary tests required by other regulations, codes, standards for the protection of his workers, or for any other purposes.

21.5. A preliminary visual inspection will be performed in the work areas by Owner's Representative following notification by the Contractor that said areas have been properly cleaned and are ready for final air testing. Areas will be observed for the presence of visible dust, dirt, and debris.

21.6. Except for Final Clearance Testing, tests shall be reported in terms of total fiber count per cubic centimeter (f/cc), and samples will be collected in accordance with EPA recommended sampling volumes for appropriate detection limits. Final Clearance Testing results shall be reported in asbestos structures per square millimeter of collection filter area.

21.7. Any area (s) whose air test results fail to comply with clearance standards of this Section will be re-tested following re-cleaning of the area (s). Contractor shall pay for all costs associated with re-testing, including collection of samples and payment for sample analysis.

21.8. Visual inspections will be made by the Contractor accompanied by Owner's Representative after final clean-up to determine the presence of visible dust, dirt, debris, and areas of damage.

21.9. Contractor shall perform additional cleaning and/or removal at no additional expense to Owner if, in the opinion of Owner's Representative, based upon the final visual a visual inspection; previous clean-up operations were determined to be inadequate.

END OF SECTION

DC Environmental ©
PO Box 9315, Albuquerque, NM 87119
505.869.8000

DC Environmental
Consulting and Training Services

Certificate of Visual Inspection

Contractor Certification

In accordance with the Technical Specifications, the Contractor hereby certifies he has visually inspected the work area and has completed the required work including asbestos removal, substrate cleaning and regulated area cleaning and decontamination.

_____

Area Location Inspected or Project Name

_____ Project Number _____

Signature Date

_____

Printed Name Company and Title

Industrial Hygienist Certification

The DC Environmental Industrial Hygienist certifies that the Contractor's Statement above is true and correct. In signing this document the Industrial Hygienist acknowledges that they have performed an inspection in conjunction with the Contractor's Representative to determine that the above statement is true and correct.

_____ Project Number _____

Signature Date

_____

Printed Name Company and Title

ATTACHMENT 2

TECHNICAL SPECIFICATIONS

LEAD-BASED PAINT REMOVAL AND DISPOSAL

LEAD-BASED PAINT REMOVAL AND DISPOSAL

PART 1 - GENERAL

1.1 DESCRIPTION

The intent is to control lead exposures and safely handle select components from the Albuquerque Rail Yards Project. The Rail Yards buildings have been identified as containing lead in select material components or coatings. The actual paint on the structure has lead in the matrix. The City of Albuquerque representatives have identified the lead and are further endeavoring to analyze the materials by the Toxicity Characteristic Leachate Procedure. The TCLP testing will determine if the lead waste is considered to be hazardous waste as defined by the Resource Conservation and Recovery Act. This section specifies abatement and disposal of those materials with lead in the matrices and controls needed to limit occupational and environmental exposure to lead hazards.

1.2 RELATED WORK

Not Used

1.3 APPLICABLE PUBLICATIONS

A. The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by basic designation only.

B. Code of Federal Regulations (CFR):

CFR 29 Part 1910 .....Occupational Safety and Health Standards

CFR 29 Part 1926 .....Safety and Health Regulations for Construction

CFR 40 Part 260 .....Hazardous Waste Management System: General

CFR 40 Part 261 .....Identification and Listing of Hazardous Waste

CFR 40 Part 262 .....Standards Applicable to Generators of Hazardous Waste

CRF 40 Part 263 .....Standards Applicable to Transporters of Hazardous Waste

CFR 40 Part 264 .....Standards for Owners and Operations of Hazardous Waste Treatment, Storage, and Disposal Facilities

CFR 40 Part 265 .....Interim Status Standards for Owners and Operators of Hazardous Waste Treatment, Storage, and Disposal Facilities

CFR 40 Part 268 .....Land Disposal Restrictions

CFR 40 Part 745 .....Lead Based Paint Poisoning Prevention Regulation

CFR 49 Part 172 .....Hazardous Material Table, Special Provisions, Hazardous Material Communications, Emergency Response Information, and Training Requirements

CFR 49 Part 178 .....Specifications for Packaging

C. National Fire Protection Association (NFPA):

NFPA 701-2004.....Methods of Fire Test for Flame-Resistant Textiles and Films

D. National Institute for Occupational Safety And Health (NIOSH)

NIOSH OSHA Booklet 3142 ..... Lead in Construction

E. Underwriters Laboratories (UL)

UL 586-1996 (Rev 2009) ..... High-Efficiency, Particulate, Air Filter Units

F. American National Standards Institute

Z9.2-2006.....Fundamentals Governing the Design and Operation of Local Exhaust Systems

Z88.6-2006.....Respiratory Protection

1.4 DEFINITIONS

A. Action Level: Employee exposure, without regard to use of respirations, to an airborne concentration of lead of 30 micrograms per cubic meter of air averaged over an 8-hour period. As used in this section, “30 micrograms per cubic meter of air” refers to the action level.

B. Area Monitoring: Sampling of lead concentrations within the lead control area and inside the physical boundaries which is representative of the airborne lead concentrations which may reach the breathing zone of personnel potentially exposed to lead.

C. Physical Boundary: Area physically roped or partitioned off around an enclosed lead control area to limit unauthorized entry of personnel. As used in this section, "inside boundary" shall mean the same as "outside lead control area."

D. Certified Industrial Hygienist (CIH): As used in this section, refers to an Industrial Hygienist and independent of the Contractor and is certified by the American Board of Industrial Hygiene in comprehensive practice.

E. Change Rooms and Shower Facilities: Rooms within the designated physical boundary around the lead control area equipped with separate storage facilities for cleaning protective work clothing and equipment. Minimum of a hand and face wash area to be designated.

F. Competent Person: A person capable of identifying lead hazards in the work area and is authorized by the contractor to take corrective action.

G. Decontamination Room: Room for removal of contaminated personal protective equipment (PPE).

H. Eight-Hour Time Weighted Average (TWA): Airborne concentration of lead averaged over an 8-hour workday to which an employee is exposed.

I. High Efficiency Particulate Air (HEPA) Filter Equipment: HEPA filtered vacuuming equipment with a UL 586 filter system capable of collecting and retaining lead-contaminated paint dust. A high efficiency particulate filter means 99.97 percent efficient against 0.3 micron size particles.

J. Lead: Metallic lead, inorganic lead compounds, and organic lead soaps. Excluded from this definition are other organic lead compounds.

K. Lead Control Area: An enclosed area or structure with full containment to prevent the spread of lead dust, paint chips, or debris of lead-containing paint removal operations. The lead control area is isolated by physical boundaries to prevent unauthorized entry of personnel.

L. Lead Permissible Exposure Limit (PEL): Fifty micrograms per cubic meter of air as an 8-hour time weighted average as determined by 29 CFR 1910.1025 or 1926.62. If an employee is exposed for more than 8 hours in a work day, the PEL shall be determined by the following formula. PEL (micrograms/cubic meter of air) = 400/No. of hrs worked per day

M. Personnel Monitoring: Sampling of lead concentrations within the breathing zone of an employee to determine the 8-hour time weighted average concentration in accordance with 29 CFR 1910.1025. Samples shall be representative of the employee's work tasks. Breathing zone shall be considered an area within a hemisphere, forward of the shoulders, with a radius of 150 mm to 225 mm (6 to 9 inches) and the center at the nose or mouth of an employee.

1.5 QUALITY ASSURANCE

A. Before exposure to lead-contaminated dust, provide workers with a comprehensive medical examination as required by 29 CFR 1926.62 (I) (1) (i) & (ii). The examination shall not be required if adequate records show that employees have been examined as required by 29 CFR 1926.62(I) within the last year. Biological monitoring may not be required if the concentrations remain below the action level.

B. Medical Records: Maintain complete and accurate medical records of employees in accordance with 29 CFR 1910.1020.

C. CIH Responsibilities: The Certified Industrial Hygienist will be responsible for the following:

1. Reviewing the training records of the exposed employees.
2. Review the removal plan for conformance to the applicable referenced standards.
3. Inspect lead-containing paint removal work for conformance with the approved plan.
4. Review and approval of the monitoring plan.
5. Ensure work is performed in strict accordance with regulations and specifications at all times.
6. Ensure hazardous exposure to personnel and to the environment are adequately controlled at all times.

D. Training: Train each employee performing paint stabilization, paint removal, disposal, and air sampling operations prior to the time of initial job assignment, in accordance with 29 CFR 1926.62.

E. Training Certification: Submit certificates indicating each employee has received training in lead particulate control procedures.

F. Respiratory Protection Program:

1. Furnish each employee required to wear a negative pressure respirator or other appropriate type with a respirator fit test at the time of initial fitting and at least every 12 months thereafter.

2. Establish and implement a respiratory protection program as required by 29 CFR 1910.134, 29 CFR 1910.1025, and 29 CFR 1926.62.

G. Hazard Communication Program: Establish and implement a Hazard Communication Program as required by 29 CFR 1910.1200.

H. Hazardous Waste Management: Maintain the records provided indicating that the materials does not meet the criterion for hazardous waste and provide documentation to requesting agencies or authorized agents. Should the material exceed the TCLP testing criteria, then maintain the waste shipment and disposal records of the lead waste. Waste disposal records are required to be retained for five years.

I. Safety and Health Compliance:

1. In addition to the detailed requirements of this specification, comply with laws, ordinances, rules, and regulations of federal, state, and local authorities regarding removing, handling, storing, transporting, and disposing of lead waste materials. Comply with the applicable requirements of the current issue of 29 CFR 1910.1025. Submit matters regarding interpretation of standards to the City of Albuquerque Contract Representative for resolution before starting work.
2. Where specification requirements and the referenced documents vary, the most stringent requirements shall apply.
3. The following local laws, ordinances, criteria, rules and regulations regarding removing, handling, storing, transporting, and disposing of lead-contaminated materials apply:
   a. New Mexico Hazardous Waste Management Regulations NMAC 20.4.1

J. Pre-Construction Conference: A conference shall be coordinated on site the day before work operations commence to discuss, in detail, the lead hazards present and the removal work plan, including work procedures and precautions implemented to comply with the work plan.

1.6 SUBMITTALS

A. The Environmental Remediation Contractor shall submit the following: Any shop drawings or manufacturer cut sheets on products used to control lead hazards.

B. Manufacturer's Catalog Data:

Vacuum filters

Respirators

C. Instructions: Paint removal materials. Include applicable material safety data sheets.

D. Statements Certifications and Statements:

1. Qualifications of the CIH and the Industrial Hygiene Technician (IHT): DC Environmental will submit name, address, and telephone number of the CIH and IHT selected to perform work activities at the site.

2. Testing Laboratory: DC Environmental will submit the name, address, and telephone number of the testing laboratory selected to perform the analysis monitoring, testing, and reporting of airborne concentrations of lead.

PART 2 PRODUCTS

DC Environmental shall manage and retain copies of the Safety Data Sheets for paint removal products used in the paint stabilization process.

PART 3 EXECUTION

3.1 PROTECTION

A. DC Environmental in concert with the Environmental Remediation Contractor shall notify the General Contractor (or others as appropriate) within 5 days prior to the start of any lead disturbance activity.

B. Lead Control Area Requirements.
   1. Similar to asbestos control procedures, the lead control area shall be completely enclosed using six (6) mil polyethylene sheeting around the area or structure where lead hazards or disturbance will be performed.
   2. The area will placed under reduced pressure with the use of a containment system with at least one change room and exhausted with HEPA filtered exhaust units.

C. The lead disturbance activities will be performed to protect adjacent areas from contamination.

D. Physical boundaries around the lead control area will be posted.

E. Heating, Ventilating and Air Conditioning (HVAC) Systems: The air intakes of any HVAC System shall be isolated, locked out, and/or covered in 6-mil plastic.

F. Change Room and Hand/Face Wash facilities shall be established adjacent to the controlled area.

G. Mechanical Ventilation System:
   1. The areas shall be placed under reduced pressure while lead is disturbed.
   2. To the extent feasible, local exhaust ventilation connected to HEPA filters or other HEPA filtered vacuum systems shall be installed to assist in reducing exposures to below the exposure limits.

H. Personnel shall wear disposable clothing and use respiratory protection during lead disturbance. Eating, smoking, or drinking is not permitted in the lead control area. A separate area exterior to the regulated area shall be designated for eating and taking breaks.

I. Warning signs shall be posted at such a distance that personnel may read the sign and take the necessary precautions before entering the area. Signs shall comply with the requirements of 29 CFR 1926.62 and the Hazard Communication Standard

3.2 WORK PROCEDURES

A. The lead disturbance shall be performed concurrently with many of the asbestos containing material removal activities. The intent is to use methodologies and equipment to limit occupational exposures to

lead when materials are disturbed. Waste generated shall be promptly packaged and not allowed to accumulate.

B. Personnel Exiting Procedures:
   1. Whenever personnel exit the regulated area, they shall perform the following procedures:
      a. HEPA Vacuum themselves off.
      b. Remove protective clothing in the decontamination room, and place them in an approved impermeable disposal bag.
      c. Shower, or Hand and Face wash at minimum. .
      d. Change to clean clothes prior to leaving the physical boundary designated around the lead-contaminated job site.

C. Monitoring of airborne concentrations of lead shall be in accordance with 29 CFR 1910.1025 and as specified herein. Air monitoring, testing, and reporting shall be performed by an Industrial Hygiene Technician (IHT) who is under the direction of the CIH:
   1. The CIH or the IHT shall be on the job site as required to collect air samples, inspect the lead-disturbance activities, and visually inspect the area at completion.
   2. Personal air monitoring samples on employees who are anticipated to have the greatest risk of exposure as determined by the CIH.
   3. Samples shall be delivered to a recognized environmental testing laboratory. The Contractor or representative will be notified immediately of exposure to lead in excess of the action level of 30 micrograms per cubic meter of air.

3.3 LEAD COATING DISTURBANCE

A. Removal of paint or building materials containing lead shall be performed within the regulated areas. Precautions and experienced crews shall be instructed to take necessary actions to minimize damage to the underlying substrate.

B. Paint stabilization and Surface preparation activities shall incorporate manual sanding and scraping to the maximum extent feasible to protect both interior components and exterior weather products.

3.4 CLEANUP

A. Cleanup: The Environmental Remediation Contractor shall maintain surfaces of the lead control area free of accumulations of excess lead. The training and observations will reiterate that the use of dry sweeping or compressed air to clean up the area is not permissible. At regular intervals the area will be cleaned using HEPA Vacuums or cleaning cloths to control particulate.

B. The CIH or IHT shall accompany the site supervisor on the final visual inspection of the worker area and attest to the validity of the statement that the area is ready for the final testing and ultimately the release to the General Contractor. The regulated area shall not be dismantled until the criteria for clearance has been met. This criteria could include ensuring the area is less than 30 micrograms per cubic meter of air

and that the area has met the visual inspection criterion for cleanliness. In addition, wipe sampling of the controlled area flooring to meet the Environmental Protection Agency clearance dust loading levels as indicated in 40CFR745.

ATTACHMENT 3

PREVIOUS INVESTIGATION REPORTS

DC Environmental
Consulting and Training Services

ASBESTOS AND LEAD BASED PAINT SURVEY
City of Albuquerque
Railyard North Wash Room
Parcel 10
Albuquerque, NM

PREPARED FOR:
Intera, Inc.
6000 Uptown Blvd, Suite 220
Albuquerque, New Mexico

PREPARED BY:
DC Environmental
PO Box 9315
Albuquerque, New Mexico 87119

November 9, 2016
Project No. 16-187

DC Environmental
Consulting and Training Services

November 9, 2016
Project No. 16-187

Mr. Joe Tracy
Intera Inc.
6000 Uptown Boulevard, NE
Suite 200
Albuquerque, NM 87110

Subject: Asbestos and Lead Based Paint inspection of the North Wash Room Parcel 10 – City of Albuquerque Railyard

Dear Mr. Joe Tracy;

In accordance with our proposal, DC Environmental has performed asbestos and lead based paint inspections of the above-referenced facility, located at the City of Albuquerque Railyard, 1100 2nd St SW, Albuquerque, New Mexico. The attached report presents our methodology, findings, opinions, and recommendations regarding the survey.

Lead Containing materials were identified at the North Wash Room. Asbestos-containing materials containing 1% or more of asbestos were not identified at the North Wash Room. The window putty contained <1% asbestos.

We appreciate the opportunity to be of service to you on this project. Should you have any questions regarding this report, please contact the undersigned at your convenience.

Sincerely,
ACME ENVIRONMENTAL INDUSTRIAL HYGIENE, INC.
dba DC Environmental

David Charlesworth, CIH
Certified Industrial Hygienist

Karen Dremann, BS
Senior Scientist

Distribution: (2) Addressee

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Appendices

EXECUTIVE SUMMARY

On October 26, 2016, DC Environmental performed an inspection of the North Wash Room located at the City of Albuquerque Railyard on 2nd street in Albuquerque, New Mexico. The inspection was conducted in a response to a request to identify materials which may be impacted during future renovation or demolition activities. The focus of our inspection was to determine the presence, location and quantity of asbestos remaining within the facility, and to establish the basis for the presence of lead containing finishes within the structure. The space is being evaluated for a confidential client and the concern is that existing materials may contain asbestos and lead in the finishes.

The inspection design was to conduct a room-by-room investigation for asbestos-containing building materials. Access the functional spaces, where appropriate; evaluate the exterior surfaces; and sample materials suspect for asbestos within the North Wash Room.

Asbestos-containing building materials are those containing greater than one percent asbestos as determined by polarized light microscopy. Asbestos was detected in the window putty at <1 percent. Materials with less than or equal to one percent asbestos should be further Characterized by Point Count Method to determine if the materials may be disposed as municipal waste and not as regulated Asbestos Waste under the New Mexico Solid Waste Regulations.

Lead-based paint is defined as coatings containing surface area lead of 1.0 milligrams per square centimeter (1.0 mg/cm^2) when evaluated by X-Ray Fluorescence. Lead based paint is further defined if laboratory analysis determines the lead content to be one half (0.5 %) percent by weight or greater. The lead inspection of the facility was conducted using an X-Ray Fluorescence (XRF) handheld instrument of select components or areas. The inspector **did** identify painted surfaces with excess lead above the stated regulatory limit. Interior lead-based paint surfaces included interior; white paint on brick, white paint on wood, and exterior; red paint on wood, red paint on cast iron, and red paint on hydrant and hydrant rail.

Contractors bidding for work should be aware of the presence of lead when performing demolition and renovation activities involving these items.

1. INTRODUCTION

In accordance with our proposal, DC Environmental has performed an investigation of the North Wash Room located at the City of Albuquerque Railyard in Albuquerque, New Mexico.

The inspection was conducted in a response to a request to have building materials evaluated for future renovation or demolition activities. The focus of our inspection was to determine the presence, location and quantity of asbestos and lead based paint present within the facility. The building is being inspected for a confidential client and the concern is that existing materials may contain asbestos in building materials and lead in the painted finishes.

This report has been prepared in accordance with generally accepted environmental science and engineering practices. This report is based upon conditions at the subject building at the time of the sampling activities and provides documentation of our findings and recommendations.

2. PURPOSE AND SCOPE OF SERVICES

The inspection design was to conduct a room-by-room investigation and assess the facility for the presence of asbestos-containing building materials, and lead-based paint.

The objective of this inspection was to perform the requisite sampling and present the findings along with any recommendations. The services performed by DC Environmental are outlined below.

- A reconnaissance of the area was conducted by Mr. David Charlesworth, Mr. Michael Neiman, and Mr. Steven Gutierrez all accredited Asbestos Building Inspectors and David Charlesworth a Certified Lead Assessor (See Appendix F Certifications).
- Sampling was conducted using several different types of inspection tools and laboratory techniques including Polarized Light Microscopy and X-Ray Fluorescence.
- Report preparation summarizing our sampling methods and laboratory analysis are included. This report further details our conclusions and recommendations for the project.

3. SITE DESCRIPTION

The subject site consists of one structure, the North Wash Room.

The North Wash Room

The North Wash Room consists of a single building, roof and exterior. The North Wash Room is a concrete frame and concrete siding construction. Roofing appeared to be gravel and tar over felt paper on top of concrete.

4. ACTIVITIES

DC Environmental conducted a lead-based paint investigation and asbestos-containing building materials inspection on October 26, 2016 of the North Wash Room. Analysis of the Interior and exterior painted surfaces incorporated the use of an X-Ray Fluorescence Device. The Radiation Monitoring Device (RMD) LPA-1 X-Ray Fluorescence device was used to measure the lead content of surface coatings on representative homogenous components. Multiple XRF readings were recorded.

The site sampling activities are described below.

4.1. Asbestos-Containing Building Materials

Mr. David Charlesworth, Mr. Michael Nieman, and Mr. Steven Gutierrez conducted a visual inspection for asbestos-containing building materials at the above referenced building. Mr. Nieman collected a total of (2) samples that were tested for asbestos using Polarized Light Microscopy and stereomicroscopy bulk asbestos analysis. Analysis was conducted by Crisp Analytical, LLC of Carrollton, Texas. Crisp Analytical is an accredited laboratory and recognized by the National Voluntary Laboratory Accreditation Program. Based upon the samples tested, one of the materials sampled was identified as an asbestos-containing material. The window putty samples has <1 percent asbestos. Materials with less than or equal to one percent asbestos should be further Characterized by Point Count Method to determine if the materials may be disposed as municipal waste and not as regulated Asbestos Waste under the New Mexico Solid Waste Regulations.

The Environmental Protection Agency has established terminology regarding asbestos and specifically asbestos-containing building materials. Material which is friable are those materials which can be crushed, crumbled or reduced to powder by hand pressure. Non-friable materials are further characterized as Category I Non-Friable or Category II Non-Friable. Category I Non Friable includes four specific items: Packings, Gaskets, Resilient Flooring and Asphalt Roofing. Category II Non-Friable is everything else which cannot be crumbled or pulverized by hand pressure. These items include materials of drywall systems, plasters, asbestos-containing cements (Transite ®) and other materials declared non-friable by the asbestos inspector.

The EPA then clarifies that certain materials are Regulated Asbestos Containing Materials (RACM) and these include the following four designations:

- Friable materials;
- Category I Non-Friable Materials which have become friable;
- Category I Non-Friable Materials which have been subject to sanding, grinding, cutting and abrading; and
- Category II Non-friable materials which will be, or have been, subject to force during demolition or renovation.

Regulated Asbestos Containing Materials were **not** present within the structure.

4.2. Lead Based Paint Inspection

The presence of lead based paint was assessed in substantial compliance with the Housing and Urban Development guidelines. DC Environmental conducted a lead-based surface coating screening survey of the interior and exterior of the property to generally identify building components coated with lead. The survey consisted of testing the lead concentrations of each of the accessible surfaces.

To complete the survey, an X- Ray Fluorescence device was used to perform the lead based paint inspection. The Radiation Monitoring Device (RMD) LPA-1 X-Ray Fluorescence device is capable of detecting lead in lead-based paint. The determination of lead in paint is defined as a surface content of at least 1.0 milligrams per square centimeter. If the readings were between the 0.9 to 1.0 mg/cm^2 range, then the readings are declared as either lead-based paint or lead-containing materials and sampling is recommended.

Surfaces that were tested with the XRF device included, but were not limited to the following: doors, ceiling, painted walls, structural steel support, painted door components, roof components, ventilation duct, gates, and framing.

To determine the wall designations, the front entry off of the street or primary doorway is the A wall and interior in a clockwise direction are the B, C and D walls respectively. Exterior walls are similar in the designations.

The XRF device recorded readings did indicate lead based paint in surfaces on the interior and exterior of architectural details and finishes. Please refer to the XRF readings in the appendix to this document.

5. ANALYSES AND RESULTS

The results of samples and analysis are presented in the following tables. Copies of the laboratory analytical results are included in appendix A, B and D to this document.

5.1. Table 1: Asbestos Sample Analysis

Sample #	North Wash Room Analyst physical description of subsample	Asbestos Type/calibrated/Visual estimate percent
16-187-100	**Window Putty North Wash Room**	<1% Chrysotile
16-187-101	**Red Roofing Material North Wash Room**	ND

ND – None Detected

4.2 Table 2 Lead Based Paint Chip Analysis

Sample #	North Wash Room Analyst physical description of subsample	Lead Based Paint Concentration % by weight
16-187-1000	**White Paint from Ceiling North wash Room**	**16**
16-187-1001	**Beige Paint from Window Sill North wash Room**	**0.52**
16-187-1002	**Red Paint Exterior Window North Wash Room**	**4.3**
16-187-1003	**Red Paint Interior Floor North Wash Room**	**0.62**

LBP = 0.5 percent by weight or more.

5. FINDINGS AND CONCLUSIONS

The findings of this inspection are based on our visual observations and analysis of the measurements collected from the facility. Our findings are presented below.

5.1 Asbestos Sampling Analysis

The current visual inspection and sampling of building materials revealed previously undocumented sources of asbestos-containing building materials. Asbestos-containing building materials were identified in the North Wash Room. The window putty contained <1 asbestos. Materials with less than or equal to one percent asbestos should be further Characterized by Point Count Method to determine if the materials may be disposed as municipal waste and not as regulated Asbestos Waste under the New Mexico Solid Waste Regulations.

5.2 Lead Based Paint Analysis

DC Environmental conducted a lead-based surface coating inspection of the interior and exterior of the property to generally identify building components coated with or containing lead. The survey consisted of testing the lead concentrations of over the majority of the interior and exterior surfaces.

During the survey, testing combinations in representative room equivalents were sampled by X-Ray Fluorescence (XRF) in substantial compliance with the XRF protocols established by EPA and presented as guidance in the Housing and Urban Development (HUD) publications. Performance of this survey is consistent and in substantial compliance with the documented methodologies identified by EPA and HUD.

Based on the readings from the XRF devices materials at the North Wash Room were considered painted with Lead-based Paint (LBP).

Lead-Based Paint (LBP) is defined by HUD and the EPA as paint containing lead in amounts greater than or equal to 1.0 mg/cm^2 lead when analyzed by XRF or greater than 5000 parts per million or 0.5 percent by weight when analyzed by Flame Atomic Absorption.

There are materials in this building though, that are considered "lead-containing". Those materials are listed in Appendix B, XRF Lead Measurements and Appendix D Lead Based Paint Laboratory Analysis. Contractors should follow the elements of the standard promulgated by the Occupational Safety and Health Administration. The Lead in Construction Standard 29 CFR 1926.62 applies to exposures to materials containing lead. Individuals bidding for work should be aware of the presence of lead when performing demolition and renovation activities involving these items.

6 RECOMMENDATIONS

Based on our visual observations and the laboratory results, DC Environmental recommends the following:

- The Lead-based Paint inspection **did** identify "lead-based paint" at the North Wash Room. Those materials are listed in Appendix B, XRF Lead Measurements and Appendix D. Lead Based Paint Laboratory Results. These materials are regulated by OSHA in regards to those individuals which could be exposed during repair, renovation or demolition. It is recommended to have trained professionals in the OSHA Lead Construction standard handle the lead-based paint and lead-containing materials during disturbance of the material. At the conclusion of the construction activities we recommend a Lead Risk Assessment to include soil testing and settled dust be performed. A Lead Risk Assessment is recommended for this property based on the age and that children **may/are** expected to be present. A Risk Assessment should be conducted at the conclusions of operations to repair, renovate or abate the lead based coating.

- Asbestos containing materials were present, window putty < 1%. Materials with less than or equal to one percent asbestos should be further Characterized by Point Count Method to determine if the materials may be disposed as municipal waste and not as regulated Asbestos Waste under the New Mexico Solid Waste Regulations.

We appreciate the opportunity to provide sampling and inspection of this area. Should you have additional questions, or if conditions change substantially, please contact us at your earliest convenience.

Sincerely,

DC Environmental
David Charlesworth
Certified Industrial Hygienist

LIMITATIONS

The environmental services described in this report have been conducted in general accordance with current regulatory guidelines and the standard-of-care exercised by environmental consultants performing similar work in the project area. No warranty, expressed or implied, is made regarding the professional opinions presented in this report. Variations in site conditions may exist and conditions not observed or described in this report may be encountered during subsequent activities.

The environmental interpretations and opinions contained in this report are based on the results of instrumentation, laboratory tests and/or analyses Acme Environmental Industrial Hygiene, Inc., has no involvement in, or control over, such equipment, testing and/or analysis. Acme Environmental Industrial Hygiene, Inc, dba DC Environmental therefore, disclaims responsibility for any inaccuracy in such laboratory results.

Our conclusions, recommendations, and opinions are based on an analysis of the observed site conditions. It should be understood that the conditions of a site could change with time as a result of natural processes or the activities of man at the subject site or nearby sites. In addition, changes to the applicable laws, regulations, codes, and standards of practice may occur due to government action or the broadening of knowledge. The findings of this report may, therefore, be invalidated over time, in part or in whole, by changes over which Acme Environmental Industrial Hygiene, Inc., has no control.

This document is intended to be used only in its entirety. No portion of the document, by itself, is designed to completely represent any aspect of the project described herein. Acme Environmental Industrial Hygiene, Inc., should be contacted if the reader requires any additional information, or has questions regarding content, interpretations presented, or completeness of this document.

This report is intended exclusively for use by the client. Any use or reuse of the findings, conclusions, and/or recommendations of this report by parties other than the client is undertaken at said parties' sole risk.

Appendix A
Asbestos Laboratory Results

CA Labs
Dedicated to Quality

Crisp Analytical, L.L.C.
1929 Old Denton Road
Carrollton, TX 75006
Phone 972-242-2754
Fax 972-242-2798

CA Labs, L.L.C.
12232 Industriplex, Suite 32
Baton Rouge, LA 70809
Phone 225-751-5632
Fax 225-751-5634

Materials Characterization - Bulk Asbestos Analysis

Laboratory Analysis Report - Polarized Light

DC Environmental
PO Box 9315
Albuquerque, NM 87119

Attn: David Charlesworth
Customer Project: DCE 16-187, City Of Albuquerque (Intera), Rail Yard
Reference #: CAL16117627JE Date: 11/14/2016

Analysis and Method

Summary of polarizing light microscopy (PLM / Stereomicroscopy bulk asbestos analysis) using the methods described in 40CFR Part 763 Appendix E to Subpart E (Interim and EPA 600 / R-93 / 116 (Improved). The sample is first viewed with the aid of stereomicroscopy. Numerous liquid slide preparations are created for analysis under the polarized microscope where identifications and quantifications are preformed. Calibrated liquid refractive oils are used as liquid mouting medium. These oils are used for identification (dispersion staining). A calibrated visual estimation is reported, should any asbestiform mineral be present. Other techniques such as acid washing are used in conjugation with refractive oils for detection of smaller quantities of asbestos. All asbestos percentages are based on calibrated visual estimation traceable to NIST standards for regulated of asbestos. Traceability to measurement and calibration is achieved by using known amounts and types of asbestos from standards where analyst and laboratory accuracy are measured. As little as 0.001% asbestos can be detected in favorable samples, while detection in unfavorable samples may approach the detection limit of 0.50% (well above the laboratory definition of trace).

Discussion

Vermiculite containing samples may have trace amounts of actinolite-tremolite, where not found be PLM should be analyzed using TEM methods and / or water separation techniques. Suspected actinolite/vermiculite presence will be indicated through the sample comment section of this report.

Fibrous talc containing samples may even contain a related asbestos fiber known as anthophyllite. Under certain conditions the same fiber may actually contain both talc and anthophyllite (a phenomenon called intergrowth). Again, TEM detection methods are recommended. CA Labs PLM report comments will denote suspected amounts of asbestiform anthophyllite with talc, where further analysis is recommended.

Some samples (floor tiles, surfacings, etc.) may contain fibers too small to be delectable by PLM analysis and should be analyzed by TEM bulk protocols.

A "trace asbestos" will be reported if the analyst observes far less than 1% asbestos. CA Labs defines "trace asbestos" as a few fibers detected by the analyst in several preparations and will indicate as such under these circumstances.

Quantification of <1% will actually be reported as <=1% (allowable variance close to 1% is high). Such results are ideal for point counting, and the technique is mandatory for friable samples (NESHAP, Nov. 1990 and clarification letter 8 May 1991) under 1% percent asbestos and the "trace asbestos". **In order to make all initial PLM reports issued from CA Labs NESHAP compliant, all <1% asbestos results (except floor tiles) will be point counted at no additional charge.**

Qualifications

CA Labs is accredited by the National Voluntary Accreditation Program (NVLAP) for selected test methods for airborne fiber analysis (TEM), and for bulk asbestos fiber analysis (PLM). CA Labs is also accredited by AIHA LAP, LLC. in the PLM asbestos field of testing for Industrial Hygiene. All analysts have a college degree in a natural science (geology, biology, or environmental science) or are recognized by a state professional board in one these disciplines .Extensive in-house training programs are used to augment education background of the analyst. The group leader of polarized light has received supplemental McCrone Research training for asbestos identification. Analysis performed at Crisp Analytical Labs, LLC 1929 Old Denton Road Carrollton, TX 75006

Dallas NVLAP Lab Code 200349-0 TEM/PLM TCEQ# T104704513-15-3 TDH 30-0235
AIHA LAP, LLC Laboratory #102929

CA Labs
Dedicated to Quality

Crisp Analytical, L.L.C.
1929 Old Denton Road
Carrollton, TX 75006
Phone 972-242-2754
Fax 972-242-2798

CA Labs, L.L.C.
12232 Industriplex, Suite 32
Baton Rouge, LA 70809
Phone 225-751-5632
Fax 225-751-5634

Overview of Project Sample Material Containing Asbestos

Customer Project: DCE 16-187, City Of Albuquerque (Intera), Rail Yard **CA Labs Project #:** CAL16117627JE

Sample #	Layer #	Analysts Physical Description of Subsample	Asbestos type / calibrated visual estimate percent	List of Affected Building Material Types
16-187-100	*100-1*	***Window Putty north Wash Room**/ tan sealant*	***<1% Chrysotile***	***tan sealant***

Dallas NVLAP Lab Code 200349-0 TEM/PLM TCEQ# T104704513-15-3 TDH 30-0235
AIHA LAP, LLC Laboratory #102929

Glossary of abbreviations (non-asbestos fibers and non-fibrous minerals):

ca - carbonate	pe - perlite	fg - fiberglass	pa - palygorskite (clay)
gypsum - gypsum	qu - quartz	mw - mineral wool	
bi - binder		wo - wollastinite	
or - organic		ta - talc	
ma - matrix		sy - synthetic	
mi - mica		ce - cellulose	
ve - vermiculite		br - brucite	
ot - other		ka - kaolin (clay)	

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CA Labs, L.L.C.
12232 Industriplex, Suite 32
Baton Rouge, LA 70809
Phone 225-751-5632
Fax 225-751-5634

Polarized Light Asbestiform Materials Characterization

Customer Info: **Attn:** David Charlesworth
DC Environmental
PO Box 9315
Albuquerque, NM 87119

Phone # 505-869-8000
Fax # 505-869-9453

Customer Project:
DCE 16-187, City Of Albuquerque (Intera), Rail Yard Parcel 10
Turnaround Time:
2 Days

CA Labs Project #:
CAL16117627JE

Date: 11/14/2016
Samples Received: 11/11/16 10:30am
Date Of Sampling: 10/26/2016
Purchase Order #:

Sample #	Comment	Layer #	Analysts Physical Description of Subsample	Homogeneous (Y/N)	Asbestos type / calibrated visual estimate percent	Non-asbestos fiber type / percent	Non-fibrous type / percent
16-187-100		*100-1*	***Window Putty north Wash Room**/ tan sealant*	*n*	***<1% Chrysotile***		100% qu,ca
16-187-101		*101-1*	***Red Roofing Material North Wash Room**/ brown roofing material*	*n*	***None Detected***	4% ce	96% qu,bi

Dallas NVLAP Lab Code 200349-0 TEM/PLM TCEQ# T104704513-15-3 TDH 30-0235

AIHA LAP, LLC Laboratory #102929

Analysis Method: Interim (40CFR Part 763 Appendix E to Subpart E) / Improved (EPA-600 / R-93/116). *All samples received in good condition unless noted.*
Preparation Method: HCL acid washing for carbonate based samples, chemical reduction for organically bound components, oil immersion for identification of asbestos types by dispersion attaining / becke line method.

ca - carbonate	mi - mica	fg - fiberglass	ce - cellulose
gypsum - gypsum	ve - vermiculite	mw - mineral wool	br - brucite
bi - binder	ot -other	wo - wollastinite	ka - kaolin (clay)
or - organic	pe - perlite	ta - talc	pa - palygorskite (clay)
ma - matrix	qu - quartz	sy - synthetic	

Approved Signatories:

Stanley Massett
Analyst

QAC
Leslie Crisp, P.G.

Technical Manager
Chad Lytle

1. Fire Damage significant fiber damage - reported percentages reflect unaltered fibers
2. Fire Damage no significant fiber damages effecting fibrous percentages
3. Actinolite in association with Vermiculite
4. Layer not analyzed - attached to previous positive layer and contamination is suspected
5. Not enough sample to analyze
6. Anthophyllite in association with Fibrous Talc
7. Contamination suspected from other building materials
8. Favorable scenario for water separation on vermiculite for possible analysis by another method
9. < 1% Result point counted positive
10. TEM analysis suggested

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12232 Industriplex, Suite 32
Baton Rouge, LA 70809
Phone 225-751-5632
Fax 225-751-5634

Polarized Light Asbestiform Materials Point Count

Laboratory Analysis Report - Point Count

Analysis and Method

Point counting was performed on a polarized light microscope with a calibrated reticle according to the revised NESHAP method of November 20, 1990 (Federal Register, V.55, N.224, 11/20/90). Origional asbestos content of bulk materials was determined using procedures outlined in the interim method (40 CFR part 763, Appendix E to subpart E) and AHERA method (EPA-600/R-93/116). Samples were prepared using HCL acid washing for carbonate based samples, chemical reduction for organically bound components, oil immersion for identification of asbestos types by dispersion staining / becke line method.

Qualifications

CA Labs is accredited by the National Voluntary Accreditation Program (NVLAP) for selected test methods for airborne fiber analysis (TEM), and for bulk asbestos fiber analysis (PLM). CA Labs is also accredited by AIHA LAP, LLC. in the PLM asbestos field of testing for Industrial Hygiene. All analysts have a college degree in a natural science (geology, biology, or environmental science) or are recognized by a state professional board in one of these disciplines. Extensive in-house training programs are used to augment education background of the analyst. The group leader of polarized light has received supplemental McCrone Research training for asbestos identification. This report is not covered by the scope of NVLAP accreditation. Analysis performed at Crisp Analytical Labs, LLC 1929 Old Denton Road Carrollton, TX 75006

Customer Info: **Attn:** David Charlesworth
DC Environmental
PO Box 9315
Albuquerque, NM 87119

Phone # 505-869-8000
Fax # 505-869-9453

Customer Project:
DCE 16-187, City Of Albuquerque (Intera), Rail Yard Parcel 10
Turnaround Time:
2 Days

CA Labs Project #:
CAL16117627JE

Date: 11/14/2016
Samples Received: 11/11/16 10:30am
Date Of Sampling: 10/26/2016
Purchase Order #:

Sample #	Layer #	Analysts Physical Description of Subsample	Homo-geneous (Y/N)	Point Counted % / Asbestos Type
16-187-100	*100-1*	***Window Putty north Wash Room**/ tan sealant*	*n*	***0.25% Chrysotile***

Dallas NVLAP Lab Code 200349-0 TEM/PLM TCEQ# T104704513-15-3 TDH 30-0235

AIHA LAP, LLC Laboratory #102929

Approved Signatories:

Stanley Massett
Analyst

QAC
Leslie Crisp, P.G.

Technical Manager
Chad Lytle

CAR1611760 27

DC Environmental Consulting and Training Services

"Promoting Safety in the Workplace"

DC Environmental
PO Box 9315
Albuquerque, NM 87119

Contact:
J. David Charlesworth

Phone: 505.869.8000
Fax: 505.869.9453

E-mail:
JDCharlesworthcih@gmail.com

Site: City of Albuquerque (Intera)

Site Location: Rail Yard Parcel 10 North Wash Room

PO / Job#: DCE 16-187 Date: 10/26/2016

Turn Around Time: Same Day / 1Day / 2Day / 3Day / 4Day / 5Day

❒ PCM: ❒ NIOSH 7400A / ❒ NIOSH 7400B ❒ Rotometer

❒ PLM: ❒ Standard / ❒ Point Count 400 - 1000 / ❒ CARB 435

❒ TEM Air: ❒ AHERA / ❒ Yamate2 / ❒ NIOSH 7402
❒ TEM Bulk: ❒ Quantitative / ❒ Qualitative / ❒ Chatfield
❒ TEM Water: ❒ Potable / ❒ Non-Potable / ❒ Weight %
❒ TEM Microvac: ❒ Qual(+/-) / ❒ D5755(str/area) / ❒ D5756(str/mass)

❒ IAQ Particle Identification (PLM LAB) ❒ PLM Opaques/Soot
❒ Particle Identification (TEM LAB) ❒ Special Project

❒ Metals Analysis: Method:
Matrix:
Analytes:

Comments:

Sample ID	Date	Sample Location / Description / Task	FOR AIR SAMPLES ONLY				Sample Area / Air Volume
			Type	Time On/Off	Avg. LPM	Total Time	
16-187-100	10/26	Window Putty North Wash Room	A P C				
16-187-101	10/26	Red Roofing Material North Wash Room	A P C				
			A P C				
			A P C				
			A P C				
			A P C				
			A P C				
			A P C				
			A P C				
			A P C				

Sampled By: Steven Gutierrez

Shipped Via: ❒ Fed Ex ❒ DHL ❒ UPS ❒ US Mail ❒ Courier ❒ Drop Off ❒ Other:

Relinquished By: Steven Gutierrez Date / Time: 11/10/2016 5:00PM	Relinquished By: Date / Time:	Relinquished By: Date / Time:
Received By: Justin Date / Time: 11/11/16 10:30 Condition Acceptable? ❒ Yes ❒ No	Received By: Date / Time: Condition Acceptable? ❒ Yes ❒ No	Received By: Date / Time: Condition Acceptable? ❒ Yes ❒ No

Appendix B
XRF Lead Measurements

Project # 16-187 Project Name North Washroom Date 10/26/16
Address City of Albuquerque Railyards
Technician D. Charlesworth, M. Nieman and S. Gutierrez

	Time : 09:27		Unit	1141	Results	Average
1		Cal.			1.0	
2		Cal.			1.5	
3		Cal.			1.0	1.2
4		Cal.			0.2	
5		Cal			0.0	
6		Cal.			0.2	0.1
XRF Test Number	Location / Room	Component - Designation	Component Number	Color	Substrate	Result / Reading
7	Interior	A-Wall		White	Brick	2.5
8	Interior	B-Wall		White	Brick	2.7
9	Interior	C-Wall		White	Brick	-0.0
10	Interior	D-Wall		White	Brick	2.8
11	Interior	Door Frame	A-1	White	Wood	1.8
12	Interior	Window Frame	A-7	White	Wood	2.8
13	Interior	Window Sash	A-7	White	Wood	1.7
14	Interior	Window Apron	A-7	White	Wood	1.9
15	Interior	Chair Rail	A-1	White	Wood	1.3
16	Interior	Ceiling		White	Wood	4.2
17	Interior	Bathroom Divider Wall		White	Wood	-0.1
18	Interior	Pipe		White	Metal	1.0
19	Interior	Pipe		Yellow	Metal	-0.0
20	Interior	Floor		Red	Concrete	-0.1
21	Interior	Locker		Beige	Metal	0.2
22	Interior	Door Transum		White	Wood	2.5
23	Exterior	Door Frame	C-1	Red	Wood	0.6
24	Exterior	Window	C-5	Red	Wood	1.0
25	Exterior	Gutter downspout	C-2	Red	Cast Iron	1.0
26	Exterior	C-Wall		Pink	Brick	0.0
27	Exterior	Bollard		Off White	Metal	2.9
28	Exterior	Hydrant Rail		Yellow	Metal	1.0
29	Exterior	Hydrant		Red	Metal	>9.9
30	Exterior	D-Wall		Beige	Brick	0.1
31	Exterior	A-Wall Foundation Footing		Red	Concrete	-0.1
32	Exterior	Door Header	A-1	Red	Wood	0.4

33	Exterior	Brick Window Sill	A-10	Beige	Brick	-0.3
34	Exterior	Window Trim	B-2	Red	Wood	0.6
35	Exterior	B-Wall		Red	Brick	-0.2
	Time : 16:30		Unit		Results	Average
1		Cal.			1.0	
2		Cal.			1.0	
3		Cal.			1.1	1.0
4		Cal.			0.1	
5		Cal			-0.1	
6		Cal.			-0.1	-0.0

Appendix C
Asbestos and LBP Data

ID	ReadingNo/SampleID	Lead	Units	LBP	RoomNumber	Building	RoomName	Wall	Structure	Location	IMember	IMode	Substrate	Color	Location_2	Source
1	7	0.1	mg/cm2		1	Railyards Amtrack Office	Office	A	Window	Hgt	Sill	CMI	Wood	Brown	Interior	Innovar, 2011
2	8	0.1	mg/cm2		1	Railyards Amtrack Office	Office	A	Window	Hgt	Sash	CMI	Wood	Brown	Interior	Innovar, 2011
3	9	0.2	mg/cm2		1	Railyards Amtrack Office	Office	A	Window	Hgt	Lit casing	CMI	Wood	Brown	Interior	Innovar, 2011
4	10	0.2	mg/cm2		1	Railyards Amtrack Office	Office	A	Wall	LCtr		CMI	Plaster	White	Interior	Innovar, 2011
5	11	-0.2	mg/cm2		1	Railyards Amtrack Office	Office	B	Wall	UCtr		CMI	Plaster	White	Interior	Innovar, 2011
6	12	0	mg/cm2		1	Railyards Amtrack Office	Office	C	Door	Ctr	UCtr	CMI	Steel	Brown	Interior	Innovar, 2011
7	13	0	mg/cm2		1	Railyards Amtrack Office	Office	C	Door	Ctr	Lit casing	CMI	Steel	Brown	Interior	Innovar, 2011
8	14	0.2	mg/cm2		1	Railyards Amtrack Office	Office	B	Window	Ctr	Sill	CMI	Wood	Brown	Interior	Innovar, 2011
9	15	0.2	mg/cm2		3	Railyards Amtrack Office	Office	B	Window	Ctr	Lit casing	CMI	Wood	Brown	Interior	Innovar, 2011
10	16	0.2	mg/cm2		3	Railyards Amtrack Office	Office	B	Window	Ctr	Sash	CMI	Wood	Brown	Interior	Innovar, 2011
11	17	0	mg/cm2		3	Railyards Amtrack Office	Office	A	Wall	LCtr		CMI	Plaster	White	Interior	Innovar, 2011
12	18	-0.2	mg/cm2		3	Railyards Amtrack Office	Office	A	Wall	LHgt		CMI	Plaster	White	Interior	Innovar, 2011
13	19	-0.2	mg/cm2		3	Railyards Amtrack Office	Office	D	Door	Hgt	UHgt	CMI	Steel	Brown	Interior	Innovar, 2011
14	20	0.1	mg/cm2		3	Railyards Amtrack Office	Office	D	Door	Hgt	Lit casing	CMI	Steel	Brown	Interior	Innovar, 2011
15	21	0.7	mg/cm2		4	Railyards Amtrack Office	BreakRm	B	Chair rail	Ctr		CMI	Wood	Brown	Interior	Innovar, 2011
16	22	0.2	mg/cm2		4	Railyards Amtrack Office	BreakRm	B	Window	Ctr	Lit casing	CMI	Wood	Brown	Interior	Innovar, 2011
17	23	>999	mg/cm2	Yes	4	Railyards Amtrack Office	BreakRm	B	Wall	LCtr		CMI	Plaster	White	Interior	Innovar, 2011
18	24	0.2	mg/cm2		4	Railyards Amtrack	BreakRm	C	Baseboard	Ctr		CMI	Plaster	White	Interior	Innovar, 2011

						Office										
19	25	>99	mg/cm2	Yes	4	Railyards Amtrack Office	Break Rm	B	Wall	Ult		CMU	Plaster	White	Interior	Innovar, 2011
20	26	>99	mg/cm2	Yes	4	Railyards Amtrack Office	Break Rm	B	Wall	Lkgt		CMU	Plaster	White	Interior	Innovar, 2011
21	27	0.3	mg/cm2		4	Railyards Amtrack Office	Break Rm	C	Wall	Lctr		CMU	Drywall	White	Interior	Innovar, 2011
22	28	0.2	mg/cm2		3	Railyards Amtrack Office	Office	B	Wall	Lctr		CMU	Plaster	White	Interior	Innovar, 2011
23	29	>99	mg/cm2	Yes	10	Railyards Amtrack Office	Lobby	A	Wall	Lctr		CMU	Plaster	White	Interior	Innovar, 2011
24	30	0.3	mg/cm2		10	Railyards Amtrack Office	Lobby	D	Wall	Lctr		CMU	Plaster	White	Interior	Innovar, 2011
25	31	0.3	mg/cm2		10	Railyards Amtrack Office	Lobby	A	Window	Ctr	Sash	CMU	Wood	Brown	Interior	Innovar, 2011
26	32	>99	mg/cm2	Yes	10	Railyards Amtrack Office	Lobby	A	Column	Ctr		CMU	Plaster	White	Interior	Innovar, 2011
27	33	>99	mg/cm2	Yes	10	Railyards Amtrack Office	Lobby	A	Column	Ctr		CMU	Plaster	White	Interior	Innovar, 2011
28	34	1.1	mg/cm2	Yes	12	Railyards Amtrack Office	Hallway	B	Wall	Lctr		CMU	Plaster	White	Interior	Innovar, 2011
29	35	>99	mg/cm2	Yes	12	Railyards Amtrack Office	Hallway	D	Wall	Lctr		CMU	Plaster	White	Interior	Innovar, 2011
30	36	0.1	mg/cm2		9	Railyards Amtrack Office	Wms Rm	D	Wall	Lctr		CMU	Plaster	White	Interior	Innovar, 2011
31	37	0.1	mg/cm2		9	Railyards Amtrack Office	Wms Rm	A	Wall	Lctr		CMU	Plaster	White	Interior	Innovar, 2011
32	38	0.3	mg/cm2		9	Railyards Amtrack Office	Wms Rm	B	Door	Ctr	Lit casing	CMU	Wood	Brown	Interior	Innovar, 2011
33	39	0.2	mg/cm2		9	Railyards Amtrack Office	Wms Rm	B	Floor			CMU	Cement	Brown	Interior	Innovar, 2011
34	40	-0.1	mg/cm2		11	Railyards Amtrack Office	Number Only	C	Stairs	Ctr	Treads	CMU	Steel	Black	Interior	Innovar, 2011
35	41	0.1	mg/cm2		11	Railyards Amtrack Office	Number Only	C	Stairs	Ctr	Railing cap	CMU	Steel	Black	Interior	Innovar, 2011
36	42	-0.1	mg/cm2		15	Railyards Amtrack Office	Upstairs	C	Wall	Lctr		CMU	Plaster	White	Interior	Innovar, 2011
3	43	0.2	mg/cm		15	Railyard	Upstairs	B	Wall	Lctr		CMU	Plaster	White	Interior	Innovar

7			2			s Amtrack Office										,2011
38	44	>99	mg/cm2	Yes	15	Railyards Amtrack Office	Upstairs	A	Wall	Ltr		UVI	Plaster	White	Interior	Innovar,2011
39	45	6.6	mg/cm2	Yes	15	Railyards Amtrack Office	Upstairs	A	Door	Ctr	UCtr	UVI	Wood	White	Interior	Innovar,2011
40	46	0.3	mg/cm2		15	Railyards Amtrack Office	Upstairs	B	Wall	Ltr		UVI	Plaster	White	Interior	Innovar,2011
41	47	0.3	mg/cm2		15	Railyards Amtrack Office	Upstairs	A	Wall	Ltr		UVI	Plaster	White	Interior	Innovar,2011
42	54	0.2	mg/cm2		16	Railyards Amtrack Office	Museum	A	Floor			UVI	Cement	Gray	Interior	Innovar,2011
43	55	2.3	mg/cm2	Yes	16	Railyards Amtrack Office	Museum	A	Floor			UVI	Cement	White	Interior	Innovar,2011
44	56	0.3	mg/cm2		16	Railyards Amtrack Office	Museum	A	Floor			UVI	Cement	White	Interior	Innovar,2011
45	57	0.1	mg/cm2		16	Railyards Amtrack Office	Museum	D	Wall	Ltr		UVI	Cement	Gray	Interior	Innovar,2011
46	58	0.2	mg/cm2		16	Railyards Amtrack Office	Museum	B	Wall	Ltr		UVI	Cement	Gray	Interior	Innovar,2011

ID	Read No/Sample ID	Lead	Units	LBP	Room Number	Building	Room Name	Wall	Structure	Location	Member	Mode	Substrate	Color	Location_2	Source
47	59	0.1	mg/cm2		16	Railyards Amtrack Office	Museum	A	Wall	Ltr		UVI	Cement	Gray	Interior	Innovar, 2011
48	60	6.3	mg/cm2	Yes	16	Railyards Amtrack Office	Museum	A	Floor			UVI	Cement	Yellow	Interior	Innovar, 2011
49	61	0.1	mg/cm2		16	Railyards Amtrack Office	Museum	A	Door	Ctr	UCtr	UVI	Steel	Green	Interior	Innovar, 2011
50	62	0.1	mg/cm2		16	Railyards Amtrack Office	Museum	A	Door	Ctr	UCtr	UVI	Steel	Black	Interior	Innovar, 2011
51	63	0.5	mg/cm2		16	Railyards Amtrack Office	Museum	A	Door	Ctr	Lit casing	UVI	Steel	Black	Interior	Innovar, 2011
52	64	0.7	mg/cm2		16	Railyards Amtrack Office	Museum	A	Floor			UVI	Cement	Red	Interior	Innovar, 2011
53	65	1.8	mg/cm2	Yes	1	Railyards Amtrack Office	Facility	B	Railing	Ctr	Railing	UVI	Steel	Yellow	Exterior	Innovar, 2011
54	66	0.2	mg/cm2		1	Railyards Amtrack Office	Facility	B	Door	Ctr	UCtr	UVI	Steel	Red	Exterior	Innovar, 2011
55	67	-0.1	mg/cm2		1	Railyards Amtrack Office	Facility	D	Window	Ctr	Sill	UVI	Wood	Black	Exterior	Innovar, 2011
56	68	0.2	mg/cm2		1	Railyards Amtrack Office	Facility	D	Window	Ctr	Sash	UVI	Wood	Black	Exterior	Innovar, 2011
57	69	0	mg/cm		1	Railyards	Facility	C	Window	Rgt	Sill	UVI	Wood	Black	Exterior	Innovar,

57			2			Amtrack Office										2011
58	7	5	mg/cm2	Yes	1	Main Machine Shop	Number Only	B	Column	Otr		CMI	Steel	Silver	Interior	Innovar, 2011
59	8	11	mg/cm2	Yes	1	Main Machine Shop	Number Only	C	Door	Otr	OOtr	CMI	Steel	Silver	Interior	Innovar, 2011
60	9	22	mg/cm2	Yes	1	Main Machine Shop	Number Only	C	Column	Otr		CMI	Steel	Silver	Interior	Innovar, 2011
61	10	01	mg/cm2		1	Main Machine Shop	Number Only	A	Floor			CMI	Ceramic	Red	Interior	Innovar, 2011
62	11	18	mg/cm2	Yes	1	Main Machine Shop	Number Only	B	Unit Column	Otr		CMI	Steel	Silver	Interior	Innovar, 2011
63	12	07	mg/cm2		1	Main Machine Shop	Number Only	B	Stairs	Otr	Treads	CMI	Steel	Green	Interior	Innovar, 2011
64	13	19	mg/cm2	Yes	1	Main Machine Shop	Number Only	D	Column	Otr		CMI	Steel	Silver	Interior	Innovar, 2011
65	14	54	mg/cm2	Yes	1	Main Machine Shop	Number Only	D	Ceiling Beam	Beam	Otr	CMI	Steel	Silver	Interior	Innovar, 2011
66	15	42	mg/cm2	Yes	1	Main Machine Shop	Number Only	B	Column	Otr		CMI	Steel	Black	Exterior	Innovar, 2011
67	16	27	mg/cm2	Yes	1	Main Machine Shop	Number Only	B	Stairs	Otr	Treads	CMI	Wood	White	Interior	Innovar, 2011
68	1	34	mg/cm2	Yes		Boiler Shop	Number Only	B	Unit Column	Otr		CMI	Steel	Silver	Interior	Innovar, 2011
69	2	01	mg/cm2			Boiler Shop	Number Only	A	Floor			CMI	Cement	Red	Interior	Innovar, 2011
70	3	32	mg/cm2	Yes		Boiler Shop	Number Only	C	Unit Column	Otr		CMI	Steel	Silver	Interior	Innovar, 2011
71	4	25	mg/cm2	Yes		Boiler Shop	Number Only	A	Column	Lift		CMI	Steel	Silver	Interior	Innovar, 2011
72	5	-03	mg/cm2			Boiler Shop	Number Only	C	Door	Lift	OOtr	CMI	Steel	Silver	Interior	Innovar, 2011
73	1	11	mg/cm2	Yes		Blacksmith Shop	Number Only	B	Column	Otr		CMI	Steel	Silver	Interior	Innovar, 2011
74	2	31	mg/cm2	Yes		Blacksmith Shop	Number Only	C	Column	Otr		CMI	Steel	Silver	Interior	Innovar, 2011
75	3	21	mg/cm2	Yes		Blacksmith Shop	Number Only	D	Wall	LOtr		CMI	Brick	Silver	Interior	Innovar, 2011
76	4	02	mg/cm2			Blacksmith Shop	Number Only	D	Door	Otr	OOtr	CMI	Steel	Silver	Interior	Innovar, 2011
77	5	01	mg/cm2			Blacksmith Shop	Number Only	D	Window	Otr	Part. Bead	CMI	Steel	Silver	Interior	Innovar, 2011
78	7	27	mg/cm2	Yes		Bldg. North of Firehouse	Number Only	A	Bldg. North of Firehouse	LOtr		CMI	Cement	Silver	Interior	Innovar, 2011
79	8	23	mg/cm2	Yes		Bldg. North of Firehouse	Number Only	A	Window	Otr	Lit casing	CMI	Steel	Silver	Interior	Innovar, 2011
80	9	56	mg/cm2	Yes		Bldg. North of Firehouse	Number Only	A	Door	Otr	OOtr	CMI	Steel	Silver	Interior	Innovar, 2011
81	10	11	mg/cm2	Yes		Bldg. North of Firehouse	Number Only	A	Window	Otr	Hgt casin	CMI	Steel	Silver	Interior	Innovar, 2011
82	11	24	mg/cm2	Yes		Bldg. North of Firehouse	Number Only	C	Frame	Otr		CMI	Steel	Silver	Interior	Innovar, 2011
83	12	11	mg/cm2	Yes		Bldg. North of Firehouse	Number Only	C	Wall	LOtr		CMI	Cement	Silver	Interior	Innovar, 2011
84	13	02	mg/cm			Bldg.	Number	D	Wall	LOtr		CMI	Cement	Silver	Interior	Innovar,

4			2			North of Firehouse	Only									2011
85	1	1.1	mg/cm2	Yes		Bldg South of Firehouse	Number Only	A	Wall	Ltr		CMU	Cement	White	Interior	Innovar, 2011
86	2	0.1	mg/cm2			Bldg South of Firehouse	Number Only	B	Wall	Ltr		CMU	Cement	White	Interior	Innovar, 2011
87	3	0	mg/cm2			Bldg South of Firehouse	Number Only	A	Door Unit	Ctr	Lit casing	CMU	Cement	White	Interior	Innovar, 2011
88	4	1.1	mg/cm2	Yes		Bldg South of Firehouse	Number Only	A	Column	Ctr		CMU	Cement	Green	Interior	Innovar, 2011
89	5	1.2	mg/cm2	Yes		Bldg South of Firehouse	Number Only	B	Wall	Ltr		CMU	Cement	Green	Interior	Innovar, 2011
90	6	0.5	mg/cm2			Bldg South of Firehouse	Number Only	C	Door	Ctr	UCtr	CMU	Cement	Green	Interior	Innovar, 2011
91	13029.029-020513-01L	150	ppm			Blacksmith Shop			Interior Walls	NW Corner			Paint	Silver		Rhoades, 2013
92	13029.029-020513-02L	410	ppm			Blacksmith Shop			Interior Walls	NE Corner			Paint	Silver		Rhoades, 2013

ID	Read No/Sample ID	Lead	Units	LBP	Room Number	Building	Room Name	Wall	Structure	Location	Member	Mode	Substrate	Color	Location_2	Source
93	13029.029-020513-03L	100	ppm			Blacksmith Shop			Interior Walls	SW Corner			Paint	Silver		Rhoades, 2013
94	13029.029-020513-04L	150	ppm			Blacksmith Shop			Interior Walls	SE Corner			Paint	Silver		Rhoades, 2013
95	13029.029-020513-05L	2570	ppm			Blacksmith Shop			Overhead Piping				Paint	Red		Rhoades, 2013
96	13029.029-020513-06L	2640	ppm			Blacksmith Shop			Exterior Brick Walls		1 mm		Paint	Rust		Rhoades, 2013
97	13029.029-020513-07L	4040	ppm			Blacksmith Shop			Interior Walls Office Shack				Paint	Cream		Rhoades, 2013
98	13029.029-020513-08L	250	ppm			Blacksmith Shop			Building	NW Corner			Surface Dust			Rhoades, 2013
99	13029.029-020513-09L	400	ppm			Blacksmith Shop			Building	NE Corner			Surface Dust			Rhoades, 2013
100	13029.029-020513-10L	100	ppm			Blacksmith Shop			Building	Center			Surface Dust			Rhoades, 2013
101	13029.029-020513-11L	710	ppm			Blacksmith Shop			Building	SW Corner			Surface Dust			Rhoades, 2013
102	13029.029-020513-12L	970	ppm			Blacksmith Shop			Building	SE Corner			Surface Dust			Rhoades, 2013

ID	Sample Number	Date	Description	Location	Percent Asbestos	Asbestos Type	Classification	Source
1	577007-NB.NS.1	Sep-05	Silver glaze coating window pane	Boiler Shop, South Side	0%			Terracon, 2005
2	577007-NB.NS.2	Sep-05	Silver glaze coating window pane	Boiler Shop, South Side	0%			Terracon, 2005
3	577007-NB.NS.3	Sep-05	Silver glaze coating window pane	Boiler Shop, South Side	0%			Terracon, 2005
4	577007-NB.SS.4	Sep-05	Green painted window pane	Boiler Shop, South Side	0%			Terracon, 2005
5	577007-NB.SS.5	Sep-05	Green painted window pane	Boiler Shop, South Side	0%			Terracon, 2005
6	577007-NB.SS.6	Sep-05	Green painted window pane	Boiler Shop, North Side	0%			Terracon, 2005
7	577007-NB.NS.7	Sep-05	Silver glaze coating window pane	Boiler Shop, North Side	0%			Terracon, 2005
8	577007-NB.NS.8	Sep-05	Silver glaze coating window pane	Boiler Shop, North Side	0%			Terracon, 2005
9	577707-NB.NS.9	Sep-05	Silver glaze/black spray-on with pane	Boiler Shop, North Side	0%			Terracon, 2005
10	577007 -NB.NS.10	Sep-05	Silver glaze/black spray-on with pane	Boiler Shop, North Side	0%			Terracon, 2005
11	577007-NB.NS.11	Sep-05	Silver glaze/black spray-on with pane	Boiler Shop, North Side	0%			Terracon, 2005
12	577007-SB.SS.F1.1	Sep-05	Silver glaze coating window pane	Main Machine Shop, South Side, First Floor	0%			Terracon, 2005
13	577007 -SB.SS.F1.2	Sep-05	Glaze coating on window pane (silverlblack)	Main Machine Shop, South Side, First Floor	0%			Terracon, 2005
14	577007-SB.SS.F1.3	Sep-05	Glaze coating on window pane (silver)	Main Machine Shop, South Side, First Floor	0%			Terracon, 2005
15	577007 -SB.SS.F1.4	Sep-05	Glaze coating on window pane (silver)	Main Machine Shop, South Side, First Floor	0%			Terracon, 2005
16	577007 -SB.SS.F1.5	Sep-05	Glaze coating on window pane (silver)	Main Machine Shop, South Side, First Floor	0%			Terracon, 2005
17	577007-SB.SS.F1.6	Sep-05	Glaze coating on window pane (silver)	Main Machine Shop, South Side, First Floor	0%			Terracon, 2005
18	577007 -SB.SS.F1.7	Sep-05	Glaze coating on window pane (silver/green)	Main Machine Shop, South Side, First Floor	0%			Terracon, 2005
19	577007-SB.SS.F2.1	Sep-05	Glaze coating on window pane (beige/green)	Main Machine Shop, South Side, Second Floor	0%			Terracon, 2005
20	577007-SB.SS.F2.2	Sep-05	Glaze coating on window pane (tanJbrown)	Main Machine Shop, South Side, Second Floor	0%			Terracon, 2005
21	577007-SB.SS.F2.3	Sep-05	Glaze coating on window pane (off-white)	Main Machine Shop, South Side, Second Floor	0%			Terracon, 2005
22	577007-SB.SS.F2.4	Sep-05	Glaze coating on window pane (grey/green)	Main Machine Shop, South Side, Second Floor	0%			Terracon, 2005
23	577007-SB.SS.F2.5	Sep-05	Glaze coating on window pane (off-white)	Main Machine Shop, South Side, Second Floor	0%			Terracon, 2005
24	577007-SB.SS.F2.6	Sep-05	Plaster over cc wall (grey with paint)	Main Machine Shop, South Side, Second Floor	0%			Terracon, 2005
25	577007-SB.SS.F2.7	Sep-05	Plaster over cc wall (grey with paint)	Main Machine Shop, South Side, Second Floor	0%			Terracon, 2005
26	577007-NB.SS.1	Sep-05	Window glazing (tan)	Boiler Shops, South Side	Trace <1%			Terracon, 2005
27	577007-NB.SS.2	Sep-05	Window glazing (tan)	Boiler Shops, South Side	2%	Chrysotile	Non-Friable	Terracon, 2005
28	577007-NB.SS.3	Sep-05	Window glazing (tan)	Boiler Shops, South Side	2%	Chrysotile	Non-Friable	Terracon, 2005
29	577007-NB.SS.01	Sep-05	Window glazing (beige)	Boiler Shops, South Side	Trace <1%	Chrysotile		Terracon, 2005
30	577007-NB.SS.02	Sep-05	Window glazing (beige)	Boiler Shops, South Side	Trace <1%	Chrysotile		Terracon, 2005
31	577007-NB.SS.03	Sep-05	Window glazing (beige)	Boiler Shops, South Side	Trace <1%	Chrysotile		Terracon, 2005
32	577007 -NB.ES.01	Sep-05	Window glazing (beige)	Boiler Shops, East Side	Trace <1%	Chrysotile		Terracon, 2005
33	577007-NB.ES.02	Sep-05	Window glazing (beige)	Boiler Shops, East Side	Trace <1%	Chrysotile		Terracon, 2005

34	577007 -N.O.01	Sep-05	Outside shingle (red with granules)	Outside the Boiler Shop	0%			Terracon, 2005
35	577007-N.O.02	Sep-05	Outside shingle (red with granules)	Outside the Boiler Shop	0%			Terracon, 2005
36	577007-N.O.03	Sep-05	Outside shingle (red with granules)	Outside the Boiler Shop	0%			Terracon, 2005
37	577007-N.O.G.01	Sep-05	White insulation	100 ft North of CWE Strorage Shed	NA			Terracon, 2005
38	577007-N.O.G.02	Sep-05	White insulation	100 ft North of CWE Strorage Shed	NA			Terracon, 2005
39	577007-N.O.G.03	Sep-05	White insulation	100 ft North of CWE Strorage Shed	NA			Terracon, 2005
40	577007 -NTE. WS-1	Sep-05	Transite pipe (grey)	Former Transformer Area, West Side	25%	Chrysotile	Friable	Terracon, 2005
41	577007 -NTE. WS-1	Sep-05	Transite pipe (grey)	Former Transformer Area, West Side	5%	Crocidolite		Terracon, 2005
42	577007 -NTE.ES-3	Sep-05	Transite pipe (grey)	Former Transformer Area	25%	Chrysotile	Friable	Terracon, 2005
43	577007 -NTE.ES-3	Sep-05	Transite pipe (grey)	Former Transformer Area	5%	Crocidolite		Terracon, 2005
44	577007-NTE.ES-1 (577007-NTE.NS-1??)	Sep-05	Transite pipe (grey)	Former Transformer Area	25%	Chrysotile	Friable	Terracon, 2005
45	577007-NTE.ES-1 (577007-NTE.NS-1??)	Sep-05	Transite pipe (grey)	Former Transformer Area	3%	Crocidolite		Terracon, 2005
46	577007-SWB.WW.01	Sep-05	Window putty/glazing (beige)	Babbit Shop, West Wall	Trace <1%	Chrysotile		Terracon, 2005
47	577007-SWB.WW.02	Sep-05	Window putty/glazing (beige)	Babbit Shop, West Wall	Trace <1%	Chrysotile		Terracon, 2005
48	577007-FH.01	Sep-05	Insulation/plaster over brick	Fire House	0%			Terracon, 2005
49	577007-FH.02	Sep-05	Insulation/plaster over brick	Fire House	0%			Terracon, 2005
50	577007-FH.03	Sep-05	Insulation/plaster over brick	Fire House	4%	Chrysotile	Friable	Terracon, 2005
51	577007-FH.04	Sep-05	Insulation/plaster over brick	Fire House	5%	Chrysotile	Friable	Terracon, 2005
52	01-DW1-1	Aug-10	off-white surfaced white compound (drywall)	Amtrack Office	none detected			Innovar, 2011
53	01-DW1-2	Aug-10	white drywall with brown paper (drywall)	Amtrack Office	none detected			Innovar, 2011
54	02-DW1-1	Aug-10	white surfaced white compound (drywall)	Amtrack Office	none detected			Innovar, 2011

ID	Sample Number	Date	Description	Location	Percent Asbestos	Asbestos Type	Classification	Source
55	03-DW1-1	Aug-10	white surfaced white compound (drywall)	Amtrack Office	none detected			Innovar, 2011
56	04-P1-1	Aug-10	white surfaced tan plaster (plaster)	Amtrack Office	none detected			Innovar, 2011
57	05-P1-1	Aug-10	white surfaced tan plaster (plaster)	Amtrack Office	none detected			Innovar, 2011
58	06-P1-1	Aug-10	white surfaced white compound (plaster)	Amtrack Office	none detected			Innovar, 2011
59	06-P1-2	Aug-10	tan plaster (plaster)	Amtrack Office	none detected			Innovar, 2011
60	07-CB1-1	Aug-10	pink cover base (cover base)	Amtrack Office	none detected			Innovar, 2011
61	07-CB1-2	Aug-10	tan mastic (cover base)	Amtrack Office	none detected			Innovar, 2011
62	07-CB1-3	Aug-10	white surfaced white compound (cover base)	Amtrack Office	none detected			Innovar, 2011
63	07-CB1-4	Aug-10	brown mastic (cover base)	Amtrack Office	<1%	Anthophyllite		Innovar, 2011
64	07-CB1-5	Aug-10	tan plaster (cover base)	Amtrack Office	none detected			Innovar, 2011
65	08-CB1-1	Aug-10	pink cover base (cover base)	Amtrack Office	none detected			Innovar, 2011
66	08-CB1-2	Aug-10	tan mastic (cover base)	Amtrack Office	none detected			Innovar, 2011

67	08-CB1-3	Aug-10	brown mastic (cover base)	Amtrack Office	<1%	Anthophyllite		Innovar, 2011
68	08-CB1-4	Aug-10	tan plaster (cover base)	Amtrack Office	none detected			Innovar, 2011
69	09-CB1-1	Aug-10	pink cover base (cover base)	Amtrack Office	none detected			Innovar, 2011
70	09-CB1-2	Aug-10	tan mastic (cover base)	Amtrack Office	none detected			Innovar, 2011
71	09-CB1-3	Aug-10	brown mastic (cover base)	Amtrack Office	<1%	Anthophyllite		Innovar, 2011
72	09-CB1-4	Aug-10	tan plaster (cover base)	Amtrack Office	none detected			Innovar, 2011
73	10-CT1-1	Aug-10	white surfacing (ceiling tile)	Amtrack Office	none detected			Innovar, 2011
74	10-CT1-2	Aug-10	tan ceiling (ceiling tile)	Amtrack Office	none detected			Innovar, 2011
75	10-CT1-3	Aug-10	brown mastic (ceiling tile)	Amtrack Office	none detected			Innovar, 2011
76	11-CT1-1	Aug-10	white surfacing (ceiling tile)	Amtrack Office	none detected			Innovar, 2011
77	11-CT1-2	Aug-10	tan ceiling tile (ceiling tile)	Amtrack Office	none detected			Innovar, 2011
78	11-CT1-3	Aug-10	brown mastic (ceiling tile)	Amtrack Office	none detected			Innovar, 2011
79	12-CT1-1	Aug-10	tan ceilign tile (no surfacing) (ceiling tile)	Amtrack Office	none detected			Innovar, 2011
80	12-CT1-2	Aug-10	brown mastic (ceiling tile)	Amtrack Office	none detected			Innovar, 2011
81	13-WC1-1	Aug-10	black surfacing white caulking (Window Caulk)	Amtrack Office	none detected			Innovar, 2011
82	14-WC1-1	Aug-10	black surfacing white caulking (Window Caulk)	Amtrack Office	none detected			Innovar, 2011
83	15-WC1-1	Aug-10	black surfacing white caulking (Window Caulk)	Museum	none detected			Innovar, 2011
84	16-CT2-1	Aug-10	white surfacing (ceiling tile)	Museum	none detected			Innovar, 2011
85	16-CT2-2	Aug-10	Gray ceiling tile (ceiling tile)	Museum	none detected			Innovar, 2011
86	17-CT2-1	Aug-10	White Surfacing (ceiling tile)	Museum	none detected			Innovar, 2011
87	17-CT2-2	Aug-10	Gray ceiling tile (ceiling tile)	Museum	none detected			Innovar, 2011
88	18-CT2-1	Aug-10	white surfacing (ceiling tile)	Museum	none detected			Innovar, 2011
89	18-CT2-2	Aug-10	Gray ceiling tile (ceiling tile)	Museum	none detected			Innovar, 2011
90	19-W1-1	Aug-10	black woven covering (Wiring)	Museum	none detected			Innovar, 2011
91	20-W1-1	Aug-10	black woven covering (Wiring)	Museum	none detected			Innovar, 2011
92	13029.029-020513-01	Feb-13	12'' Spline Ceiling Tile	Office Shack, Blacksmith Shop	none detected		Poor/Friable	Roades, 2013
93	13029.029-020513-02	Feb-13	12'' Spline Ceiling Tile	Office Shack, Blacksmith Shop	none detected		Poor/Friable	Roades, 2013
94	13029.029-020513-03	Feb-13	12'' Spline Ceiling Tile	Office Shack, Blacksmith Shop	none detected		Poor/Friable	Roades, 2013
95	13029.029-020513-04	Feb-13	Interior Plaster - Surface Coat	Office Shack, Blacksmith Shop	none detected		Poor/Friable	Roades, 2013
96	13029.029-020513-05	Feb-13	Interior Plaster - Surface Coat	Office Shack, Blacksmith Shop	2%	Chrysotile	Poor/Friable	Roades, 2013
97	13029.029-020513-06	Feb-13	Interior Plaster - Surface Coat	Office Shack, Blacksmith Shop	2%	Chrysotile	Poor/Friable	Roades, 2013
98	13029.029-020513-07	Feb-13	Interior Plaster - Surface Coat	Office Shack, Blacksmith Shop	none detected		Poor/Friable	Roades, 2013
99	13029.029-020513-08	Feb-13	Interior Plaster - Surface Coat	Office Shack, Blacksmith Shop	none detected		Poor/Friable	Roades, 2013
100	13029.029-020513-09	Feb-13	Interior Plaster - Surface Coat	Office Shack, Blacksmith Shop	none detected		Poor/Friable	Roades, 2013
101	13029.029-020513-10	Feb-	Window Glazing	Reinforced Glass, Blacksmith Shop	none		Poor/Friable	Roades,

		13			detected			2013
102	13029.029-020513-11	Feb-13	Window Glazing	Reinforced Glass, Blacksmith Shop	none detected		Poor/Friable	Roades, 2013
103	13029.029-020513-12	Feb-13	Window Glazing	Reinforced Glass, Blacksmith Shop	none detected		Poor/Friable	Roades, 2013
104	13029.029-020513-13	Feb-13	Window Glazing	Clear Glass, Blacksmith Shop	2%	Chrysotile	Poor/Friable	Roades, 2013
105	13029.029-020513-14	Feb-13	Window Glazing	Clear Glass, Blacksmith Shop	none detected		Poor/Friable	Roades, 2013
106	13029.029-020513-15	Feb-13	Window Glazing	Clear Glass, Blacksmith Shop	none detected		Poor/Friable	Roades, 2013
107	13029.029-020513-16	Feb-13	Window Glazing	Wood Panes, Blacksmith Shop	<1%	Chrysotile	Poor/Friable	Roades, 2013
108	13029.029-020513-17	Feb-13	Window Glazing	Wood Panes, Blacksmith Shop	2%	Chrysotile	Poor/Friable	Roades, 2013

ID	Sample Number	Date	Description	Location	Percent Asbestos	Asbestos Type	Classification	Source
109	13029.029-020513-18	Feb-13	Window Glazing	Wood Panes, Blacksmith Shop	none detected		Poor/Friable	Roades, 2013
110	13029.029-020513-19	Feb-13	Gray Parapet Tar	Throughout Roof, Blacksmith Shop	10%	Chrysotile	Poor/Non-Friable	Roades, 2013
111	13029.029-020513-20	Feb-13	Gray Parapet Tar	Throughout Roof, Blacksmith Shop	10%	Chrysotile	Poor/Non-Friable	Roades, 2013
112	13029.029-020513-21	Feb-13	Gray Parapet Tar	Throughout Roof, Blacksmith Shop	10%	Chrysotile	Poor/Non-Friable	Roades, 2013
113	13029.029-020513-22	Feb-13	Black Roofing Tar	Throughout Roof, Blacksmith Shop	none detected		Poor/Non-Friable	Roades, 2013
114	13029.029-020513-23	Feb-13	Black Roofing Tar	Throughout Roof, Blacksmith Shop	none detected		Poor/Non-Friable	Roades, 2013
115	13029.029-020513-24	Feb-13	Black Roofing Tar	Throughout Roof, Blacksmith Shop	none detected		Poor/Non-Friable	Roades, 2013
116	13029.029-020513-25	Feb-13	Black Penetration Tar	Throughout Roof, Blacksmith Shop	none detected		Poor/Non-Friable	Roades, 2013
117	13029.029-020513-26	Feb-13	Black Penetration Tar	Throughout Roof, Blacksmith Shop	none detected		Poor/Non-Friable	Roades, 2013
118	13029.029-020513-27	Feb-13	Black Penetration Tar	Throughout Roof, Blacksmith Shop	none detected		Poor/Non-Friable	Roades, 2013
119	13029.029-020513-28	Feb-13	Gray Roofing Felt	Throughout Roof, Blacksmith Shop	none detected		Poor/Non-Friable	Roades, 2013
120	13029.029-020513-29	Feb-13	Gray Roofing Felt	Throughout Roof, Blacksmith Shop	none detected		Poor/Non-Friable	Roades, 2013
121	13029.029-020513-30	Feb-13	Gray Roofing Felt	Throughout Roof, Blacksmith Shop	none detected		Poor/Non-Friable	Roades, 2013
122	13029.029-020513-31	Feb-13	Black Parapet Tar	Throughout Roof, Blacksmith Shop	8%	Chrysotile	Poor/Non-Friable	Roades, 2013
123	13029.029-020513-32	Feb-13	Black Parapet Tar	Throughout Roof, Blacksmith Shop	none detected		Poor/Non-Friable	Roades, 2013
124	13029.029-020513-33	Feb-13	Black Parapet Tar	Throughout Roof, Blacksmith Shop	none detected		Poor/Non-Friable	Roades, 2013
125	13029.029-020513-34	Feb-13	Black Roofing Felt - Patching	Throughout Roof, Blacksmith Shop	none detected		Poor/Non-Friable	Roades, 2013
126	13029.029-020513-35	Feb-13	Black Roofing Felt - Patching	Throughout Roof, Blacksmith Shop	none detected		Poor/Non-Friable	Roades, 2013
127	13029.029-020513-36	Feb-13	Black Roofing Felt - Patching	Throughout Roof, Blacksmith Shop	none detected		Poor/Non-Friable	Roades, 2013
128	13029.029-020513-34a	Feb-13	Black Roofing Felt - Patching	Throughout Roof, Blacksmith Shop	none detected		Poor/Non-Friable	Roades, 2013
129	13029.029-020513-35a	Feb-13	Black Roofing Felt - Patching	Throughout Roof, Blacksmith Shop	none detected		Poor/Non-Friable	Roades, 2013
130	13029.029-020513-36a	Feb-13	Black Roofing Felt - Patching	Throughout Roof, Blacksmith Shop	none detected		Poor/Non-Friable	Roades, 2013
131	13029.029-020513-37	Feb-13	Window Glazing	Plastic Panes, Blacksmith Shop	2%	Chrysotile	Poor/Friable	Roades, 2013
132	13029.029-020513-38	Feb-13	Window Glazing	Plastic Panes, Blacksmith Shop	3%	Chrysotile	Poor/Friable	Roades, 2013
133	13029.029-020513-39	Feb-13	Window Glazing	Plastic Panes, Blacksmith Shop	3%	Chrysotile	Poor/Friable	Roades, 2013

Appendix D
Lead Based Paint Laboratory Analysis

CEI Labs
730 SE Maynard Road, Cary, NC 27511
Phone: (919) 481-1413 Fax: (919) 481-1442

LABORATORY REPORT
LEAD IN PAINT

Client: **DC Environmental**
PO Box 9315
Albuquerque , NM 87119

CEI Lab Code: C16-0819
Received: 11-14-16
Analyzed: 11-18-16
Reported: 11-18-16

Project: Rail Yard Parcel 10 North Wash Room; DCE 16 -187

ANALYSIS METHOD: EPA SW846 7000B

CLIENT ID	CEI LAB ID	PPM (µg/g)	CONCENTRATION % BY WEIGHT
16-187-1000	CA58070	160000	**16**
16-187-1001	CA58071	5200	**0.52**
16-187-1002	CA58072	43000	**4.3**
16-187-1003	CA58073	6200	**0.62**

CEI Labs
107 New Edition Court, Cary, NC 27511
Tel: 919-481-1413 Fax: 919-481-1442

Project: Rail Yard Parcel 10 North Wash Room; DCE 16-187

Lab Code: C16-0819

ANALYSIS METHOD: EPA SW846 7000B

CLIENT ID	CEI LAB ID	PPM (µg/g)	CONCENTRATION % BY WEIGHT

Reviewed By:

Tianbao Bai, Ph.D.
Laboratory Director

This method has been validated for sample weights of 0.020g or greater. When samples with a weight of less than that are analyzed those results fall outside of the scope of accreditations.
*** The analysis of composite wipe samples as a single samples is not included under AIHA accreditation.**

Minimum reporting limit is 10 µg total lead. Sample results denoted with a “less than” (<) sign contain less than 10.0 µg total lead, based on a 40ml sample volume.

Lead samples are not analyzed by CEI Labs Lead samples are submitted to an AIHA ELLAP accredited laboratory for lead analysis of soil, dust, paint, and TCLP samples.
Laboratory results represent the analysis of samples as submitted by the client. Information regarding sample location, description, area, volume, etc., was provided by the client. Unless notified in writing to return samples, CEI Labs discards client samples after 30 days. This report shall not be reproduced, except in full, without the written consent of CEI Labs.

REGULATORY LIMITS
OSHA Standard: No safe limit.
Consumer Products Safety Standard: Greater than 0.06% lead by weight.
Federal Lead Standard / HUD: 0.5% lead by weight.

LEGEND
µg = microgram
ml = milliliter
ppm = parts per million
Pb = lead
g = grams
wt = weight

End of Report

C16-0819 (4)
CAS8070-CAS8073

DC Environmental
Consulting and Training Services
"Promoting Safety in the Workplace"

DC Environmental
PO Box 9315
Albuquerque, NM 87119

Contact:
J. David Charlesworth

Phone: 505.869.8000
Fax: 505.869.9453

E-mail:
JDCharlesworthcih@gmail.com

Site: City of Albuquerque (Intera)

Site Location: Rail Yard Parcel 10 North Wash Room

PO / Job#: DCE 16-187 Date: 10/26/2016

Turn Around Time: Same Day / 1Day / 2Day / 3Day / 4Day / 5Day

☐ PCM: ☐ NIOSH 7400A / ☐ NIOSH 7400B ☐ Rotometer

☐ PLM: ☐ Standard / ☐ Point Count 400 - 1000 / ☐ CARB 435

☐ TEM Air: ☐ AHERA / ☐ Yamate2 / ☐ NIOSH 7402
☐ TEM Bulk: ☐ Quantitative / ☐ Qualitative / ☐ Chatfield
☐ TEM Water: ☐ Potable / ☐ Non-Potable / ☐ Weight %
☐ TEM Microvac: ☐ Qual(+/-) / ☐ D5755(str/area) / ☐ D5756(str/mass)

☐ IAQ Particle Identification (PLM LAB) ☐ PLM Opaques/Soot
☐ Particle Identification (TEM LAB) ☒ Special Project

☐ Metals Analysis: Method:
Matrix:
Analytes:

Comments: `Paint chips to be analyzed for Lead Based Paint

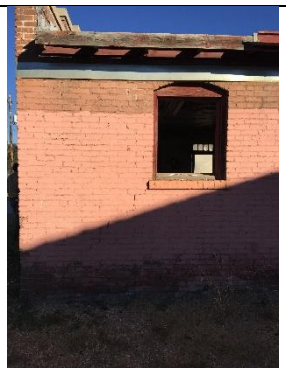
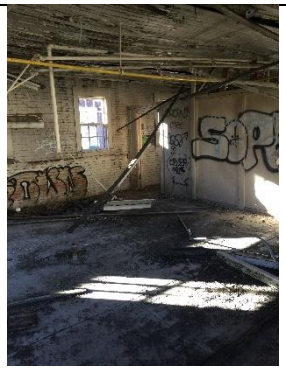
Sample ID	Date	Sample Location / Description / Task	FOR AIR SAMPLES ONLY				Sample Area / Air Volume
			Type	Time On/Off	Avg. LPM	Total Time	
16-187-1000	10/26	White Paint from Ceiling North wash Room	A P C				
16-187-1001	10/26	Beige Paint from Window Sill North wash Room	A P C				
16-187-1002	10/26	Red Paint Exterior Window North Wash Room	A P C				
16-187-1003	10/26	Red Paint Interior Floor North Wash Room	A P C				
			A P C				
			A P C				
			A P C				
			A P C				
			A P C				
			A P C				

Sampled By: Steven Gutierrez

Shipped Via: ☐ Fed Ex ☐ DHL ☐ UPS ☐ US Mail ☐ Courier ☐ Drop Off ☐ Other:

Relinquished By: Steven Gutierrez Date / Time: 11/11/2016 5:00PM	Relinquished By: Date / Time:	Relinquished By: Date / Time:
Received By: AC Date / Time: 11/14/16 9:10 Condition Acceptable? ☑ Yes ☐ No	Received By: Date / Time: Condition Acceptable? ☐ Yes ☐ No	Received By: Date / Time: Condition Acceptable? ☐ Yes ☐ No

Appendix E
Photography Log

Photographc Log	
 Figure 1 Front Exterior of North Wash Room	 Figure 2 Exterior of North Wash Room
 Figure 3 Window Exterior of North Wash Room	 Figure 4 Interior of North Wash Room
 Figure 5 Interior of North Wash Room	 Figure 6 Interior of North Wash Room

Appendix F
Certificates

CERTIFICATE OF TRAINING

EPA/AHERA Training Program

This is to certify that

MICHAEL NIEMAN

NM. DL. 006 087 493

Has completed 4 hours of training and **PASSED** the test required by **Section 206 of TSCA Title II** and in accordance with **LOUISIANA STATE ASBESTOS REGULATIONS** entitled,

ASBESTOS BUILDING INSPECTOR REFRESHER

PRESENTED BY
Mendez Environmental™
1005 Veterans Mem Blvd
Suite, 101
Kenner, LA 70062
Tel: (504) 468-8858

Director: _____
Rodolfo G. Mendez

IN COLLABORATION WITH
DC Environmental
P.O. Box 9315
Albuquerque, NM 87119
Tel: (505) 869-8000
www.dcenvironmental.net

NM Program Manager: _____
David Charlesworth

Course Date: 04-12-2016
Certificate Number: AS0416KNMPMN17906

Test Date: 04-12-2016 Grade: **PASS**
Expiration Date: 04-12-2017

United States Environmental Protection Agency

This is to certify that

Michael Neiman

has fulfilled the requirements of the Toxic Substances Control Act (TSCA) Section 402, and has received certification to conduct lead-based paint activities pursuant to 40 CFR Part 745.226 as:

Inspector

In the Jurisdiction of:

New Mexico

This certification is valid from the date of issuance and expires September 25, 2017

NM-I-129246-1
Certification #

September 11, 2014
Issued On

Adrienne Priselac, Manager, Toxics Office
Land Division

United States Environmental Protection Agency

This is to certify that

Steven P Gutierrez

has fulfilled the requirements of the Toxic Substances Control Act (TSCA) Section 402, and has received certification to conduct lead-based paint activities pursuant to 40 CFR Part 745.226 as:

Inspector

In the Jurisdiction of:

All EPA Administered Lead-based Paint Activities Program States, Tribes and Territories

This certification is valid from the date of issuance and expires April 20, 2019

LBP-I-I159998-1

Certification #

April 06, 2016

Issued On

Adrienne Priselac, Manager, Toxics Office

Land Division

CERTIFICATE OF TRAINING

EPA/AHERA Training Program

This is to certify that

STEVEN GUTIERREZ

NM. DL. 121 014 475

Has completed **4** hours of training and **PASSED** the test required by **Section 206 of TSCA Title II** and in accordance with **LOUISIANA STATE ASBESTOS REGULATIONS** entitled,

ASBESTOS BUILDING INSPECTOR REFRESHER

PRESENTED BY
Mendez Environmental™
1005 Veterans Mem Blvd
Suite, 101
Kenner, LA 70062
Tel: (504) 468-8858

Director: Josefina Mendez-Rosa

IN COLLABORATION WITH
DC Environmental
P.O. Box 9315
Albuquerque, NM 87119
Tel: (505) 869-8000
www.dcenvironmental.net

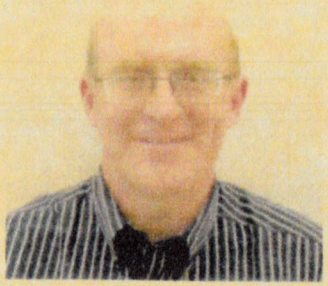
NM Program Manager: David Charlesworth

Course Date: 11-08-2016
Certificate Number: AS1116KNMPSG18544

Test Date: 11-08-2016 Grade: **PASS**
Expiration Date: 11-08-2017

United States Environmental Protection Agency

This is to certify that



James Charlesworth

has fulfilled the requirements of the Toxic Substances Control Act (TSCA) Section 402, and has received certification to conduct lead-based paint activities pursuant to 40 CFR Part 745.226 as:

Risk Assessor

In the Jurisdiction of:

New Mexico

This certification is valid from the date of issuance and expires September 01, 2017

NM-R-3055-2
Certification #

August 18, 2014
Issued On

Adrienne Priselac, Manager, Toxics Office
Land Division

CERTIFICATE OF TRAINING

EPA/AHERA Training Program

This is to certify that

J. DAVID CHARLESWORTH

NM. DL. 037 723 452

Has completed **4** hours of training and **PASSED** the test required by **Section 206 of TSCA Title II** and in accordance with **LOUISIANA STATE ASBESTOS REGULATIONS** entitled,

ASBESTOS BUILDING INSPECTOR REFRESHER

PRESENTED BY
Mendez Environmental™
1005 Veterans Mem Blvd
Suite, 101
Kenner, LA 70062
Tel: (504) 468-8858

Director: _____
Rodolfo G. Mendez

IN COLLABORATION WITH
DC Environmental
P.O. Box 9315
Albuquerque, NM 87119
Tel: (505) 869-8000
www.dcenvironmental.net

NM Program Manager: _____
David Charlesworth

Course Date: 04-20-2016
Certificate Number: AS0416KNMPJC17938

Test Date: 04-20-2016 Grade: **PASS**
Expiration Date: 04-20-2017

PARCEL 10 ADDITIONAL CHARACTERIZATION REPORT

CITY OF ALBUQUERQUE RAIL YARDS

Albuquerque, Bernalillo County, New Mexico

Prepared for:

City of Albuquerque, Metropolitan Redevelopment Agency
600 2nd Street NW, 3rd Floor
Albuquerque, NM 87102

Prepared by:

INTERA
GEOSCIENCE & ENGINEERING SOLUTIONS
6000 Uptown Boulevard Suite 220
Albuquerque, NM 87110

April 27, 2016

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ACRONYMS AND ABBREVIATIONS

°C	degrees Celsius
°F	degrees Fahrenheit
µg/L	micrograms per liter
µg/m^3	micrograms per cubic meter
ACBM	asbestos-containing building materials
ASTM	ASTM International
ATSF	Atchison, Topeka and Santa Fe
Beacon	Beacon Environmental Services
BNSF	Burlington Northern Santa Fe
BTEX	benzene, toluene, ethylbenzene, and total xylenes
bgs	below ground surface
CCOC	Conditional Certificate of Completion
CNS	Covenant Not to Sue
COA	City of Albuquerque
COC	Certificate of Completion
COPC	contaminants of potential concern
Crisp	Crisp Analytical LLC
CSM	conceptual site model
DCE	DC Environmental
DRO	diesel range organics
EDB	1,2-dibromoethane
EPA	U.S. Environmental Protection Agency
ft	feet *or* foot
GRO	gasoline range organics
HEAL	Hall Environmental Analysis Laboratory
INTERA	INTERA Incorporated
LBP	lead-based paint
LNAPL	light non-aqueous phase liquid
MDL	method detection limit
mg/cm^2	milligrams per square centimeter
mg/kg	milligrams per kilogram
mL	milliliter

MRO	motor oil range organics
NMED	New Mexico Environment Department
NMWQCC	New Mexico Water Quality Control Commission
OSHA	Occupational Safety and Health Administration
PAH	polynuclear aromatic hydrocarbons
PID	photoionization detector
PPE	personal protective equipment
PRT	post run tubing
Report	this *Parcel 10 Additional Characterization Report*
RL	reporting detection limit
RMD	Radiation Monitoring Device
Site	Albuquerque Rail Yards located in downtown Albuquerque, New Mexico
SOP	standard operating procedure
SOW	Scope of Work (INTERA, 2016a)
SSL	Soil Screening Levels
SSHASP	site-specific health and safety plan
TPH	total petroleum hydrocarbons
VISL	vapor intrusion screening level
Vista	Vista Geosciences LLC
VOC	volatile organic compound
VRP	Voluntary Remediation Program (New Mexico Environment Department)
XRF	X-Ray Fluorescence

1.0 INTRODUCTION

In accordance with the Scope of Work (SOW) submitted on August 10, 2016 (INTERA, 2016a) to the City of Albuquerque (COA), INTERA Incorporated (INTERA) is submitting this *Parcel 10 Additional Characterization Report* (Report) documenting the completion of the additional characterization activities conducted at the Albuquerque Rail Yards (Site) located in downtown Albuquerque, New Mexico. This Report was completed in support of participation in the New Mexico Environmental Department (NMED) Voluntary Remediation Program (VRP) and ultimately, Site redevelopment. The Albuquerque Rail Yards consists of Areas A, B, C and Tract A. The Site location is presented on **Figure 1.**

1.1 Background

The Site is located between 2nd Street and Commercial Street in downtown Albuquerque, New Mexico, and comprises approximately 27 acres (Areas A, B, C and Tract A) located within the former Atchison, Topeka and Santa Fe (ATSF)/Burlington Northern Santa Fe (BNSF) Central Works Equipment Facility Railyard that operated from the 1880s to the early 1990s. As a result of previous operations, the Site sustained environmental impacts from both petroleum hydrocarbon and metal contamination. Contamination is present in both the Site vadose/unsaturated zone (Site soils and soil vapor) and in the saturated zone (Site groundwater) and includes residual light non-aqueous phase liquid (LNAPL), metals adsorbed to soil particles, organic vapors, and organic and inorganic solutes dissolved in groundwater.

Although substantial efforts have been made in the past to fully delineate contamination for impacted Site media, the extent of contamination is still unknown for certain media and Site areas and these are identified as data gaps in the Conceptual Site Model (CSM) developed for the Site (INTERA, 2015). In the CSM, INTERA concluded that the magnitude with which identified data gaps will impact Site redevelopment plans is dependent on the final redevelopment scenario(s) selected for the Site. Additional characterization sampling efforts at the Site should be conducted based on the redevelopment option(s) selected; however, full characterization or remediation of all impacted media may not be required if sufficient information exists to document that exposure pathways to these media are incomplete or if engineering controls are proposed that would render a potential exposure pathway incomplete. In addition, both asbestos-containing building materials (ACBM) and lead-based paint (LBP) were used in many of the remaining Site buildings; contamination related to these building materials will also need to be mitigated during any building demolition or building renovation activities.

Numerous environmental investigations have been conducted at the Albuquerque Rail Yards since 1991. Current soil and groundwater environmental contamination persists at the Site. The

nature and extent of the contamination within environmental media varies across the Site regarding depth and contaminants of potential concern (COPCs). Metal contamination in soils is generally more prevalent in the center and northern portions of the Site, and petroleum hydrocarbon contamination persists in soils and groundwater in the central and southern portions of the Site. Based on the CSM developed for the Site, the following constituents are identified as Site soil COPCs (INTERA, 2016a):

- Residential: antimony, arsenic, benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, chromium, dibenzo(a,h)anthracene, indeno(1,2,3-cd)pyrene, iron, lead, thallium, TPH DRO + MRO (the sum of total petroleum hydrocarbons [TPH] diesel range organics [DRO] plus motor oil range organics [MRO]), and TPH
- Industrial/occupational: arsenic, benzo(a)pyrene, lead, thallium, TPH DRO + MRO, and TPH
- Construction worker: arsenic, chromium, lead, manganese, and thallium

Additionally, based on the magnitude of Site soil petroleum hydrocarbon concentrations, residual LNAPL is likely present in Site soils in the southeastern portion of the Site.

The COA and the Site Developer, are seeking to complete Site redevelopment within the NMED VRP. By actively participating in the NMED VRP (and upon successful completion of any remediation actions deemed necessary), the COA will be able to obtain a Conditional Certificate of Completion (CCOC) and/or Certificate of Completion (COC) for either the entire Site or specific parcels at the Site. The CCOC or the COC will document that current conditions in a designated area(s) and/or throughout the Site meet applicable environmental quality standards and will provide NMED enforcement protection for the COA and liability protection for lenders. In addition, once a CCOC or COC is issued, a Covenant Not to Sue (CNS) may be transferred to a selected prospective purchaser and/or future owner of the Site.

The Site Developer has divided the Site into ten parcels (Parcel 1 – Parcel 10) for redevelopment purposes. The locations of the ten parcels are shown on **Figure 2a.** Parcel 10, which this Report summarizes, completes the northern portion of the Site and is similar to Parcel 1 to the south except that its primary use designation is business rather than cultural. Parcel 10 contains the proposed Paseo North building and the subterranean parking garage below (**Figure 2b**). As such, Parcel 10 is envisioned as an auxiliary parcel to Parcels 7 and 8, which contain historic structures, and likewise may be less flexible with regard to development options. Uses contained in the Paseo North building are intended to complement those uses in the historic structures, e.g., laboratory space, training/education, or research and development. Parcel 10 also contains perimeter Acoustic Mounds and a retail-zoned edge that will act as an extension of Parcel 9 to

the south. Such retail uses may be more business-oriented and may include options for limited on-site hotel facilities (Samitaur, 2014).

1.2 Scope of Work

INTERA developed a SOW to complete additional characterization activities throughout the Site to fill in the data gaps identified in the CSM (INTERA, 2015). Although the Site redevelopment plan has been developed (business/office space and one level subterranean parking), additional characterization activities were designed to ensure data collection that provides good spatial coverage, and for a site-wide residential redevelopment scenario, to allow flexibility for a potential change of redevelopment plans while also evaluating construction worker safety. The additional characterization in Parcel 10, specifically, includes the sampling of Site soils and soil vapor, an ACBM and LBP survey for the North Wash Room, Pattern House, and Sheet Metal House, and the sampling of groundwater monitoring wells within Parcel 10. For soil, the primary concern is the potential for exposing construction workers to soil impacted with metals and/or petroleum hydrocarbons during excavation activities required as part of redevelopment. Soil vapor is an environmental concern due to the potential for exposure to volatile organic compounds (VOCs) resulting from vapor intrusion due to the established presence of VOC constituents in Site surface and near-surface soils and in Site groundwater. The future occupants of the property are considered the potential receptors. The CSM developed for the Site (INTERA, 2015), VRP Preliminary Work Plan (INTERA, 2016b), and Site redevelopment plan (Samitaur, 2014) were critical in the development of this report.

The approved SOW (INTERA, 2016a) included the following tasks for Parcel 10:

- Advance eight soil borings to obtain good spatial coverage over the parcel without too much focus on proposed redevelopment due to the likelihood that the proposed redevelopment will change.
- Field-screen soil samples for the presence of VOCs using a photoionization detector (PID) to assist in selecting which soil samples will be submitted for laboratory analysis.
- Collect one soil sample from each soil boring location and submit for analysis of the following:
  - VOCs via U.S. Environmental Protection Agency (EPA) Method 8260B;
  - Polynuclear Aromatic Hydrocarbons (PAHs) via EPA Method 8310;
  - TPH: gasoline range organics (GRO), –DRO, and –MRO via EPA Method 8015 modified; and,

  - Metals: antimony, arsenic, chromium, iron, lead, manganese, and thallium via EPA Method 6010.

- Collect four soil gas samples from select soil borings and submit for analysis of VOCs via EPA Method TO-17.
- Oversee an ACBM and LBP survey for the North Wash Room, Pattern House, and Sheet Metal House.
- Gauge and sample the groundwater monitoring wells (MW-06, MW-07, MW-08, and MW-09) located in Parcel 10 and submit for analysis of VOCs via EPA Method 8260B and 1,2-dibromoethane (EDB) via EPA Method 504.1.

1.3 Work Plan Deviations

There were no work plan deviations during this additional characterization field event with the exception of the following:

- Monitoring well MW-09 was not located during the groundwater sampling event so a sample was not collected and submitted for analyses.

2.0 FIELD ACTIVITIES

Field activities for this additional characterization event were conducted on October 26 and 27, 2016. The Site-Specific Health and Safety Plan (SSHASP) was reviewed in detail by INTERA field staff, was followed during all Site activities, and was used as a guide for the field-work health and safety meeting. Work was performed in Occupational Safety and Health Administration (OSHA) Level D personal protective equipment (PPE). Copies of the field notes and field forms are included in **Appendix A.**

2.1 Soil Sampling

On October 27, 2016, eight soil borings (SB-21, SB-22, SB-23, SB-24, SB-25, SB-26, SB-27, and SB-32) were drilled using a truck-mounted Geoprobe® drilling rig operated by Vista GeoScience, LLC (Vista) of Golden, Colorado (**Figure 2b**). These eight soil boring locations were chosen based on the data gaps identified in the CSM and the proposed redevelopment plans provided by the COA. The Geoprobe® utilizes a rotary hammer mounted on a hydraulic ram that, in conjunction with the weight of the vehicle, advances a threaded, hollow-probed steel tube (Post Run Tubing or PRT) into the subsurface. Soil borings (SB-22, SB-24, SB-25, and SB-32) were advanced to a depth of 6 feet below ground surface (ft bgs) and soil borings (SB-21, SB-23, SB-26, and SB-27) were advanced to a depth of 15 ft bgs. The soil sampling locations were selected to collect data for the current proposed redevelopment scenario while also providing good spatial coverage across Parcel 10 in the event the proposed redevelopment scenario changes.

Soil cores were collected continuously to the terminal depth of each boring. The soil cores were contained within the acetate liners, which measured 5 ft in length by 1.125 inches in diameter. The Vista drill crew cut the liner lengthwise at two locations approximately 180 degrees apart and provided the sample to INTERA personnel. Immediately after opening the liner, a portion of the soil core was placed in a clean pint-size glass jar for field screening for the presence of VOCs using a PID and the heated headspace method. Another portion of the soil core was placed in a laboratory-provided four-ounce glass jar with a Teflon™-lined lid and stored on ice for potential laboratory analysis. These soil jars were labeled with the borehole number, depth interval, and time at which the sample was collected. Methanol extraction was performed on samples selected for laboratory analysis of VOCs and/or TPH-GRO.

An INTERA field scientist logged the lithology of each soil boring in accordance with *ASTM Standard D 2488-09a Standard Practice for Description and Identification of Soils (Visual Manual Procedure)* (ASTM, 2009). The soil classification, description, and field screening

results are on the boring logs provided in **Appendix A.** Field screening results for select soil samples are presented in **Table 1.**

The soil was also visually examined for the presence of staining, and any odors detected were also noted. Evidence of staining and/or odors were noted on the soil boring log. The PID results were then evaluated and assisted in selecting which soil samples was to be submitted for laboratory analysis. Samples are described by soil boring name and a depth interval (ft bgs). The soil samples selected for analyses from Parcel 10 are as follows:

- SB-21 (0-5)
- SB-22 (3-6)
- SB-23 (0-5)
- SB-24 (0-5)
- SB-25 (0-3)
- SB-26 (10-15)
- SB-27 (0-5)
- SB-32 (0-3)

After collection, the soil samples were labeled and immediately placed on ice for transport to Hall Environmental Analysis Laboratory (HEAL) for analyses. Proper chain-of-custody procedures were adhered to during sample collection, transport, and delivery to HEAL. Laboratory analytical results are discussed in Section 3 and are summarized in **Table 1** and **Table 2.** A copy of the analytical laboratory report is provided in **Appendix B.**

2.2 Soil Gas Sampling

A soil gas survey was conducted at Parcel 10 on October 27, 2016, by Vista under INTERA oversight. Four soil gas samples (SV-21, SV-23, SV-27, and SV-32) were collected from the soil borings locations located within Parcel 10. The soil gas sampling locations were selected to collect data for the current proposed redevelopment scenario while also providing good spatial coverage across Parcel 10 in the event the proposed redevelopment scenario changes.

Soil gas samples were collected at each sampling location at an approximate depth of 5 ft bgs using a truck-mounted Geoprobe® drill rig. Soil gas samples were collected through clean, dedicated, Teflon-lined polyethylene tubing attached by an adaptor (expandable anchor point or an open retractable probe tip) to the bottom Geoprobe® rod section. A hollow-stem pipe was inserted into the subsurface, and a sampling "port" was attached to the drive-end of the hollow-stem piping, which was attached to tubing. The tubing was stretched from the subsurface, up through the hollow-stem piping, to hand-held sampling units and/or the collection vessel (sorbent

tubes) located at the surface. A vacuum device (metered pump) was used to extract soil gas from the subsurface when the desired depth was reached.

Once the soil gas sampling system was set up, the soil gas was purged from the soil boring using a vacuum pump and flow meter, carbon dioxide and oxygen (CO_2/O_2) readings were monitored, and purging continued until these readings remained stable for one minute. Once a minimum of three volumes was purged and stabilization was achieved, the soil gas was screened using a hand-held PID, and the concentration was recorded. The soil gas samples were then collected by INTERA by pumping through a sorbent tube for 5 minutes (1-liter sample volume). The soil gas samples were submitted for laboratory analysis of VOCs via EPA Method TO-17 by Vista to Beacon Environmental Services (Beacon). Copies of Vista field forms are provided in **Appendix A** and a copy of the analytical laboratory report is provided in **Appendix C.**

2.3 ACBM and LBP Sampling

DC Environmental, Inc. (DCE) of Albuquerque, New Mexico, an INTERA subcontractor, performed an asbestos and LBP survey at the Site on October 26 and 27, 2016. The asbestos/LBP survey was conducted to determine the presence, location, and quantity of asbestos remaining within the Pattern House, Sheet Metal House and the North Wash Room and to establish the basis for the presence of lead-containing finishes within the Site structure (DCE, 2016).

DCE conducted a visual inspection for asbestos-containing building materials within the Sheet Metal House and the North Wash Room and collected bulk samples that were tested for asbestos using Polarized Light Microscopy and stereomicroscopy bulk asbestos analysis. Analysis was conducted by Crisp Analytical, LLC (Crisp) of Carrollton, Texas. Crisp is an accredited laboratory and recognized by the National Voluntary Laboratory Accreditation Program (DCE, 2016).

The presence of lead-based paint was assessed in substantial compliance with the Housing and Urban Development guidelines. DCE conducted the surface coating screening survey of the interior and exterior of the building to generally identify building components coated with a surface coating that contains lead. The survey consisted of testing the lead concentrations of each of the accessible surfaces using a Radiation Monitoring Device (RMD) LPA-1 X-Ray Fluorescence (XRF) device. The determination of lead in paint is defined as a surface content of at least 1.0 milligrams per square centimeter. If the XRF readings were between the 0.9 to 1.0 mg/cm^2 range, then the readings are declared as either lead-based paint or lead-containing materials, and sampling is recommended. Surfaces that were tested with the XRF device included, but were not limited to the following: doors, ceiling, painted walls, structural steel

support, painted door components, roof components, ventilation duct, gates, and framing. In addition, bulk samples of paint chips were collected to verify the XRF readings. Lead-based paint is further defined if laboratory analysis determines the lead content to be one-half percent (0.5 %) by weight or greater when analyzed by Flame Atomic Absorption (DCE, 2016).

2.4 Groundwater Sampling

On November 4, 2016 groundwater samples were collected from the groundwater monitoring wells located in Parcel 10 including: MW-6, MW-7, and MW-8. Monitoring well MW-9 was not located so a groundwater sample was not collected. All monitoring wells were purged using dedicated, disposable polyethylene bailers.

A groundwater sample was collected once three well casing volumes were removed from the monitoring well and water quality parameters stabilized for three consecutive readings. The groundwater sample was labeled and immediately placed on ice for transport to HEAL for analysis of VOCs via EPA Method 8260B and EDB via EPA Method 504.1. Proper chain-of-custody procedures were adhered to during sample collection, transport, and delivery to HEAL.

More details, including field forms and water quality data, can be found in the site-wide groundwater monitoring report developed by INTERA (INTERA, 2017).

3.0 RESULTS AND DISCUSSION

The soil, soil gas, ACBM/LBP survey, and groundwater results of the 2016 additional characterization field activities conducted within Parcel 10 of the Site are summarized in the following subsections. These new data have been complied with historic data previously summarized in the Site CSM (INTERA, 2015) to provide an overall assessment of the nature and extent of the contamination for Parcel 10. For each media (soil, soil gas, ACBM, LBP, and groundwater) investigated, a CSM Update section has been included to facilitate evaluation of all Site data with regards to impacts to future redevelopment. Unless otherwise stated, all data results are discussed for a residential scenario. For soil, the state regulation defines accessible soil for a residential scenario to be located from 0 to 10 ft bgs, (NMED, 2015).

Select soil and soil gas samples had elevated laboratory reporting detection limits (RLs) for select constituents due to interference from elevated concentrations of other compounds. For these samples, INTERA requested that the laboratories (HEAL and Beacon) report using the method detection limit (MDL) and flag the results as estimated (J qualifier). Reporting down to the MDL resulted in all laboratory RLs being lower than the residential/construction worker soil screening levels (SSLs) and NMED vapor intrusion screening levels (VISLs) with the exception of EDB in soil gas. The RL for EDB will be discussed further in Section 3.2.

NMED does not have an established VISLs for several constituents, including: 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, 1,3-dichlorobenzene, 1,4-dioxane, and 2-methylnaphthalene. INTERA was, however, able to calculate the VISLs for 1,2,4-trimethylbenzene and 1,4-dioxane using the EPA VISLs Calculator. The methodology behind the calculations is explained in more detail in **Appendix D.**

The spatial trends are discussed below for all COPCs listed in Section 1.1. Figures were developed to illustrate the spatial trend of SSL exceedances for COPCs over the investigation time period, between 1995 and 2016. Red-colored locations illustrate sampling locations where the selected COPC has been detected at a concentration that exceeds the corresponding SSL. The green-colored locations illustrate sampling locations where the selected COPC has been detected at a concentration below the corresponding SSL. The orange-colored locations illustrate sampling locations where the selected COPC has not been detected. The black-colored locations illustrate sampling locations where the selected COPC has not been detected, but the laboratory detection limit is greater than the SSL; therefore, exceedances are unable to be determined at these locations. For all non-detect locations, the minimum detection limit over the monitoring time period was used for comparison. One sampling location may have several different “types”

of detections; for conservative purposes, only the SSL exceedance is shown. Furthermore, the shape of these points represents the sampling location type: squares represent soil borings, diamonds represent surface soil samples, and squares with a cross represent test pits. Figures illustrating soil, soil gas, and groundwater results for the entire Site (Parcels 1 through 10) are included in **Appendix E.** The results discussed below are specific to Parcel 10.

3.1 Soil Sampling Results

3.1.1 Metals

Antimony was detected soil samples SB-25 (240 milligrams per kilograms [mg/kg]) and SB-32 (3.6 mg/kg); however, the soil sample collected at SB-25 (0-3 ft bgs) exceeded the antimony residential SSL of 31.3 mg/kg. Arsenic was detected in five of the eight soil samples: SB-21 (3.5 mg/kg), SB-22 (3.8 mg/kg), SB-24 (2.9 mg/kg), SB-25 (18 mg/kg), and SB-32 (17 mg/kg). The soil samples collected from SB-25 (0-3 ft bgs) and SB-32 (0-3 ft bgs) had arsenic concentration that exceed the arsenic residential SSL of 4.25 mg/kg. Chromium and iron were detected in all eight soil samples at concentrations above the laboratory RLs; however, the concentrations did not exceed their residential SSLs of 96.6 mg/kg and 54,800 mg/kg, respectively. Lead was detected in all eight soil samples; the lead concentration at SB-25 (3,900 mg/kg) exceeds the lead residential SSL of 400 mg/kg. Manganese was also detected in all eight soil samples. Manganese concentrations were below the residential SSL of 10,500 mg/kg; and were also below the more conservative construction worker SSL of 464 mg/kg. A summary of the detected laboratory analytical results is provided in **Table 2** and illustrated on **Figures 3a** through **3g.** A copy of the laboratory analytical report is provided in **Appendix B.**

3.1.2 Petroleum Hydrocarbons

Benzo(a)anthracene was detected in the soil samples collected from soil borings SB-25 (0.89J mg/kg) and SB-32 (6.5 mg/kg), the benzo(a)anthracene concentration at SB-32 (0-3 ft bgs) exceeds the residential SSL of 1.53 mg/kg. Benzo(a)pyrene was detected in the soil samples collected from soil borings SB-23 (0.098J mg/kg), SB-25 (0.54J mg/kg), and SB-32 (7.1 mg/kg); however, only the soil samples collected from SB-25 (0-3 ft bgs) and SB-32 (0-3 ft bgs) had benzo(a)pyrene concentrations that exceed the residential SSL of 0.153 mg/kg. Benzo(b)fluoranthene was detected in the soil samples collected from soil borings SB-25 (0.69J mg/kg) and SB-32 (4.4 mg/kg), the benzo(b)fluoranthene concentration at SB-32 (0-3 ft bgs) exceeds the residential SSL of 1.53 mg/kg. Dibenzo(a,h)anthracene was detected in the soil sample collected at SB-32 (0.40 J mg/kg) at a concentration that exceeds the residential SSL of 0.153 mg/kg. Indeno(1,2,3-cd)pyrene was detected in soil samples SB-24 (0.29 mg/kg), SB-25 (1.3J mg/kg), and SB-32 (1.5 mg/kg) above their laboratory RLs; however, the indeno(1,2,3-

cd)pyrene concentrations did not exceed the residential SSLs of 1.53 mg/kg. and Naphthalene was not detected above the laboratory RL in any of the soil samples collected within Parcel 10.

TPH DRO + MRO was detected above the laboratory RLs in soil samples collected from soil boring SB-22 (5,700 mg/kg), SB-23 (740 mg/kg), SB-24 (99 mg/kg), SB-25 (450 mg/kg), and SB-32 (93 mg/kg); however, concentrations did not exceed the residential SSL of 1,000 mg/kg with the exception of soil sample SB-22 (3-6 ft bgs). TPH GRO was not detected above the laboratory RL in all 8 soil samples in Parcel 10. A summary of the detected laboratory analytical results is provided in **Table 1** and illustrated on **Figures 4a** through **4e** and **Figure 5.** A copy of the laboratory analytical report is provided in **Appendix B.**

3.1.3 Conceptual Site Model Update

The CSM identified soil data gaps along the northern boundary of the Site, specifically where Parcel 10 is located. Therefore, INTERA designed the 2016 additional characterization sampling plan to collect soil samples specifically in these areas where data were identified as missing in the initial CSM.

Figures 3a through **3g** illustrate there are no longer any data gaps for Site metal COPCs and the cumulative data is distributed well throughout Parcel 10. Antimony exceeds the residential SSL at four locations; these locations are located near the former sand blasting area, north of the Sheet Metal House, and north of the Blacksmith Shop (**Figure 3a**). **Figure 3b** illustrates that the arsenic concentrations exceeding residential SSLs are located throughout Parcel 10, in both surface and soil boring locations. Chromium exceeds the residential SSL at one location; this location is located within the former sand blasting area (**Figure 3c**). **Figure 3d** illustrates the one location that had an iron concentration exceeding residential SSLs; this sample location is north of the Sheet Metal House. Lead exceedances are numerous throughout Parcel 10, and are primarily located in the former sand blasting area and former battery storage area. **Figure 3f** illustrates the manganese concentrations exceeding construction worker SSLs are located north of the Flue Shop and Blacksmith Shop. **Figure 3g** illustrates that the two soil samples with thallium concentrations exceeding residential SSLs are located in the former and blasting area and north of the Blacksmith Shop.

Figure 4a through **4e** illustrates there are no longer any data gaps for petroleum hydrocarbons in Parcel 10 soil and the cumulative data is distributed well throughout Parcel 10. **Figures 4a**, **4c,** and **4d** illustrate that benzo(a)anthracene, benzo(b)fluoranthene, and dibenzo(a,h)anthracene exceed their respective residential SSLs at one location between the Sheet Metal House and the Flue Shop. Benzo(a)pyrene exceeds its residential SSL at three sample locations; between the Sheet Metal House and the Flue Shop and west of the former sand blasting area (**Figure 4b**). **Figure 4e** illustrates that indeno(1,2,3-cd)pyrene concentrations do not exceed residential SSLs in Parcel 10.

Figure 5 illustrates there are no longer any data gaps for TPH and the cumulative data is distributed well throughout Parcel 10. This figure illustrates that TPH concentrations exceed the residential SSL at one location, this location is located north of Blacksmith Shop.

3.2 Soil Gas Sampling Results

1,3-dichlorobenzene was detected in three of the four soil gas samples: SB-21 (949.69 micrograms per cubic meter [µg/m^3]), SB-23 (1076.85 µg/m^3), and SB-27 (876.94 µg/m^3). NMED does not have an established VISL for 1,3-dichlorobenzene and a VISL could not be calculated using the EPA VISLs Calculator (**Appendix C**). 1,4-dioxane was detected in all four soil gas samples (SB-21, SB-23, SB-27, and SB-32) at concentrations that did not exceed the EPA VISLs. The concentration of naphthalenes detected at SB-32 (12.38 µg/m^3) exceeds the NMED VISL of 8.26 µg/m^3 (**Figure 6**). P&m-xylene was detected at one soil gas sample location (SB-32) and toluene was detected at all four soil gas sample locations; however, the detected concentrations were below their respective VISL. A summary of the detected laboratory analytical results is provided in **Table 3.** Isopleth maps illustrating the distribution of select contaminants are provided in **Appendix C.** A copy of the laboratory analytical report is included in **Appendix C.** It should be noted that the laboratory RL for EDB (10 µg/m^3) was greater than the NMED VISL of 0.468 µg/m^3 and EPA VISL of 1.6 µg/m^3 for EDB. EDB was not identified in any of the soil gas samples above the laboratory reporting limit.

3.2.1 Conceptual Site Model Update

The CSM identified that there was inadequate coverage with regard to soil gas within Parcel 10. To fill this data gap, INTERA collected four soil gas samples within Parcel 10. The results from the soil gas sampling revealed the presence of 1,3-dichlorobenzene, 1,4-dioxane, p&m-xylenes, toluene, and naphthalene in soil gas. Additionally, the naphthalene soil gas detection was greater than the NMED VISL at one sampling location indicating a potential for soil vapor intrusion into any retrofitted building or building constructed within Parcel 10.

3.3 ACBM and LBP Sampling Results

3.3.1 ACBM Sampling Results

Asbestos was not identified in the Sheet Metal House. Asbestos was detected in the North Wash Room and Pattern house and are summarized in Table 4.

Table 4. Asbestos Sample Analyses

Sample #	Building Name	Analyst physical description of subsample	Asbestos Visual Estimate Percent/Type
16-187-100	North Wash Room	Window Putty	<1% Chrysotile
16-186-104	Pattern House	Door frame caulking	3% Chrysotile
16-186-105	Pattern House	Roof mastic	5% Chrysotile

A copy of the asbestos survey report, which includes the asbestos laboratory results, is provided in **Appendix F.**

3.3.2 LBP Sampling Results

LBP was identified in the Sheet Metal House, North Wash Room, and Pattern House. The lead based paint surfaces detected in the *Sheet Metal House* included:

- white paint on a standard wood door, and,
- red paint on wood entry door.

The lead based paint surfaces detected in the *North Wash Room* included:

- interior white paint on brick,
- interior white paint on wood,
- exterior red paint on wood,
- exterior red paint on cast iron, and,
- exterior red paint on hydrant and hydrant rail.

The lead based paint surfaces detected in the *Pattern House* included:

- light green paint on concrete and metal in the north room,
- teal paint on concrete and metal in the north room,
- cream colored paint on concrete in the south room, and,
- red colored paint on concrete in the south room.

A copy of the LBP survey report, which includes the LBP chip laboratory results and XRF screening results, is provided in **Appendix F.**

3.3.3 Conceptual Site Model Update

The CSM recommended that a Site inspection of all building materials at the Site be conducted to determine if the asbestos and LBP sampling historically conducted at the Site was comprehensive and fill in any data gaps as necessary. DCE reviewed the historical asbestos and LBP sampling locations and resulting data and designed their sample collection to target

locations and/or buildings that had not previously been surveyed and/or confirm locations already sampled.

Sheet Metal House

No evidence of previous asbestos inspections performed at the Sheet Metal House were found (INTERA, 2015). To fill in the data gap, DCE collected three asbestos bulk samples in the Sheet Metal House. Asbestos was not identified in the Sheet Metal House. The location of the asbestos samples within the Sheet Metal House is discussed in detail in the DCE Survey Report provided in **Appendix F.**

There are no data indicated LBP samples were historically collected in the Sheet Metal House (INTERA, 2015). To fill in the data gap, DCE screened 13 samples in the Sheet Metal House using the XRF device. The 2016 results indicate that LBP was detected. Details pertaining to the locations of the LBP is discussed in detail in Section 3.3.2 and in the DCE Survey Report provided in **Appendix F.**

North Wash Room

No evidence of previous asbestos inspections performed at the North Wash Room were found (INTERA, 2015). To fill in the data gap, DCE collected two asbestos bulk samples in the North Wash Room; one sample was positive for the presence of asbestos in the North Wash Room. Details pertaining to the location of asbestos within the North Wash Room is discussed in detail in Section 3.3.1 and in the DCE Survey Report provided in **Appendix F.**

There are no data indicated LBP samples were historically collected in the North Wash Room (INTERA, 2015). To fill in the data gap, DCE screened 29 samples in the North Wash Room using the XRF device. The 2016 results indicate that LBP was detected. Details pertaining to the locations of the LBP is discussed in detail in Section 3.3.2 and in the DCE Survey Report provided in **Appendix F.**

Pattern House

No evidence of previous asbestos inspections performed at the Pattern House were found (INTERA, 2015). To fill in the data gap, DCE collected seven asbestos bulk samples in the Pattern House; two samples were positive for the presence of asbestos in the Pattern House. Details pertaining to the location of asbestos within the Pattern House is discussed in detail in Section 3.3.1 and in the DCE Survey Report provided in **Appendix F.**

Previous LBP samples collected in the Pattern House in 2011 by Innovar Environmental, Inc. (Innovar) indicate that LBP was identified in the Pattern House (INTERA, 2015). DCE screened 21 paint samples in the Pattern House using the XRF device. In addition to identifying additional LBP, the 2016 results confirmed observations made by Innovar. Details pertaining to the

locations of the LBP within the Pattern House is discussed in detail in Section 3.2.2 and in the DCE Survey Report provided in **Appendix F.**

3.4 Groundwater Analytical Results

Groundwater samples were collected from monitoring wells MW-6, MW-7, and MW-8 on November 4, 2016 and analyzed for VOCs via EPA Method 8260B and EDB via EPA Method 504.1. VOCs and EDB were not detected above the laboratory RLs for the three groundwater wells (**Figure 7**).

More details, including field forms and water quality data, can be found in the site-wide groundwater monitoring report developed by INTERA (INTERA, 2017). A copy of the laboratory analytical report is included in **Appendix G.**

3.4.1 Conceptual Model Update

The CSM noted that the presence (or absence) of EDB in groundwater has not been determined. To address this data gap, INTERA collected groundwater samples from the Site wells and submitted them for analysis of VOCs via EPA Method 8260B and EDB via EPA Method 504.1. The laboratory RL for EDB via EPA Method 504.1 (0.010 µg/L) is below the NMWQCC Standard of 0.10 µg/L; therefore, the presence or absence of EDB, at a concentration above the EDB NMWQCC Standard, if present, could be determined.

Site groundwater wells have been sampled intermittently since 1996 and **Table 6** presents the historical data for benzene, toluene, ethylbenzene, and total xylenes (BTEX), EDB, and total naphthalenes. According to the historical data, VOCs and EDB have never been present in monitoring wells MW-6, MW-7, and MW-8 and were also not detected during the 2016 groundwater sampling event. Additionally, VOCs and EDB have not been detected in monitoring well MW-9.

INTERA is scheduled to conduct another site-wide annual groundwater monitoring event in November 2017.

4.0 CONCLUSIONS AND RECOMMENDATIONS

Based on the results of the field investigation, INTERA has compiled the following conclusions and recommendations.

4.1 Conclusions

- Four soil samples were identified to contain an antimony concentration that exceeds the antimony residential SSL, these locations are located near the former sand blasting area, north of the Sheet Metal House, and north of the Blacksmith Shop (**Figure 3a**).
- Numerous soil sampling locations contain arsenic concentrations that exceed the arsenic residential SSL, these locations are throughout Parcel 10 (**Figure 3b**).
- One soil sample was identified to contain a chromium concentration that exceeds the chromium residential SSL, the location of this soil sample is in the former sand blasting area (**Figure 3c**).
- One soil sample was identified to contain an iron concentration that exceeds the iron residential SSL, the location of this soil sample is north of the Sheet Metal House (**Figure 3d**).
- Numerous soil sampling locations contain lead concentrations that exceed the lead residential SSL, these locations are primarily located in the former sand blasting area and former battery storage area (**Figure 3e**).
- Three soil samples were identified to contain a manganese concentration that exceeds the manganese construction worker SSL, these soil sample are located north of the Flue Shop and Blacksmith Shop (**Figure 3f**).
- Two soil samples with thallium concentrations exceeding residential SSLs are located in the former and blasting area and north of the Blacksmith Shop (**Figure 3f**).
- Benzo(a)anthracene, benzo(b)fluoranthene, and dibenzo(a,h)anthracene exceed their respective residential SSLs at one location between the Sheet Metal House and the Flue Shop (**Figures 4a**, **4c,** and **4d**).
- Three soil samples were identified to contain benzo(a)pyrene concentrations that exceed the residential SSL. These soil samples were collected between the Sheet Metal House and the Flue Shop and west of the former sand blasting area (**Figure 4b**).
- One soil sample was identified to contain a TPH DRO+MRO concentration that exceeds the residential SSL. This soil sample was collected north of the Blacksmith Shop (**Figure 5**).

- Naphthalene concentrations in soil gas exceeded the NMED VISL of 8.26 µg/m^3 at one soil gas sampling location indicating a potential for vapor intrusion (**Table 3** and **Figure 6**).
- The laboratory RL for EDB in soil gas exceeded the corresponding NMED VISL (**Table 3**).
- Asbestos and LBP were detected in the Pattern House and North Wash Room.
- Asbestos was not detected in the Sheet Metal House.
- LBP was detected in the Sheet Metal House.

4.2 Recommendations

Based on the results of the additional characterization field event for Parcel 10, INTERA makes the following recommendations:

- Contaminated Soil (metals and PCS): Soil contamination is present throughout Parcel 10, from the ground surface to 10 ft bgs.
    - Removal: If soil is excavated during Site construction, the soil should be field-screened if applicable, segregated, characterized, and either reused on-Site or disposed of properly. The extent to which encountered contaminated soil may have to be removed shall be dependent on the final chosen land use scenario (e.g., residential/commercial or industrial) and proposed land cover (e.g., asphalt or concrete).
    - Engineering Controls: If contaminated soil is left in place, engineering controls must be implemented to minimize or remove the potential exposure to residual contamination. Engineering controls provide a physical barrier to the contamination and can include soil capping with clean fill, or if contaminant mobility via leaching is of concern, soil capping with an impermeable surface (e.g., asphalt, concrete). INTERA recommends capping the southern portion of Parcel 9 with an impermeable surface to prevent exposure to residual contamination and reduce contaminant mobility via leaching.
    - Institutional Controls: If engineering controls are implemented than institutional controls (administrative or legal controls) are typically necessary to provide information regarding residual contamination left in place, document engineering controls implemented, and record any land use restrictions. In the event that residual contamination is left in place and engineering controls are implemented, INTERA recommends documenting these using institutional controls.

- Soil Gas Engineering Controls: Soil gas samples collected within Parcel 10 revealed potential vapor intrusion issues (naphthalene concentrations in soil gas). Even though the laboratory RL for EDB in soil gas exceeded the corresponding NMED VISL, EDB is not considered a contaminant of concern of the Site because it has not been identified above RL in either Site soil or ground water or was associated with historical Site uses. Engineering controls to prevent vapor intrusion should be evaluated and selected to eliminate this exposure pathway. These engineering controls could include a vapor intrusion membrane, passive depressurization system, active depressurization system, or some combination. INTERA recommends installing a vapor intrusion membrane in all new buildings. If the North Wash Room, Pattern House, and Sheet Metal House are retrofitted for occupancy, a vapor intrusion membrane should be installed or a depressurization system should be evaluated to minimize the potential exposure to vapor. INTERA recommends documenting any engineering controls implemented via institutional controls.

- Immobilization/Containment of Asbestos and LBP Materials: The materials containing asbestos and LBP will require abatement or encapsulation before substantial renovation or demolition, if proposed, can commence. The final building renovation design should be considered and a decision will have to be made as to their final deposition. Any remaining asbestos and/or LBP left within the North Wash Room, Pattern House, and Sheet Metal House will need to be documented, and a management plan will need to be developed stating how these materials should be handled following renovation activities.

5.0 REFERENCES

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FIGURES

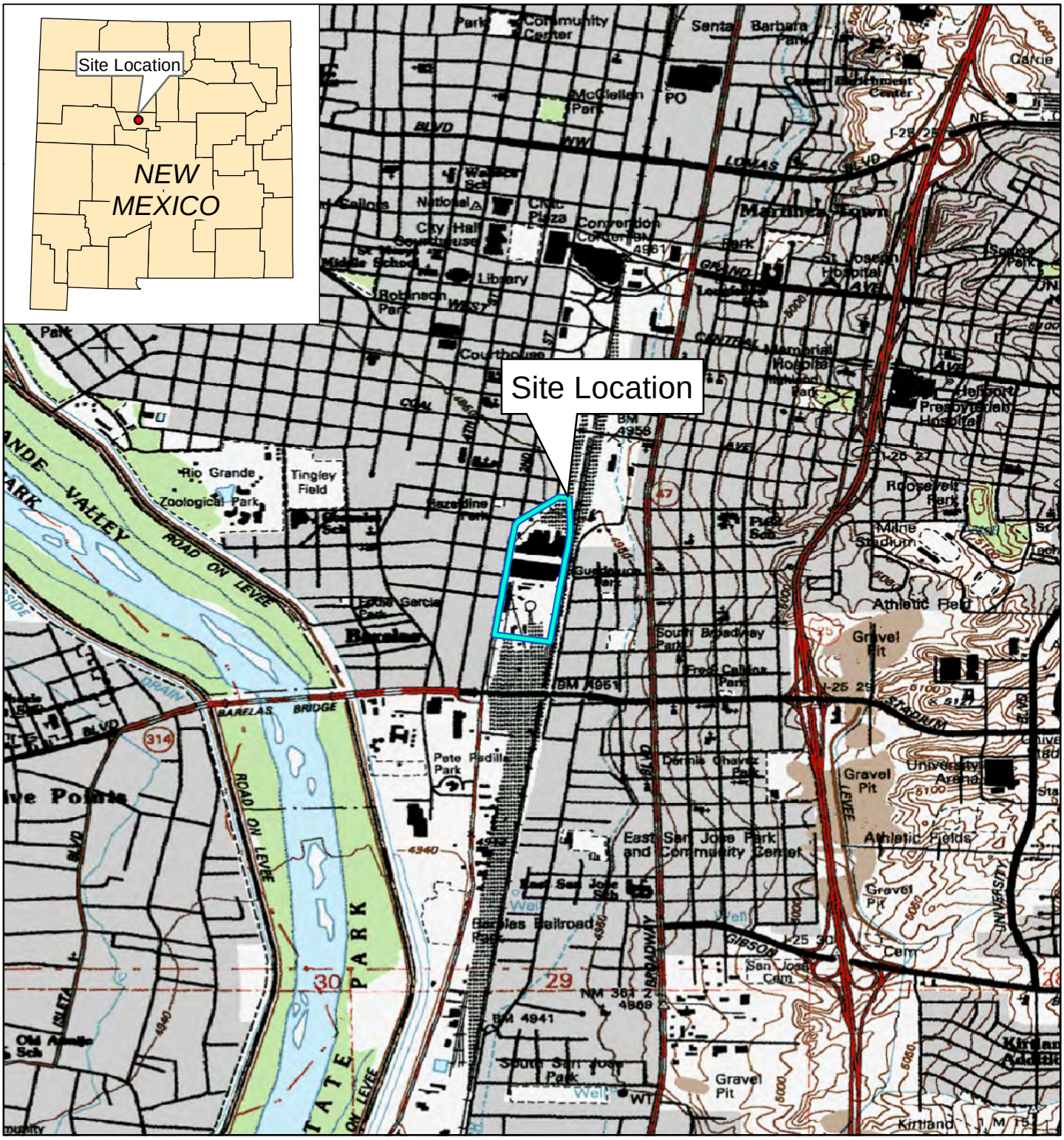

Figure 1
Site Location
Additional Characterization,
Voluntary Remediation Program Activities,
Albuquerque Rail Yards, Albuquerque,
Bernalillo County, New Mexico

Source(s): USGS, Albuquerque West Quadrangle, 1996

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Legend

- Subslab Soil Vapor Sample (2016)
- Soil Boring Sample (2016)
- Soil Boring/Soil Gas Sample (2016)
- Monitoring Well
- Soil Boring Sample
- Surface Soil Sample
- Soil Vapor Monitoring Location
- Excavation Soil Sample
- Field Screening Only
- Subslab Soil Sample
- Sump
- Test Pit Sample
- Water Supply Well
- Wood Floor Sample
- Monitoring Well; not located
- Site Feature
- Parcel Boundary and ID
- Property Boundary

N

160 80 0 160

Feet

INTERA

Source(s): Aerial – BERNCO GIS website, dated 2014.

Figure 2a
Site Plan, Parcels
Additional Characterization,
Voluntary Remediation Program Activities,
Albuquerque Rail Yards, Albuquerque,
Bernalillo County, New Mexico

Document Path: S:\ABQ\COA On-Call 2014\Task_17_Railyard_VRP\Graphics\GIS\MapDocs\ContaminantMap_AllReports\Parcel_10\02a_Parcel10_SitePlanParcels.mxd 12/15/2016

Legend

- Subslab Soil Vapor Sample (2016)
- Soil Boring Sample (2016)
- Soil Boring/Soil Gas Sample (2016)
- Soil Boring Sample
- Monitoring Well
- Surface Soil Sample
- Monitoring Well; not located
- Parcel 10 Boundary
- Property Boundary

N

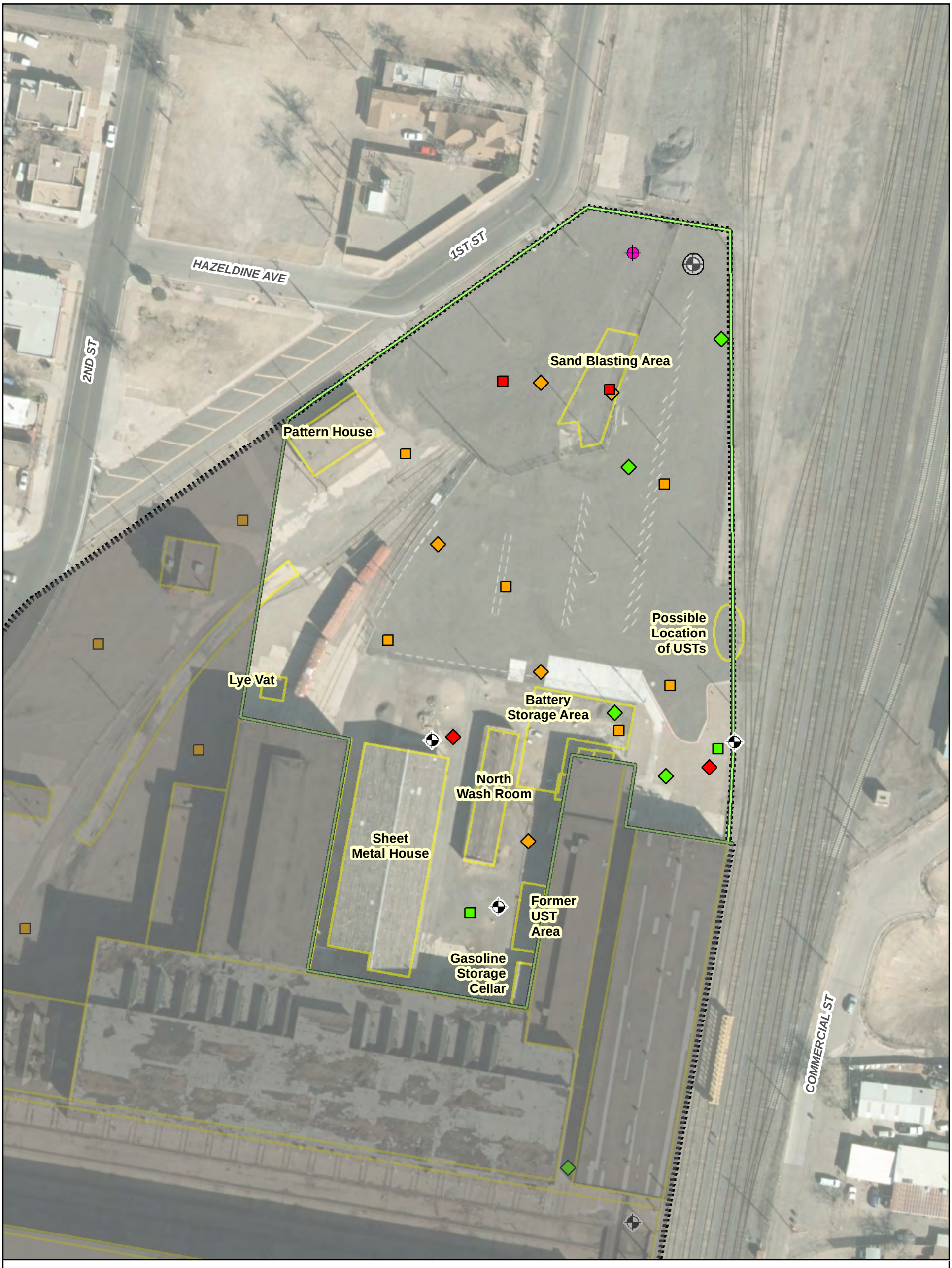
80 40 0 80

Feet

Source(s): Aerial – BERNCO GIS website, dated 2014.

Figure 2b
Parcel 10 Soil and Soil Vapor Locations
Additional Characterization,
Voluntary Remediation Program Activities,
Albuquerque Rail Yards, Albuquerque,
Bernalillo County, New Mexico

Document Path: S:\ABQ\COA On-Call 2014\Task_17_Railyard_VRP\Graphics\GIS\MapDocs\ContaminantMap_AllReports\Parcel_10\02b_Parcel10_SitePlanZoom.mxd 2/7/2017



SSL Exceedance
- Soil Boring
- Surface Soil

Detect below SSL
- Soil Boring
- Surface Soil

Non-Detect
- Soil Boring
- Surface Soil; Subslab

Legend
- 2016 Soil Boring - Soil Sample >10 ft bgs
- Monitoring Well
- Monitoring Well; not located
- Parcel 10 Boundary
- Property Boundary

N

80 40 0 80

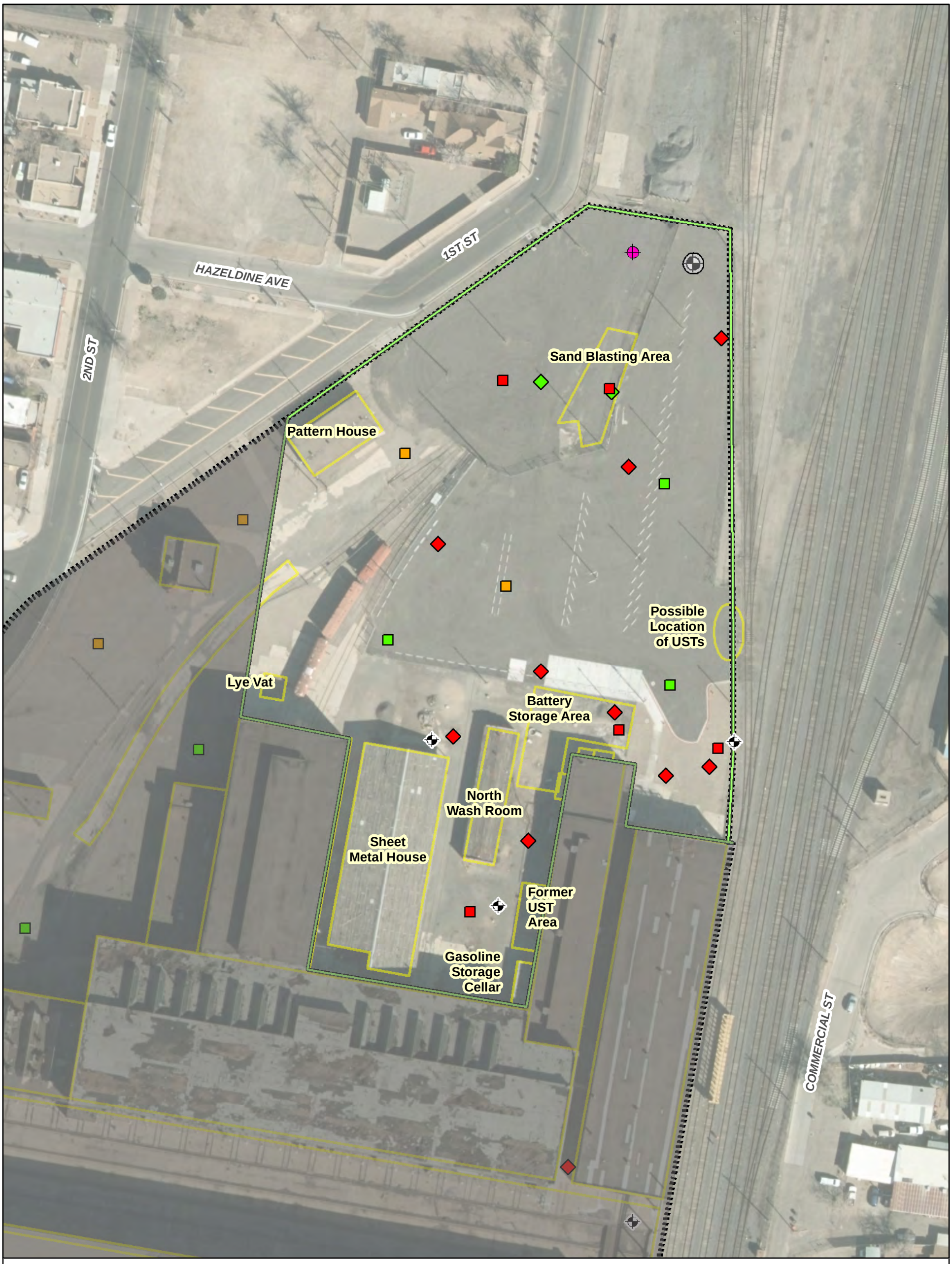
Feet

Note: Some sample depths include a portion greater than 10 ft bgs (i.e., sample interval = 8 - 12 ft bgs).
SSL: Soil Screening Levels (NMED, 2015)

INTERA

Figure 3a
Residential SSL Exceedances (0-10 ft bgs), Antimony
Additional Characterization,
Voluntary Remediation Program Activities,
Albuquerque Rail Yards, Albuquerque,
Bernalillo County, New Mexico

FILE: S:\ABQ\COA On-Call 2014\Task_17_Railyard_VRP\Graphics\GIS\MapDocs\ContaminantMap_AllReports\Parcel_10\03a_Parcel10_ResSSL_Antimony.mxd 12/15/2016



Legend

SSL Exceedance
- Soil Boring
- Surface Soil

Detect below SSL
- Soil Boring
- Surface Soil

Non-Detect
- Soil Boring

- 2016 Soil Boring - Soil Sample >10 ft bgs
- Monitoring Well; not located
- Monitoring Well

- Parcel 10 Boundary
- Property Boundary

N

80 40 0 80

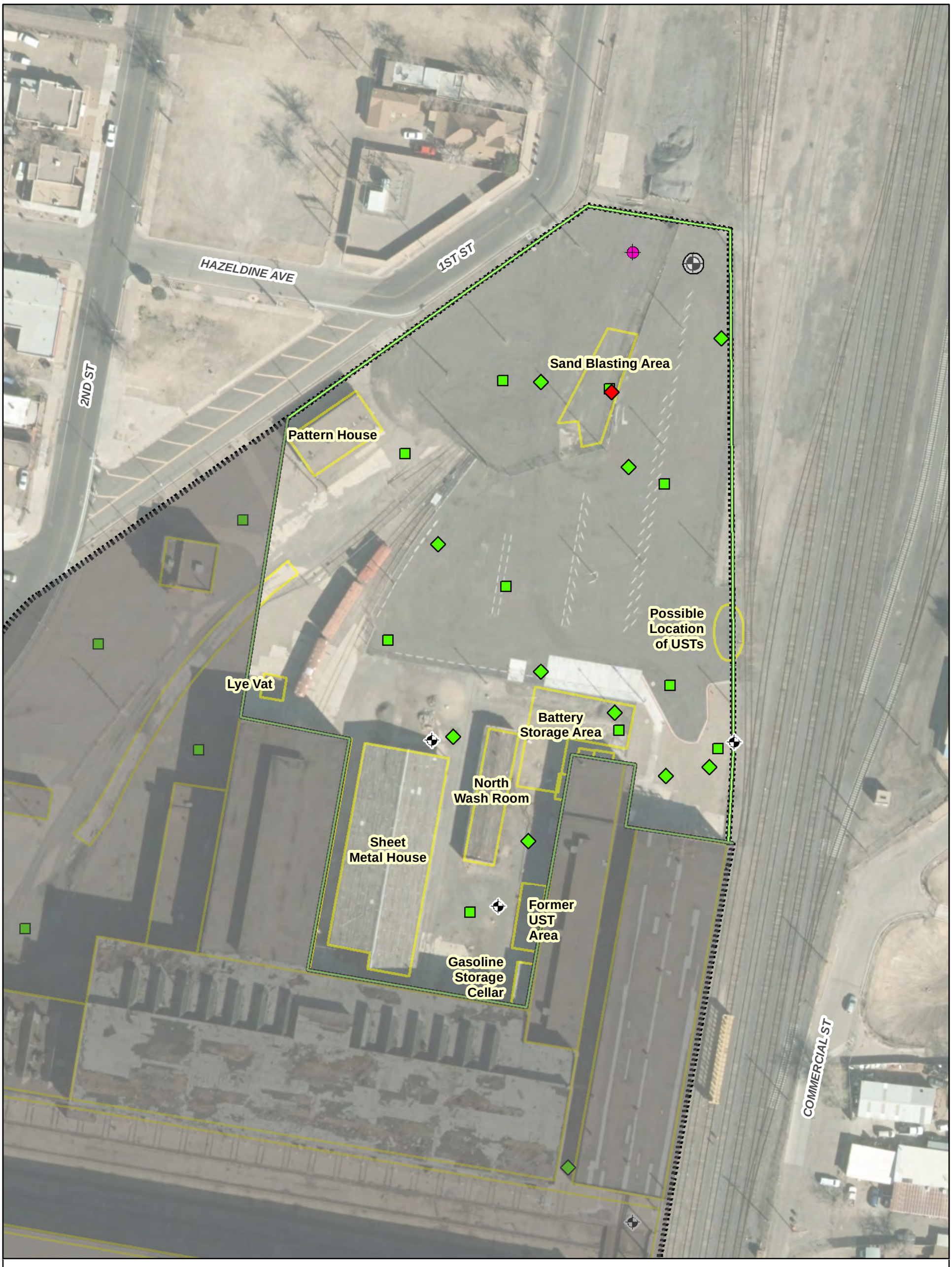
Feet

Note: Some sample depths include a portion greater than 10 ft bgs (i.e., sample interval = 8 - 12 ft bgs).
SSL: Soil Screening Levels (NMED, 2015)

INTERA

Figure 3b
Residential SSL Exceedances (0-10 ft bgs), Arsenic
Additional Characterization,
Voluntary Remediation Program Activities,
Albuquerque Rail Yards, Albuquerque,
Bernalillo County, New Mexico

FILE: S:\ABQ\COA On-Call 2014\Task_17_Railyard_VRP\Graphics\GIS\MapDocs\ContaminantMap_AllReports\Parcel_10\03b_Parcel10_ResSSL_Arsenic.mxd 12/15/2016



Legend

SSL Exceedance
- Surface Soil

Detect below SSL
- Soil Boring
- Surface Soil

- 2016 Soil Boring - Soil Sample >10 ft bgs
- Monitoring Well
- Monitoring Well; not located

- Parcel 10 Boundary
- Property Boundary

N

80 40 0 80

Feet

Note: Some sample depths include a portion greater than 10 ft bgs (i.e., sample interval = 8 - 12 ft bgs).
SSL: Soil Screening Levels (NMED, 2015)

INTERA

Figure 3c
Residential SSL Exceedances (0-10 ft bgs), Chromium
Additional Characterization,
Voluntary Remediation Program Activities,
Albuquerque Rail Yards, Albuquerque,
Bernalillo County, New Mexico

FILE: S:\ABQ\COA On-Call 2014\Task_17_Railyard_VRP\Graphics\GIS\MapDocs\ContaminantMap_AllReports\Parcel_10\03c_Parcel10_ResSSL_chromium.mxd 12/15/2016

Legend

SSL Exceedance
- Surface Soil

Detect below SSL
- Soil Boring
- Surface Soil

- 2016 Soil Boring - Soil Sample >10 ft bgs
- Monitoring Well
- Monitoring Well; not located

- Parcel 10 Boundary
- Property Boundary

N

80 40 0 80

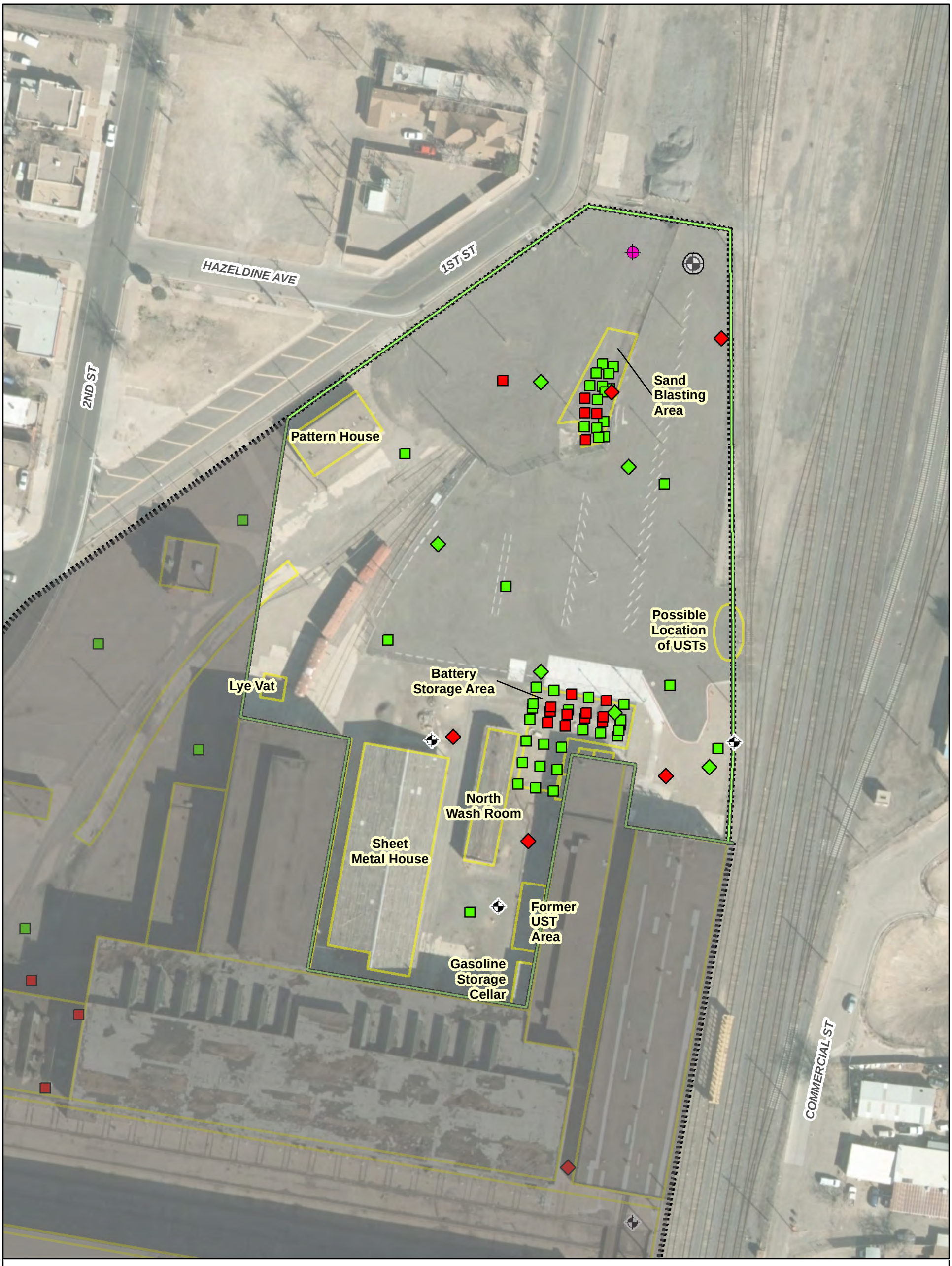
Feet

Note: Some sample depths include a portion greater than 10 ft bgs (i.e., sample interval = 8 - 12 ft bgs).
SSL: Soil Screening Levels (NMED, 2015)

INTERA

Figure 3d
Residential SSL Exceedances (0-10 ft bgs), Iron
Additional Characterization,
Voluntary Remediation Program Activities,
Albuquerque Rail Yards, Albuquerque,
Bernalillo County, New Mexico

FILE: S:\ABQ\COA On-Call 2014\Task_17_Railyard_VRP\Graphics\GIS\MapDocs\ContaminantMap_AllReports\Parcel_10\03d_Parcel10_ResSSL_ironmxd.mxd 12/15/2016



Legend

SSL Exceedance
- Soil Boring
- Surface Soil

Detect below SSL
- Soil Boring
- Surface Soil

- 2016 Soil Boring - Soil Sample >10 ft bgs
- Monitoring Well
- Monitoring Well; not located
- Parcel 10 Boundary
- Property Boundary

N

80 40 0 80

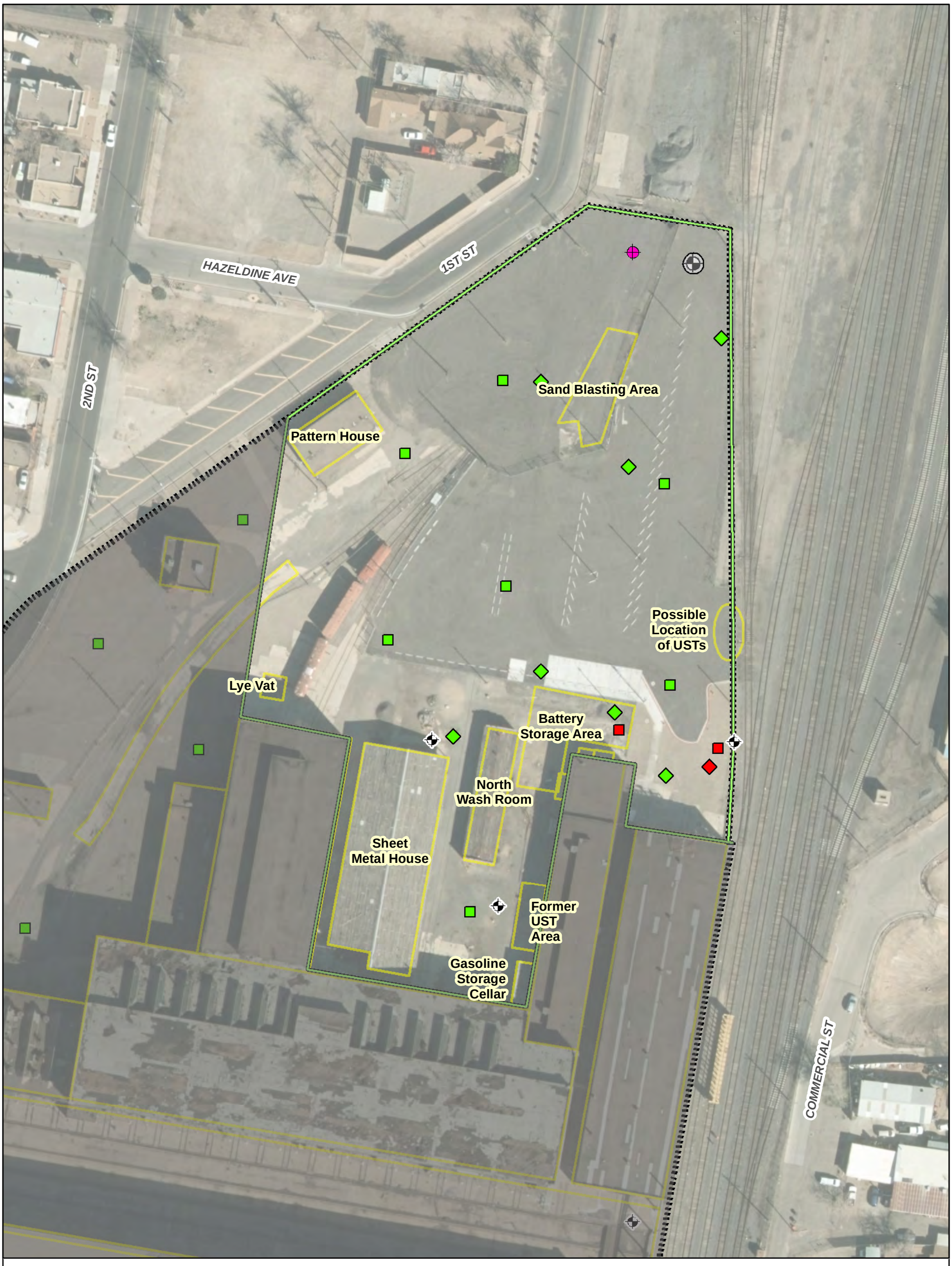
Feet

Note: Some sample depths include a portion greater than 10 ft bgs (i.e., sample interval = 8 - 12 ft bgs).
SSL: Soil Screening Levels (NMED, 2015)

INTERA

Figure 3e
Residential SSL Exceedances (0-10 ft bgs), Lead
Additional Characterization,
Voluntary Remediation Program Activities,
Albuquerque Rail Yards, Albuquerque,
Bernalillo County, New Mexico

FILE: S:\ABQ\COA On-Call 2014\Task_17_Railyard_VRP\Graphics\GIS\MapDocs\ContaminantMap_AllReports\Parcel_10\03e_Parcel10_ResSSL_Lead.mxd 12/15/2016



Legend

SSL Exceedance
- Soil Boring
- Surface Soil

Detect below SSL
- Soil Boring
- Surface Soil

- 2016 Soil Boring - Soil Sample >10 ft bgs
- Monitoring Well
- Monitoring Well; not located

- Parcel 10 Boundary
- Property Boundary

N

80 40 0 80

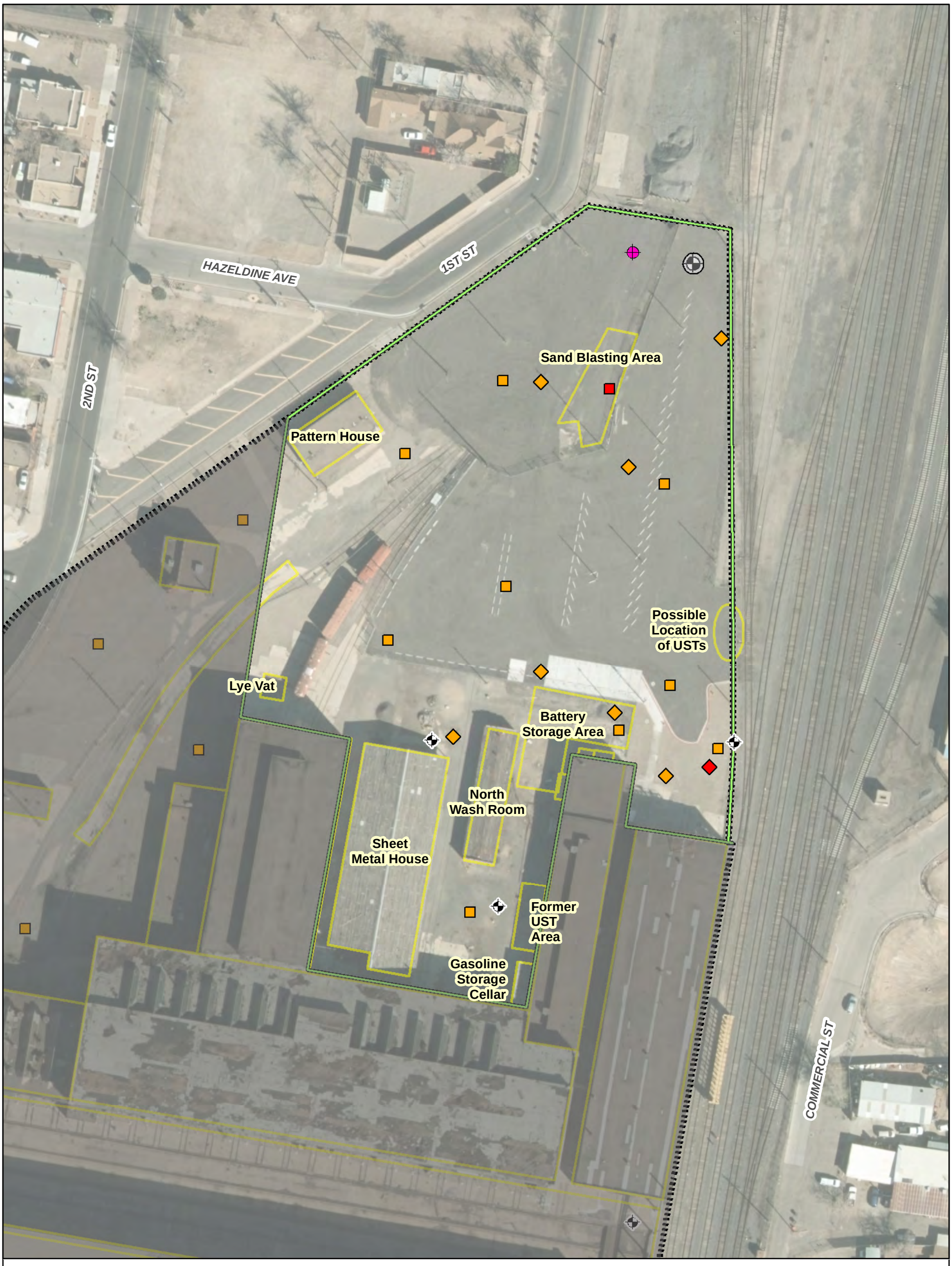
Feet

Note: Some sample depths include a portion greater than 10 ft bgs (i.e., sample interval = 8 - 12 ft bgs).
SSL: Soil Screening Levels (NMED, 2015)

INTERA

Figure 3f
Construction Worker SSL Exceedances (0-10 ft bgs), Manganese
Additional Characterization,
Voluntary Remediation Program Activities,
Albuquerque Rail Yards, Albuquerque,
Bernalillo County, New Mexico

FILE: S:\ABQ\COA On-Call 2014\Task_17_Railyard_VRP\Graphics\GIS\MapDocs\ContaminantMap_AllReports\Parcel_10\03f_Parcel10_ConsWorkSSL_Manganese.mxd 12/15/2016



SSL Exceedance
- Soil Boring
- Surface Soil

Non-Detect
- Soil Boring
- Surface Soil; Subslab

Detect below SSL
- Soil Boring
- Surface Soil

Legend
- 2016 Soil Boring - Soil Sample >10 ft bgs
- Monitoring Well
- Monitoring Well; not located
- Parcel 10 Boundary
- Property Boundary

N

80 40 0 80

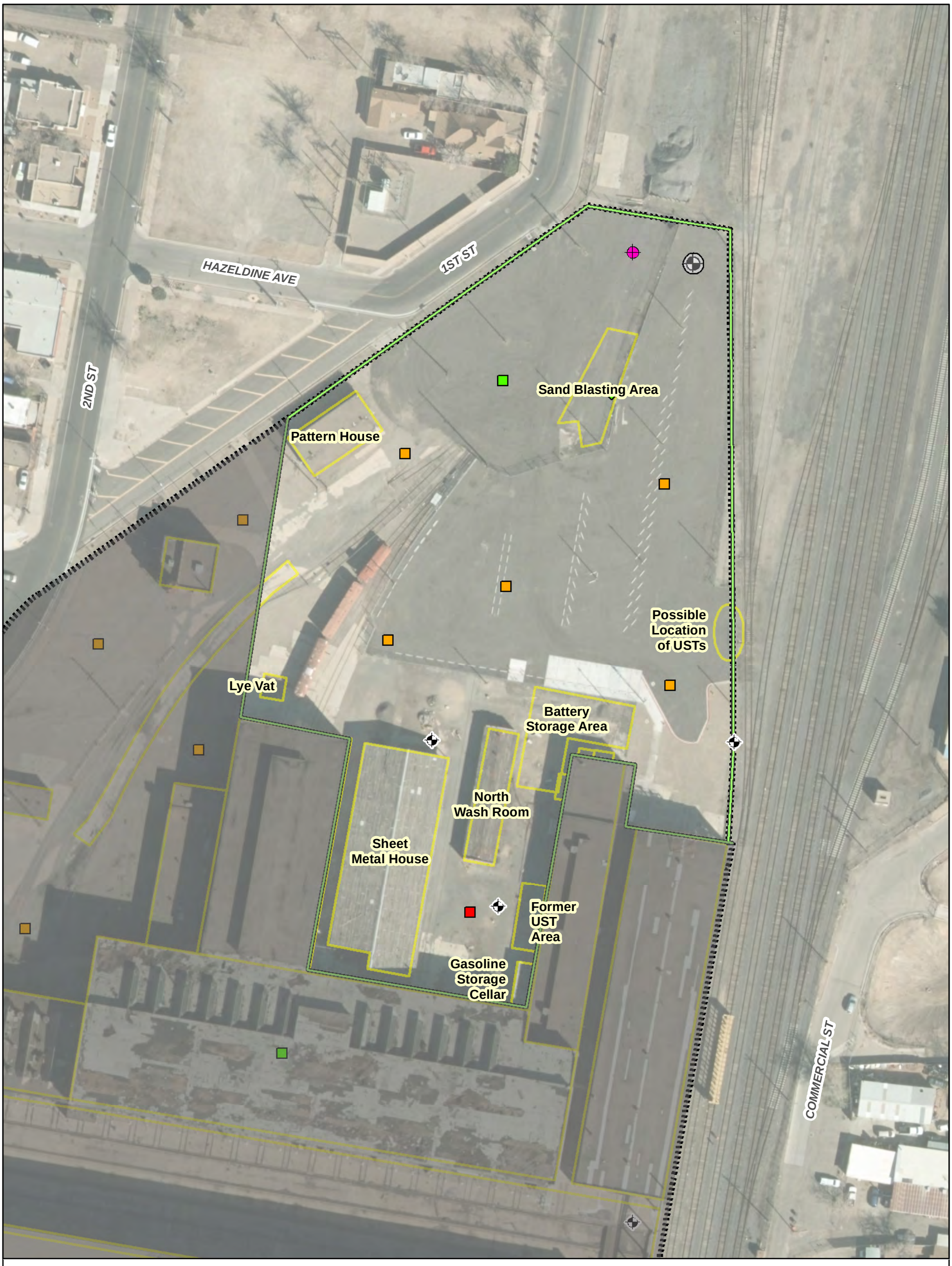
Feet

Note: Some sample depths include a portion greater than 10 ft bgs (i.e., sample interval = 8 - 12 ft bgs).
SSL: Soil Screening Levels (NMED, 2015)

INTERA

Figure 3g
Residential SSL Exceedances (0-10 ft bgs), Thallium
Additional Characterization,
Voluntary Remediation Program Activities,
Albuquerque Rail Yards, Albuquerque,
Bernalillo County, New Mexico

FILE: S:\ABQ\COA On-Call 2014\Task_17_Railyard_VRP\Graphics\GIS\MapDocs\ContaminantMap_AllReports\Parcel_10\03g_Parcel10_ResSSL_thallium.mxd 12/15/2016



Legend

SSL Exceedance
- Soil Boring

Detect below SSL
- Soil Boring
- Surface Soil

Non-Detect
- Soil Boring

- 2016 Soil Boring - Soil Sample >10 ft bgs
- Monitoring Well
- Monitoring Well; not located
- Parcel 10 Boundary
- Property Boundary

N

80 40 0 80

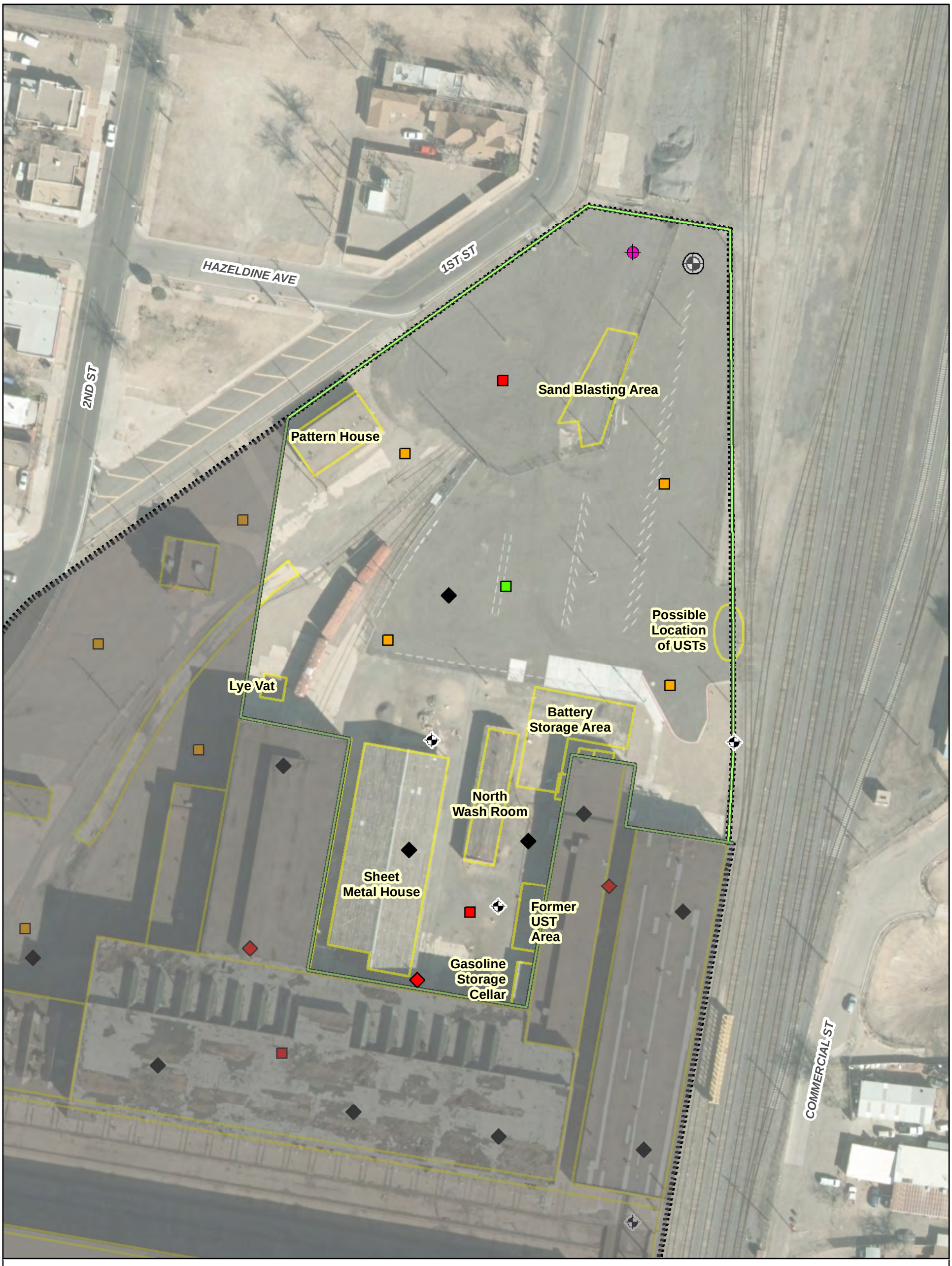
Feet

Note: Some sample depths include a portion greater than 10 ft bgs (i.e., sample interval = 8 - 12 ft bgs).
SSL: Soil Screening Levels (NMED, 2015)

INTERA

Figure 4a
Residential SSL Exceedances (0-10 ft bgs), Benzo(a)anthracene
Additional Characterization,
Voluntary Remediation Program Activities,
Albuquerque Rail Yards, Albuquerque,
Bernalillo County, New Mexico

FILE: S:\ABQ\COA On-Call 2014\Task_17_Railyard_VRP\Graphics\GIS\MapDocs\ContaminantMap_AllReports\Parcel_10\04a_Parcel10_ResSSL_benzoaanthracene.mxd 12/15/2016



Legend

SSL Exceedance
- Soil Boring
- Surface Soil

Detect below SSL
- Soil Boring
- Surface Soil

Non-Detect
- Soil Boring

Non-Detect; Detection Limit exceeds SSL
- Surface Soil
- 2016 Soil Boring - Soil Sample >10 ft bgs

- Monitoring Well
- Monitoring Well; not located
- Parcel 10 Boundary
- Property Boundary

N

80 40 0 80

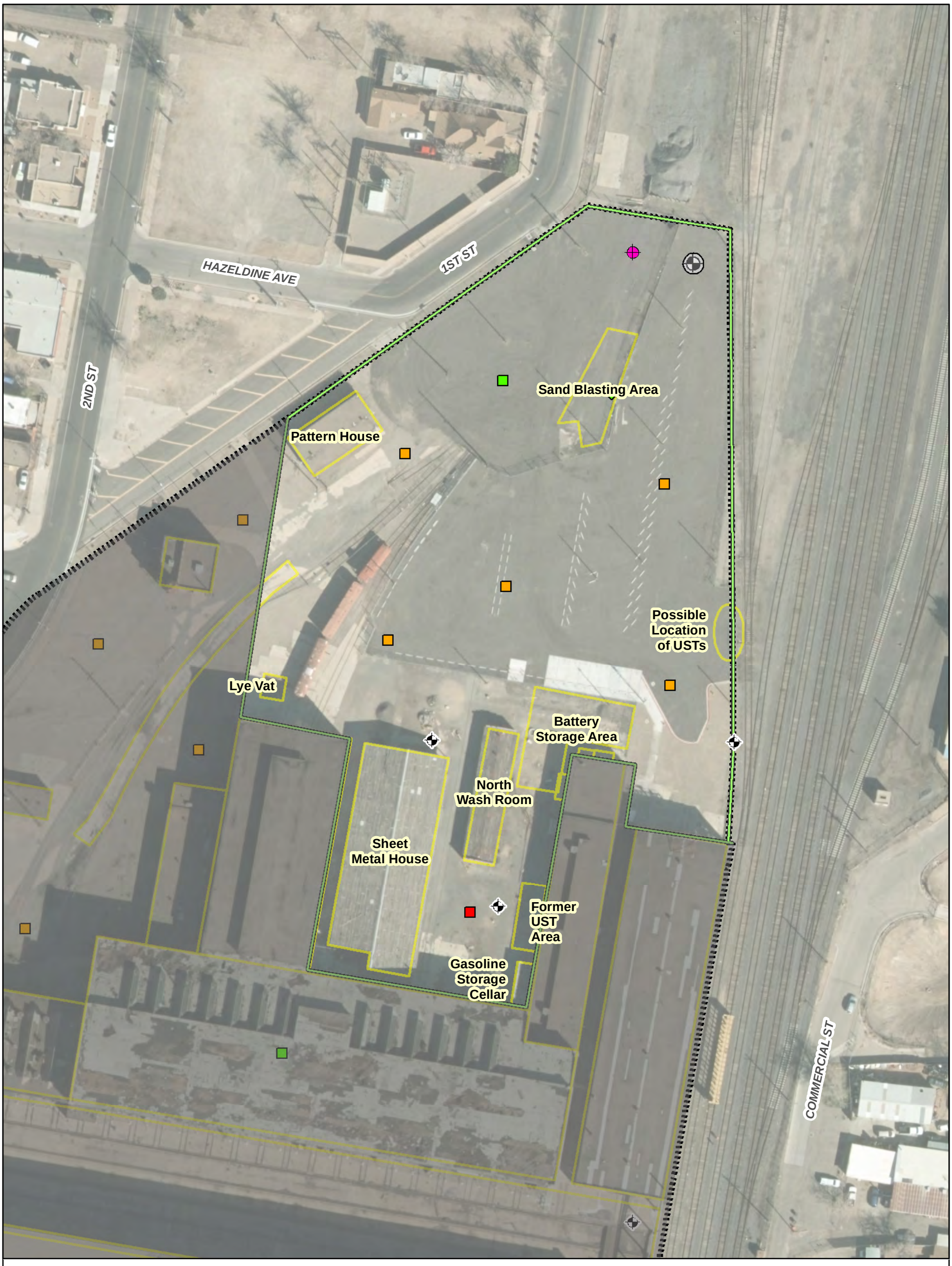
Feet

Note: Some sample depths include a portion greater than 10 ft bgs (i.e., sample interval = 8 - 12 ft bgs).
SSL: Soil Screening Levels (NMED, 2015)

INTERA

Figure 4b
Residential SSL Exceedances (0-10 ft bgs), Benzo(a)pyrene
Additional Characterization, Voluntary Remediation Program Activities, Albuquerque Rail Yards, Albuquerque, Bernalillo County, New Mexico

FILE: S:\ABQ\COA On-Call 2014\Task_17_Railyard_VRP\Graphics\GIS\MapDocs\ContaminantMap_AllReports\Parcel_10\04b_Parcel10_ResSSL_Benzoapyrene.mxd 12/15/2016



Legend

SSL Exceedance
- Soil Boring

Detect below SSL
- Soil Boring
- Surface Soil

Non-Detect
- Soil Boring

- 2016 Soil Boring - Soil Sample >10 ft bgs
- Monitoring Well
- Monitoring Well; not located
- Parcel 10 Boundary
- Property Boundary

N

80 40 0 80

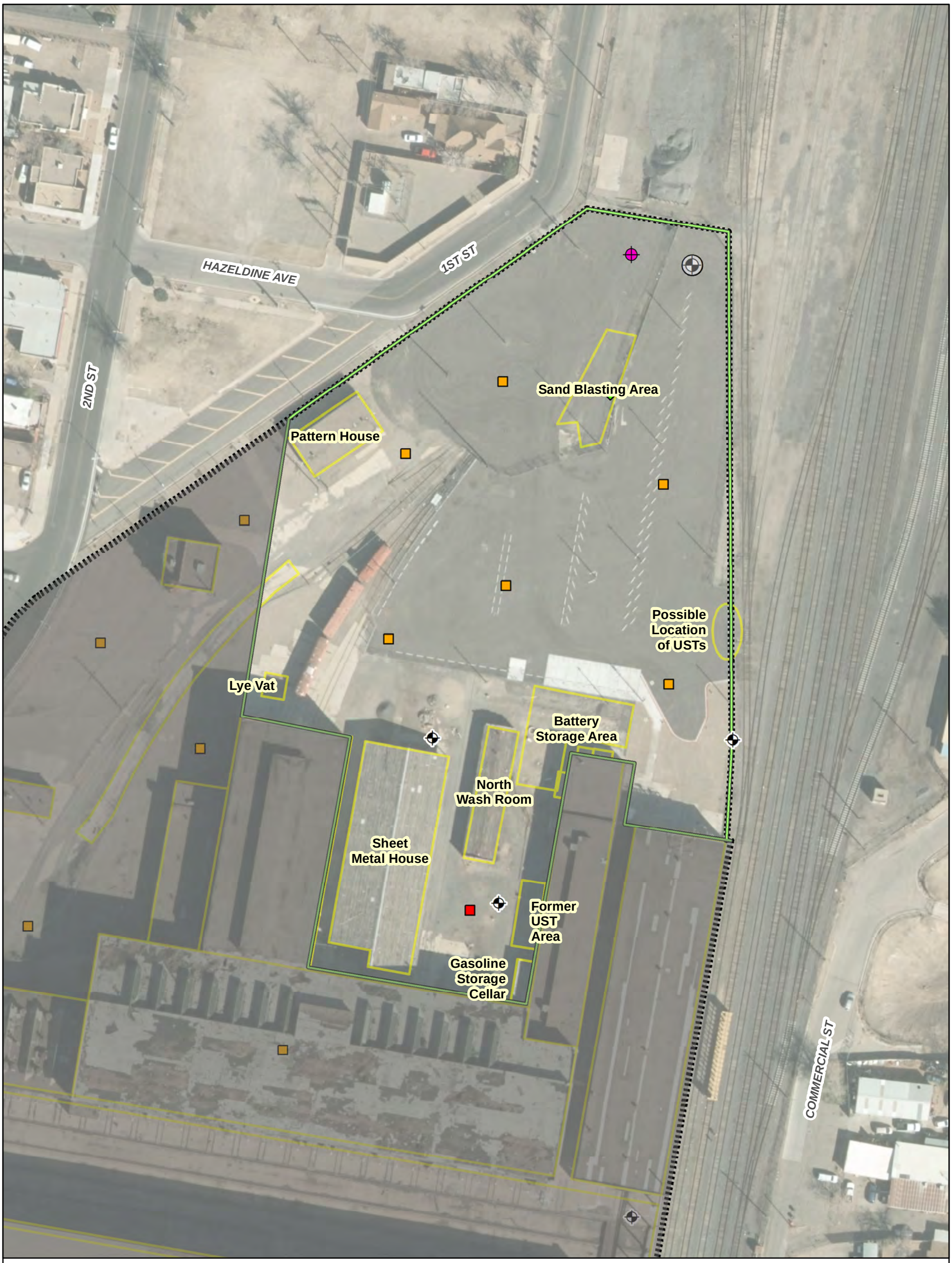
Feet

Note: Some sample depths include a portion greater than 10 ft bgs (i.e., sample interval = 8 - 12 ft bgs).
SSL: Soil Screening Levels (NMED, 2015)

INTERA

Figure 4c
Residential SSL Exceedances (0-10 ft bgs), Benzo(b)fluoranthene
Additional Characterization,
Voluntary Remediation Program Activities,
Albuquerque Rail Yards, Albuquerque,
Bernalillo County, New Mexico

FILE: S:\ABQ\COA On-Call 2014\Task_17_Railyard_VRP\Graphics\GIS\MapDocs\ContaminantMap_AllReports\Parcel_10\04c_Parcel10_ResSSL_benzobfluorantene.mxd 12/15/2016



Legend

SSL Exceedance
- Soil Boring

Detect below SSL
- Soil Boring
- Surface Soil

Non-Detect
- Soil Boring

- 2016 Soil Boring - Soil Sample >10 ft bgs
- Monitoring Well
- Monitoring Well; not located

- Parcel 10 Boundary
- Property Boundary

N

60 30 0 60

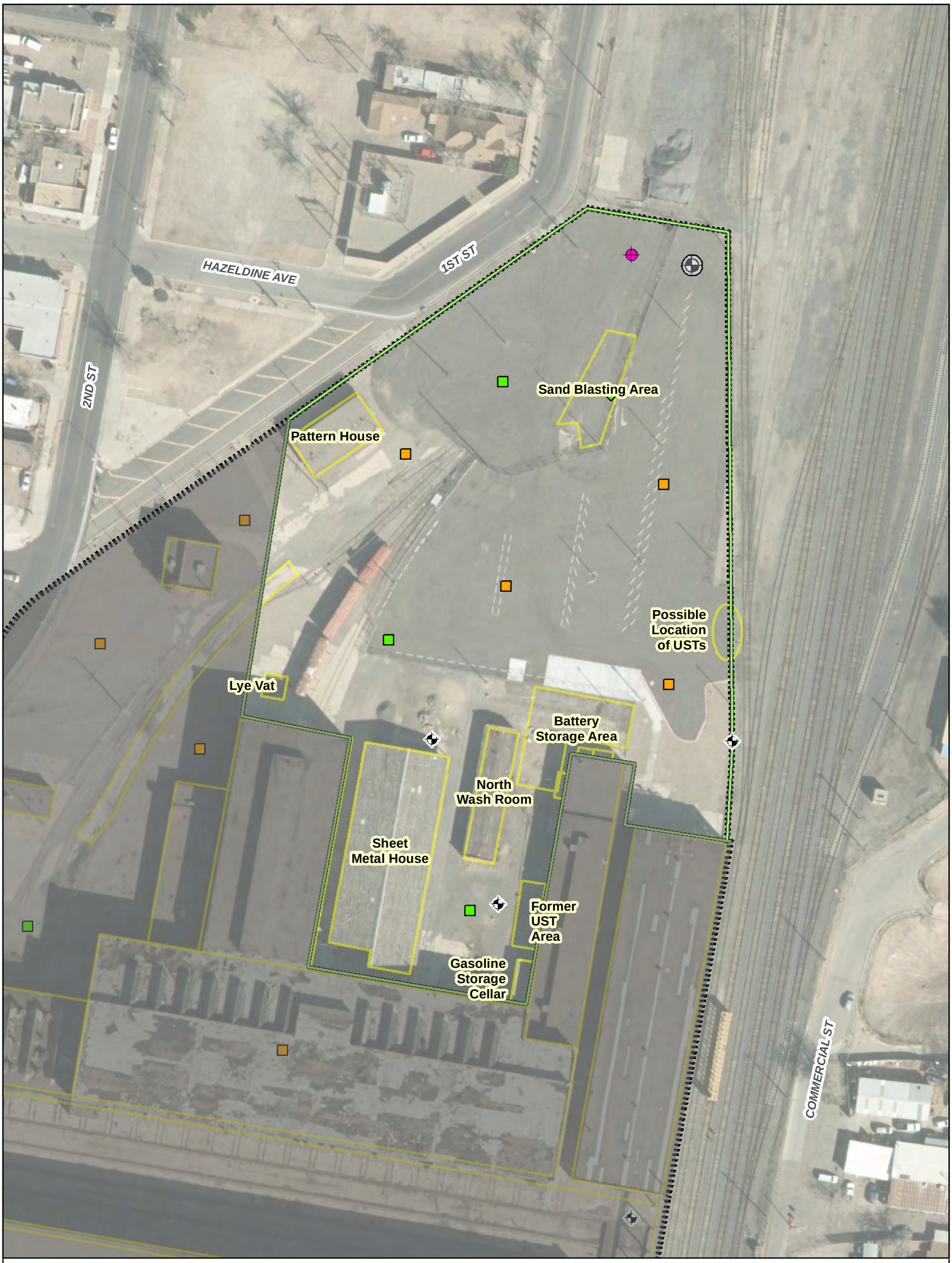
Feet

Note: Some sample depths include a portion greater than 10 ft bgs (i.e., sample interval = 8 - 12 ft bgs).
SSL: Soil Screening Levels (NMED, 2015)

INTERA

Figure 4d
Residential SSL Exceedances
(0-10 ft bgs), Dibenzo(a,h)anthracene
Additional Characterization,
Voluntary Remediation Program Activities,
Albuquerque Rail Yards, Albuquerque,
Bernalillo County, New Mexico

FILE: S:\ABQ\COA On-Call 2014\Task_17_Railyard_VRP\Graphics\GIS\MapDocs\ContaminantMap_AllReports\Parcel_10\04d_Parcel10_ResSSL_dibenzoahanthracene.mxd 2/7/2017



Legend

Detect below SSL
- Soil Boring
- Surface Soil

Non-Detect
- Soil Boring

- 2016 Soil Boring - Soil Sample >10 ft bgs
- Monitoring Well
- Monitoring Well; not located

- Parcel 10 Boundary
- Property Boundary

N

80 40 0 80

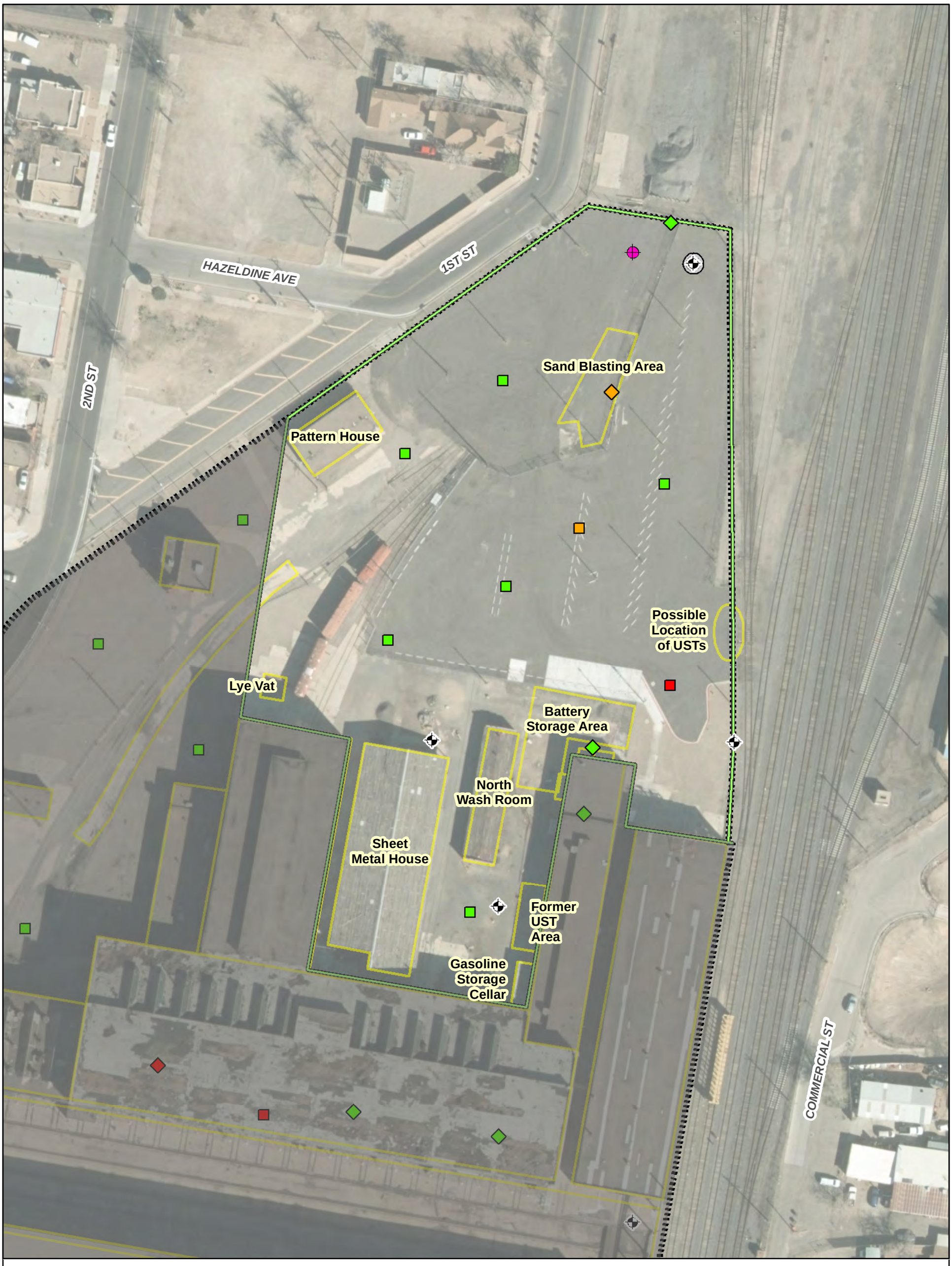
Feet

Note: Some sample depths include a portion greater than 10 ft bgs (i.e., sample interval = 8 - 12 ft bgs).
SSL: Soil Screening Levels (NMED, 2015)

INTERA

Figure 4e
Residential SSL Exceedances
(0-10 ft bgs), Indeno(1,2,3-cd)pyrene
Additional Characterization,
Voluntary Remediation Program Activities,
Albuquerque Rail Yards, Albuquerque,
Bernalillo County, New Mexico

FILE: S:\ABQ\COA On-Call 2014\Task_17_Railyard_VRP\Graphics\GIS\MapDocs\ContaminantMap_AllReports\Parcel_10\04e_Parcel10_ResSSL_indeno123cdpyrene.mxd 12/16/2016



Legend

SSL Exceedance
- Soil Boring
- Surface Soil

Detect below SSL
- Soil Boring
- Surface Soil

Non-Detect
- Soil Boring
- Surface Soil; Subslab

Parcel 9 Boundary

Property Boundary

2016 Soil Boring - Soil Sample >10 ft bgs

Monitoring Well; not located

Monitoring Well

N

80 40 0 80

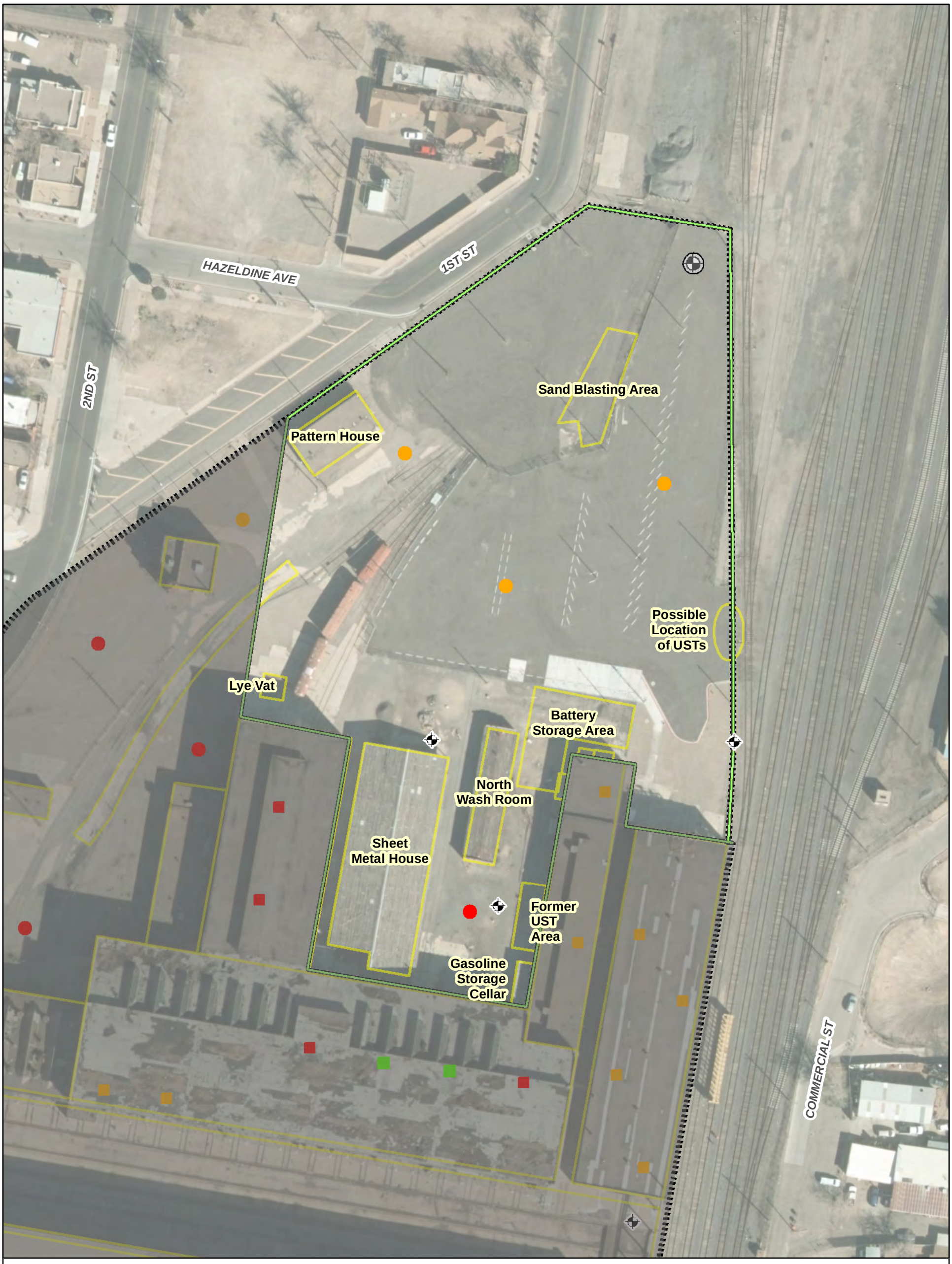
Feet

Note: TPH DRO + MRO is the summation of TPH DRO and TPH MRO, if non-detect than the laboratory reporting limit was used. Older TPH results from are reported as Total TPH. Some sample depths include a portion greater than 10 ft bgs (i.e., sample interval = 8 - 12 ft bgs). SSL: Soil Screening Levels (NMED, 2015)

INTERA

Figure 5
Residential SSL Exceedances
(0-10 ft bgs), TPH DRO + MRO, TPH
Additional Characterization,
Voluntary Remediation Program Activities,
Albuquerque Rail Yards, Albuquerque,
Bernalillo County, New Mexico

FILE: S:\ABQ\COA On-Call 2014\Task_17_Railyard_VRP\Graphics\GIS\MapDocs\ContaminantMap_AllReports\Parcel_10\05_Parcel10_ResSSL_TPH-DRO-MRO.mxd 12/16/2016



Legend

VISL Exceedence

- Soil Gas Sample
- Sub-Slab Soil Vapor Sample

Non-Detect

- Soil Gas Sample
- Sub-Slab Soil Vapor Sample

Detect below VISL

- Sub-Slab Soil Vapor Sample

- Monitoring Well
- Monitoring Well; not located
- Parcel 10 Boundary
- Property Boundary

N

80 40 0 80

Feet

INTERA

Note: VISL: Vapor Instrusion Screening Levels (NMED, 2015)

Figure 6
Naphthalene Soil Gas and Sub-Slab Soil Vapor Residential VISL Exceedance
Additional Characterization,
Voluntary Remediation Program Activities,
Albuquerque Rail Yards, Albuquerque,
Bernalillo County, New Mexico

FILE: S:\ABQ\COA On-Call 2014\Task_17_Railyard_VRP\Graphics\GIS\MapDocs\ContaminantMap_AllReports\Parcel_10\06_Parcel10_ResVISL_Naphthalene.mxd 12/16/2016

Legend

- Monitoring Well
- Monitoring Well; not located
- Property Boundary
- Parcel 10 Boundary

B= Benzene
EDB = 1,2-dibromoethane
Σ Naph = Naphthalene + 1,Methylnaphthalene + 2, Methylnaphthalene

Well ID
Analyte: Results in µg/L (micrograms per liter), **Red/Bold** indicates value or laboratory reporting limit in excess of the NMWQCC standards or Petroleum Storage Tank Bureau Action Level.

N

80 40 0 80
Feet

Source(s): Aerial – BERNCO GIS website, dated 2014.

Figure 7
Distribution of Dissolved-Phase Contaminants, November 4, 2016
Additional Characterization,
Voluntary Remediation Program Activities,
Albuquerque Rail Yards, Albuquerque,
Bernalillo County, New Mexico

Document Path: S:\ABQ\COA On-Call 2014\Task_17_Railyard_VRP\Graphics\GIS\MapDocs\ContaminantMap_AllReports\Parcel_10\07_Parcel10_GWresults.mxd 12/15/2016

TABLES

TABLE 1
Laboratory Analytical Results - Soil, Organics
Parcel 10 Additional Site Characterization Report
City of Albuquerque Rail Yards, Albuquerque, New Mexico

				PAHs[1]						VOCs[2]	Organics[3]	
Soil Boring ID	Collection Date	Sample Depth (ft bgs)	PID (ppmv)	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Dibenzo(a,h)anthracene	Indo(1,2,3-cd)pyrene	Naphthalene	Naphthalene	TPH DRO/ MRO[4]	TPH GRO
SSLs[a]	Residential		NE	1.53	0.153	1.53	0.153	1.53	49.7	49.7	1000[b]	NE
	Industrial/Occupational		NE	32.3	3.23	32.3	3.23	32.3	241	241	3000[b]	NE
	Construction Worker		NE	240	24.0	240	24.0	240	159	159	NE	NE
SB-21 (0-5)	10/27/2016	0-5	5.3	< 0.0099	< 0.0099	< 0.0099	< 0.0099	< 0.0099	< 0.25	< 0.061	< 49	< 3.0
SB-22 (3-6)	10/27/2016	3-6	2.1	< 0.97	< 0.039	< 0.97	< 0.049	< 0.97	< 24	< 0.072	**5700**	< 3.6
SB-23 (0-5)	10/27/2016	0-5	0.0	< 0.49	0.098 J	< 0.49	< 0.025	< 0.49	< 12	< 0.074	740	< 3.7
SB-24 (0-5)	10/27/2016	0-5	2.1	< 0.10	< 0.10	< 0.10	< 0.10	0.29	< 2.5	< 0.053	99	< 2.6
SB-25 (0-3)	10/27/2016	0-3	0.4	0.89 J	**0.54 J**	0.69 J	<0.099	1.3 J	< 49	< 0.078	450	< 3.9
SB-26 (10-15)	10/27/2016	10-15	1.8	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.25	< 0.057	< 49	< 2.9
SB-27 (0-5)	10/27/2016	0-5	1.4	< 0.0099	< 0.0099	< 0.0099	< 0.0099	< 0.0099	< 0.25	< 0.059	< 48	< 3.0
SB-32 (0-3)	10/27/2016	0-3	0.0	**6.5**	**7.1**	**4.4**	**0.40 J**	1.5	< 25	< 0.061	93	< 3.0

Notes:

All laboratory results reported in milligrams per kilogram (mg/kg) unless otherwise noted

Bold red text indicates values or RLs in excess of one of the NMED SSLs

Bold black text indicates PID values over 100 ppm

For select samples the RL did not meet Residential SSLs; therefore, analytical laboratory reported down to MDL

a = New Mexico Environment Department SSLs (NMED, 2015)

b = Soil screening levels from Table 6-2 (NMED, 2015)

1 = Analyzed by EPA Method 8310

2 = Analyzed by EPA Method 8260B; includes in-field methanol extraction

3 = Analyzed by EPA Method 8015B; GRO testing includes in-field methanol extraction

detections, values listed as "<" RL in the laboratory report are assumed to be 0

TABLE 1
Laboratory Analytical Results - Soil, Organics
Parcel 10 Additional Site Characterization Report
City of Albuquerque Rail Yards, Albuquerque, New Mexico

				PAHs[1]						VOCs[2]	Organics[3]	
Soil Boring ID	Collection Date	Sample Depth (ft bgs)	PID (ppmv)	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Dibenzo(a,h)anthracene	Indo(1,2,3-cd)pyrene	Naphthalene	Naphthalene	TPH DRO/ MRO[4]	TPH GRO
SSLs[a]	Residential		NE	1.53	0.153	1.53	0.153	1.53	49.7	49.7	1000[b]	NE
	Industrial/Occupational		NE	32.3	3.23	32.3	3.23	32.3	241	241	3000[b]	NE
	Construction Worker		NE	240	24.0	240	24.0	240	159	159	NE	NE

bgs = below ground surface
DRO = diesel range organics
GRO = gasoline range organics
EPA = U.S. Environmental Protection Agency
ft = feet
J = Estimated value below the RL
MDL = method detection limit
MRO = motor oil range organics
NE = None Established
NMED = New Mexico Environment Department
PAH = polycyclic aromatic hydrocarbon
PID = photoionization detector
ppmv = parts per million by volume
RL = reporting detection limit
SSLs = soil screening levels; Risk Assessment Guidance for Investigations and Remediation, July 2015
TPH = total petroleum hydrocarbons
VOCs = volatile organic compounds

TABLE 2
Laboratory Analytical Results - Soil, Inorganics
Parcel 10 Additional Site Characterization Report
City of Albuquerque Rail Yards, Albuquerque, New Mexico

			Inorganics[1]						
Soil Boring ID	Collection Date	Sample Depth Interval (ft bgs)	Antimony	Arsenic	Chromium	Iron	Lead	Manganese	Thallium
SSLs[a]	Residential		31.3	4.25	96.6	54,800	400	10500	0.782
	Industrial/Occupational		519	21.5	505	908,000	800	160,000	13.0
	Construction Worker		142	57.4	134	248,000	800	464	3.54
SB-21 (0-5)	10/27/2016	0-5	< 2.4	3.5	6.9	11,000	1.7	410	< 0.74
SB-22 (3-6)	10/27/2016	3-6	< 2.5	3.8	7.2	11,000	1.7	320	< 0.77
SB-23 (0-5)	10/27/2016	0-5	< 2.5	< 2.5	4.4	11,000	21	190	< 0.77
SB-24 (0-5)	10/27/2016	0-5	< 2.5	2.9	4.1	14,000	28	230	< 0.77
SB-25 (0-3)	10/27/2016	0-3	**240**	**18**	4.5	15,000	**3900**	130	< 0.76
SB-26 (10-15)	10/27/2016	10-15	< 2.4	< 2.4	3	3900	1.6	20	< 0.75
SB-27 (0-5)	10/27/2016	0-5	< 2.5	< 2.5	3.6	8700	1.9	130	< 0.76
SB-32 (0-3)	10/27/2016	0-3	3.6	**17**	12	18,000	210	390	< 0.74

Notes:

All laboratory results reported in milligrams per kilogram (mg/kg) unless otherwise noted

For select samples the RL did not meet Residential SSLs; therefore analytical laboratory reported down to MDL

Bold red text indicates values or RLs in excess of the NMED SSLs

a = New Mexico Environment Department SSLs (NMED, 2015)

1 = Analyzed by EPA Method 6010B

bgs = below ground surface

EPA = U.S. Environmental Protection Agency

ft = feet

J = Estimated value below the RL

MDL = method detection limit

NMED = New Mexico Environment Department

RL = reporting detection limit

SSLs = soil screening levels; Risk Assessment Guidance for Investigations and Remediation, July 2015

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TABLE 3
Laboratory Analytical Results - Soil Vapor
Parcel 10 Additional Site Characterization Report
City of Albuquerque Rail Yards, Albuquerque, New Mexico

			VOCs[1]														
Soil Boring ID	Soil Vapor ID	Collection Date	1,1,1-Trichloroethane	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	1,3-Dichlorobenzene	1,4-Dioxane	2-Methylnaphthalene	Benzene	Carbon Tetrachloride	Ethylbenzene	Naphthalene	o-Xylene	p&m-Xylene	Tetrachloroethene	Toluene	EDB
VISL	NMED VISLs[a]		52,100	NE	NE	NE	NE	NE	36	46.8	112	8.26	1040	1040	417	52,100	0.468
	EPA VISL[b]		170,000	240	NE	NE	190	NE	120	160	370	28	3500	3500	1400	170,000	1.6
SB-21	SV-21A	10/27/2016	<10	<10	<10	949.69 E	14.72	<10	<10	<10	<10	<2.5	<10	<10	<10	36.29	**<10**
SB-23	SV-23A	10/27/2016	<10	<10	<10	1076.85 E	15.2	<10	<10	<10	<10	<2.5	<10	<10	<10	28.15	**<10**
SB-27	SV-27A	10/27/2016	<10	<10	<10	876.94 E	<10	<10	<10	<10	<10	<2.5	<10	<10	<10	45.91	**<10**
SB-32	SV-32A	10/27/2016	<10	<10	<10	<10	13.64	<10	<10	<10	<10	**12.38**	<10	22.89	<10	48.76	**<10**

Notes:

All laboratory results reported in micrograms per cubic meter (µg/m^3) unless otherwise noted
Bold red text indicates values or RLs in excess of one of the VISLs
For select samples the RL did not meet NMED or EPA VISL; therefore, analytical laboratory reported down to MDL
a = New Mexico Environment Department (NMED) VISLs from Table A-3 (NMED, 2015) unless otherwise noted
b = Calculated from EPA VISL Calculator (EPA, 2016) because the VISL was not availble from NMED
1 = Analyzed by EPA Method TO-17

EPA = U.S. Environmental Protection Agency
E = Measurement exceeded upper calibration range of instrument
MDL = method detection limit
NE = None Established
NMED = New Mexico Environment Department
RL = Reporting Limit
VISL = Vapor Intrusion Screening Level
VOCs = volatile organic compounds

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TABLE 5
Laboratory Analytical Results - Groundwater
Parcel 10 Additional Site Characterization Report
City of Albuquerque Rail Yards, Albuquerque, New Mexico

Sample ID	Date	Organics (µg/L)						
		Benzene[1]	Toluene[1]	Ethylbenzene[1]	Total Xylenes[1]	EDB[2]	Total Naphthalenes[3,4]	Total Naphthalenes[1,4]
NMWQCC Standard		10	750	750	620	0.1	30	30
MW-6	7/29/1996	<1.0	<1.0	<1.0	<5	<5	<2.5	<4.0
	11/1/1996	<1.0	<1.0	<1.0	<5	<5	<2.5	<4.0
	2/6/1997	<1.0	<1.0	<1.0	<5	<5	<2.5	<4.0
	6/11/1998	<1.0	<1.0	<1.0	-	-	-	<4.0
	9/15/1998	<1.0	<1.0	<1.0	-	-	-	<4.0
	12/21/1998	<1.0	<1.0	<1.0	-	-	-	<4.0
	4/29/1999	<1.0	<1.0	<1.0	-	-	-	<4.0
	12/2/1999	<1.0	<1.0	<1.0	<1	<1	<2.5	<4.0
	10/16/2005	<1.0	<1.0	<1.0	<1.5	-	0.30	<4.0
	2/10/2010	<1.0	<1.0	<1.0	-	<0.18	-	<4.0
	11/4/2016	<1.0	<1.0	<1.0	<1.5	<0.010	-	<4.0
MW-7	6/11/1998	<1.0	<1.0	<1.0	-	-	-	<4.0
	10/16/2005	<1.0	<1.0	<1.0	<1.5	-	0.32	<4.0
	9/4/2010	<1.0	<1.0	<1.0	<0.54	-	<0.95	<4.0
	11/4/2016	<1.0	<1.0	<1.0	<1.5	<0.010	-	<4.0
MW-8	6/11/1998	<1.0	<1.0	<1.0	-	-	-	<4.0
	10/16/2005	<1.0	<1.0	<1.0	<1.5	-	0.3	<4.0
	2/11/2010	<1.0	<1.0	<1.0	-	<0.18	-	<4.0
	11/4/2016	<1.0	<1.0	<1.0	<1.5	<0.010	-	<4.0
MW-9	4/19/2000	<1	<1	<1	<1	<1	-	-
	10/22/2005	<1	-	-	-	-	-	-
	2/10/2010	<0.16	<0.17	<0.16	-	<0.18	-	-
	11/4/2016	No sample collected. Could not locate well.						

Notes:

Bold, red font indicates values or RLs in excess of the NMWQCC Standard

[1] = Analyzed by EPA Method 8260B.

[2] = Analyzed by EPA Method 504.1 or Method 8260B.

[3] = Analyzed by EPA Method 8270

[4] = Total naphthalenes includes the sum of naphthalene, 1-methylnaphthalene, and 2-methylnaphthalene. RL for Total naphthalenes = highest RL for individual compounds; when summing detections, values listed as "<" RL in the laboratory report are assumed to be 0.

EDB = 1,2-dibromoethane

µg/L = microgram(s) per liter

NMWQCC = New Mexico Water Quality Control Commission

NMWQCC Standard = Groundwater Standards as defined by the State of New Mexico Water Quality Control Commission (NMWQCC, 2002)

RL = laboratory reporting limit

Appendix A

Field Notes, Field Forms, and Boring Logs

Site Location: CoA Fairyard Drilling Co: Vista

Soil Boring Log (Field)

Depth to Water (ft): _____ Boring No.: SB-21

Drilling Method: Direct Push Driller: J Zajdel

Total Depth (ft): 15 Date: 10/27/16 Drilling Start: 0810

Drilling Equipment: Geoprobe Northing: _____ Easting: _____

Borehole Diameter: _____ Date: _____ Drilling Finish: 0815

Sample Method: _____ Logger: _____ Split Spoon Length: 5 Coord. System _____

Depth in Feet (BLS)	USCS	Descriptor	Soil Type	Color	Partical Size	Grading	Angularity/ shape	Density	Plasticity	Moisture	Odor	PID/ FID	% Rec.	Sample No./Int.	Comments
0-4		Sandy Clayey Silty (Gravelly)	(SAND) CLAY SILT GRAVEL	10YR 3/1 very dark gray	very fine (fine) medium (coarse)	poor (well)	angular subangular subrounded rounded	(sand or gravel) very loose (loose) dense very dense (silt or clay) very soft soft hard very hard	non-plastic slightly plastic plastic very plasitc	(dry) moist wet	(none) organic hydrocarbon	0-5 5.3	0-5 50	SB-21(0-5) @0815	
Depth in Feet (BLS)	USCS	Descriptor	Soil Type	Color	Partical Size	Grading	Angularity/ shape	Density	Plasticity	Moisture	Odor		% Rec.	Sample No./Int.	Comments
4-5		(Sandy) Clayey (Silty) Gravelly	SAND (CLAY) SILT GRAVEL	5/3 brown	very fine fine medium coarse	poor well	angular subangular subrounded rounded	(sand or gravel) very loose loose dense very dense (silt or clay) very soft soft (hard) very hard	non-plastic (slightly plastic) plastic very plasitc	(dry) moist wet	(none) organic hydrocarbon	5-10 0.0			
Depth in Feet (BLS)	USCS	Descriptor	Soil Type	Color	Partical Size	Grading	Angularity/ shape	Density	Plasticity	Moisture	Odor		% Rec.	Sample No./Int.	Comments
6.5-9		Sandy Clayey (Silty) Gravelly	(SAND) CLAY SILT GRAVEL	5/3 brown	(very fine) (fine) medium coarse	(poor) well	angular subangular subrounded rounded	(sand or gravel) very loose loose (dense) very dense (silt or clay) very soft soft hard very hard	non-plastic slightly plastic plastic very plasitc	(dry) moist wet	(none) organic hydrocarbon		5-10 55		
Depth in Feet (BLS)	USCS	Descriptor	Soil Type	Color	Partical Size	Grading	Angularity/ shape	Density	Plasticity	Moisture	Odor		% Rec.	Sample No./Int.	Comments
9-12.5		Sandy Clayey (Silty) Gravelly	SAND (CLAY) SILT GRAVEL	5/3 brown	very fine fine medium coarse	poor well	angular subangular subrounded rounded	(sand or gravel) very loose loose dense very dense (silt or clay) very soft (soft) hard very hard	non-plastic (slightly plastic) plastic very plasitc	(dry) moist wet	(none) organic hydrocarbon	10-15 0.3	10-15 90		

12.5-15 clay 6/1 gray v. soft plastic None

Site Location: CoA Railyard Drilling Co: Vista

Soil Boring Log
(Field)

Depth to Water (ft): _____ Boring No.: SB-22

Drilling Method: Direct Push Driller: J. Faydel

Total Depth (ft): 6 Date: 10/27/16 Drilling Start: 0830

Drilling Equipment: Geoprobe Northing: _____ Easting: _____

Borehole Diameter: _____ Date: _____ Drilling Finish: 0833

Sample Method: _____ Logger: _____ Split Spoon Length: 5 Coord. System _____

Depth in Feet (BLS)	USCS	Descriptor	Soil Type	Color	Partical Size	Grading	Angularity/ shape	Density	Plasticity	Moisture	Odor	PID/ FID	% Rec.	Sample No./Int.	Comments
0-2		Sandy Clayey Silty Gravelly	SAND CLAY SILT GRAVEL	3/1	very fine fine medium coarse	poor well	angular subangular subrounded rounded	(sand or gravel) very loose loose dense very dense (silt or clay) very soft soft hard very hard	non-plastic slightly plastic plastic very plasitc	dry moist wet	none organic hydrocarbon	0-3 1.2	80		
Depth in Feet (BLS)	USCS	Descriptor	Soil Type	Color	Partical Size	Grading	Angularity/ shape	Density	Plasticity	Moisture	Odor		% Rec.	Sample No./Int.	Comments
2-4		Sandy Clayey Silty Gravelly	SAND CLAY SILT GRAVEL	2/1	very fine fine medium coarse	poor well	angular subangular subrounded rounded	(sand or gravel) very loose loose dense very dense (silt or clay) very soft soft hard very hard	non-plastic slightly plastic plastic very plasitc	dry moist wet	none organic hydrocarbon	3-6 2.1	80	SB-22 (3-4) @ 0835	
Depth in Feet (BLS)	USCS	Descriptor	Soil Type	Color	Partical Size	Grading	Angularity/ shape	Density	Plasticity	Moisture	Odor		% Rec.	Sample No./Int.	Comments
4-6		Sandy Clayey Silty Gravelly	SAND CLAY SILT GRAVEL	4/3	very fine fine medium coarse	poor well	angular subangular subrounded rounded	(sand or gravel) very loose loose dense very dense (silt or clay) very soft soft hard very hard	non-plastic slightly plastic plastic very plasitc	dry moist wet	none organic hydrocarbon Slight		80		Slight HC Odor
Depth in Feet (BLS)	USCS	Descriptor	Soil Type	Color	Partical Size	Grading	Angularity/ shape	Density	Plasticity	Moisture	Odor		% Rec.	Sample No./Int.	Comments
		Sandy Clayey Silty Gravelly	SAND CLAY SILT GRAVEL		very fine fine medium coarse	poor well	angular subangular subrounded rounded	(sand or gravel) very loose loose dense very dense (silt or clay) very soft soft hard very hard	non-plastic slightly plastic plastic very plasitc	dry moist wet	none organic hydrocarbon				

Site Location: COA Railyard Drilling Co: Vista Geoscience **Soil Boring Log (Field)** Depth to Water (ft): _____ Boring No.: SB-23

Drilling Method: Direct Push Driller: J. Zaydel Total Depth (ft): 15 Date: 10/27/16 Drilling Start: 0853

Drilling Equipment: Geoprobe Northing: _____ Easting: _____ Borehole Diameter: _____ Date: _____ Drilling Finish: 0856

Sample Method: _____ Logger: _____ Split Spoon Length: 5 Coord. System _____

Depth in Feet (BLS)	USCS	Descriptor	Soil Type	Color	Partical Size	Grading	Angularity/ shape	Density	Plasticity	Moisture	Odor	PID/ FID	% Rec.	Sample No./Int.	Comments
0-4		Sandy, Clayey, Silty, Gravelly	SAND, CLAY, SILT, GRAVEL	2/1	very fine, fine, medium, coarse	poor, well	angular, subangular, subrounded, rounded	(sand or gravel) very loose, loose, dense, very dense; (silt or clay) very soft, soft, hard, very hard	non-plastic, slightly plastic, plastic, very plasitc	dry, moist, wet	none, organic, hydrocarbon	0-5 0.0	80	SB-23(0-5) @0858	
4-5		Sandy, Clayey, Silty, Gravelly	SAND, CLAY, SILT, GRAVEL	4/3	very fine, fine, medium, coarse	poor, well	angular, subangular, subrounded, rounded	(sand or gravel) very loose, loose, dense, very dense; (silt or clay) very soft, soft, hard, very hard	non-plastic, slightly plastic, plastic, very plasitc	dry, moist, wet	none, organic, hydrocarbon	5-10 0.0	80		
5-9 (11)		Sandy, Clayey, Silty, Gravelly	SAND, CLAY, SILT, GRAVEL	4/4	very fine, fine, medium, coarse	poor, well	angular, subangular, subrounded, rounded	(sand or gravel) very loose, loose, dense, very dense; (silt or clay) very soft, soft, hard, very hard	non-plastic, slightly plastic, plastic, very plasitc	dry, moist, wet	none, organic, hydrocarbon	10-15 0.0	80		
11-15		Sandy, Clayey, Silty, Gravelly	SAND, CLAY, SILT, GRAVEL	6/4	very fine, fine, medium, coarse	poor, well	angular, subangular, subrounded, rounded	(sand or gravel) very loose, loose, dense, very dense; (silt or clay) very soft, soft, hard, very hard	non-plastic, slightly plastic, plastic, very plasitc	dry, moist, wet	none, organic, hydrocarbon		50		

Site Location: CoA Railyard Drilling Co: Vista

Soil Boring Log
(Field)

Depth to Water (ft): _____ Boring No.: SB-24

Drilling Method: Direct Push Driller: J. Fajdel

Total Depth (ft): 6 Date: 10/27/16 Drilling Start: 0915

Drilling Equipment: Geoprobe Northing: _____ Easting: _____

Borehole Diameter: _____ Date: _____ Drilling Finish: 0918

Sample Method: _____ Logger: _____ Split Spoon Length: 5 Coord. System _____

Depth in Feet (BLS)	USCS	Descriptor	Soil Type	Color	Partical Size	Grading	Angularity/ shape	Density	Plasticity	Moisture	Odor	PID/ FID	% Rec.	Sample No./Int.	Comments
0-2.5		Sandy Clayey Silty Gravelly	SAND CLAY SILT GRAVEL	10YR 4/1 d. gray	very fine fine to medium coarse	poor well	angular subangular subrounded rounded	(sand or gravel) very loose loose dense very dense (silt or clay) very soft soft hard very hard	non-plastic slightly plastic plastic very plasitc	dry moist wet	none organic hydrocarbon	0-5 2.1	0-5 90	SB-24 (0-5) @ 0920	
Depth in Feet (BLS)	**USCS**	**Descriptor**	**Soil Type**	**Color**	**Partical Size**	**Grading**	**Angularity/ shape**	**Density**	**Plasticity**	**Moisture**	**Odor**		**% Rec.**	**Sample No./Int.**	**Comments**
2.5-3.5		Sandy Clayey Silty Gravelly	SAND CLAY SILT GRAVEL	6/6 brownish Yellow	very fine fine medium coarse	poor well	angular subangular subrounded rounded	(sand or gravel) very loose loose dense very dense (silt or clay) very soft soft hard very hard	non-plastic slightly plastic plastic very plasitc	dry moist wet	none organic hydrocarbon	3-6 0.0	5/6 100		
Depth in Feet (BLS)	**USCS**	**Descriptor**	**Soil Type**	**Color**	**Partical Size**	**Grading**	**Angularity/ shape**	**Density**	**Plasticity**	**Moisture**	**Odor**		**% Rec.**	**Sample No./Int.**	**Comments**
3.5-6		Sandy Clayey Silty Gravelly	SAND CLAY SILT GRAVEL	5/3 brown	very fine fine to medium coarse	poor well	angular subangular subrounded rounded	(sand or gravel) very loose loose dense very dense (silt or clay) very soft soft hard very hard	non-plastic slightly plastic plastic very plasitc	dry moist wet	none organic hydrocarbon				some clay
Depth in Feet (BLS)	**USCS**	**Descriptor**	**Soil Type**	**Color**	**Partical Size**	**Grading**	**Angularity/ shape**	**Density**	**Plasticity**	**Moisture**	**Odor**		**% Rec.**	**Sample No./Int.**	**Comments**
		Sandy Clayey Silty Gravelly	SAND CLAY SILT GRAVEL		very fine fine medium coarse	poor well	angular subangular subrounded rounded	(sand or gravel) very loose loose dense very dense (silt or clay) very soft soft hard very hard	non-plastic slightly plastic plastic very plasitc	dry moist wet	none organic hydrocarbon				

Site Location: Colt Railyard Drilling Co: Vista Geoprobe **Soil Boring Log (Field)** Depth to Water (ft): _____ Boring No.: SB-25

Drilling Method: Direct Push Driller: J. Zyder Total Depth (ft): 6 Date: 10/27/16 Drilling Start: 0937

Drilling Equipment: Geoprobe Northing: _____ Easting: _____ Borehole Diameter: _____ Date: _____ Drilling Finish: 0940

Sample Method: _____ Logger: _____ Split Spoon Length: 5 Coord. System _____

Depth in Feet (BLS)	USCS	Descriptor	Soil Type	Color	Partical Size	Grading	Angularity/ shape	Density	Plasticity	Moisture	Odor	PID/ FID	% Rec.	Sample No./Int.	Comments
0-2.8		Sandy Clayey Silty Gravelly	SAND CLAY SILT GRAVEL	FDYP 4/1 d. gray	very fine fine to medium coarse	poor well	angular subangular subrounded rounded	(sand or gravel) very loose loose dense very dense (silt or clay) very soft soft hard very hard	non-plastic slightly plastic plastic very plasitc	dry moist wet	none organic hydrocarbon	0-3 0.4		SB-25 (0-3) @ 0945	
Depth in Feet (BLS)	USCS	Descriptor	Soil Type	Color	Partical Size	Grading	Angularity/ shape	Density	Plasticity	Moisture	Odor		% Rec.	Sample No./Int.	Comments
2.8-3.2		Sandy Clayey Silty Gravelly	SAND CLAY SILT GRAVEL	5/3 d. brown	very fine fine medium coarse	poor well	angular subangular subrounded rounded	(sand or gravel) very loose loose dense very dense (silt or clay) very soft soft hard very hard	non-plastic slightly plastic plastic very plasitc	dry moist wet	none organic hydrocarbon	3-4 0.0			
Depth in Feet (BLS)	USCS	Descriptor	Soil Type	Color	Partical Size	Grading	Angularity/ shape	Density	Plasticity	Moisture	Odor		% Rec.	Sample No./Int.	Comments
3.2-6		Sandy Clayey Silty Gravelly	SAND CLAY SILT GRAVEL	5/8 yellowish brown	very fine fine medium coarse	poor well	angular subangular to subrounded rounded	(sand or gravel) very loose loose dense very dense (silt or clay) very soft soft hard very hard	non-plastic slightly plastic plastic very plasitc	dry moist wet	none organic hydrocarbon				
Depth in Feet (BLS)	USCS	Descriptor	Soil Type	Color	Partical Size	Grading	Angularity/ shape	Density	Plasticity	Moisture	Odor		% Rec.	Sample No./Int.	Comments
		Sandy Clayey Silty Gravelly	SAND CLAY SILT GRAVEL		very fine fine medium coarse	poor well	angular subangular subrounded rounded	(sand or gravel) very loose loose dense very dense (silt or clay) very soft soft hard very hard	non-plastic slightly plastic plastic very plasitc	dry moist wet	none organic hydrocarbon				

Site Location: CoA Railyard Drilling Co: Vista Geoscience **Soil Boring Log** (Field) Depth to Water (ft): _____ Boring No.: SB-26

Drilling Method: Direct Push Driller: J. Tajdel Total Depth (ft): 15 Date: 10/27/14 Drilling Start: 0957

Drilling Equipment: Geoprobe Northing: _____ Easting: _____ Borehole Diameter: _____ Date: _____ Drilling Finish: 1005

Sample Method: _____ Logger: CP Split Spoon Length: 5 Coord. System _____

Depth in Feet (BLS)	USCS	Descriptor	Soil Type	Color	Partical Size	Grading	Angularity/ shape	Density	Plasticity	Moisture	Odor	PID/ FID	% Rec.	Sample No./Int.	Comments
0-2.2		Sandy Clayey Silty **Gravelly**	**SAND** CLAY SILT GRAVEL	10YR 3/1 gray/sl brown	very fine **fine** to medium **coarse**	poor **well**	angular subangular subrounded rounded	(sand or gravel) very loose **loose** **dense** very dense (silt or clay) very soft soft hard very hard	non-plastic slightly plastic plastic very plasitc	**dry** moist wet	**none** organic hydrocarbon	0.5 0 ppm			
Depth in Feet (BLS)	**USCS**	**Descriptor**	**Soil Type**	**Color**	**Partical Size**	**Grading**	**Angularity/ shape**	**Density**	**Plasticity**	**Moisture**	**Odor**		**% Rec.**	**Sample No./Int.**	**Comments**
2.2-4		Sandy Clayey **Silty** Gravelly	SAND **CLAY** SILT GRAVEL	5/2 gray/sh brown	very fine fine medium coarse	poor well	angular subangular subrounded rounded	(sand or gravel) very loose loose dense very dense (silt or clay) very soft **soft** hard very hard	non-plastic **slightly plastic** plastic very plasitc	**dry** moist wet	**none** organic hydrocarbon				
Depth in Feet (BLS)	**USCS**	**Descriptor**	**Soil Type**	**Color**	**Partical Size**	**Grading**	**Angularity/ shape**	**Density**	**Plasticity**	**Moisture**	**Odor**		**% Rec.**	**Sample No./Int.**	**Comments**
4-9		Sandy Clayey **Silty** Gravelly	**SAND** CLAY SILT GRAVEL	5/3 brown	very fine **fine** medium coarse	poor well	angular subangular subrounded rounded	(sand or gravel) very loose loose **dense** very dense (silt or clay) very soft soft hard very hard	non-plastic slightly plastic plastic very plasitc	**dry** moist wet	**none** organic hydrocarbon	5-16 0 ppm			
Depth in Feet (BLS)	**USCS**	**Descriptor**	**Soil Type**	**Color**	**Partical Size**	**Grading**	**Angularity/ shape**	**Density**	**Plasticity**	**Moisture**	**Odor**		**% Rec.**	**Sample No./Int.**	**Comments**
9-10.5		Sandy Clayey Silty Gravelly	**SAND** CLAY SILT GRAVEL	7/3 v pale brown	very fine **fine** medium coarse	poor **well**	angular subangular **subrounded** rounded	(sand or gravel) very loose **loose** dense very dense (silt or clay) very soft soft hard very hard	non-plastic slightly plastic plastic very plasitc	**dry** moist wet	**none** organic hydrocarbon	10.5 1.8		SB-26 (10-15) C	

10.5 - 14.4 Clay 5/3 brown soft plastic dry none

14.4 - 15 Sand 7/3 v. pale brown fine poor subrounded loose dry none

Site Location: CoA Railyard Drilling Co: Vista Geoscience **Soil Boring Log (Field)** Depth to Water (ft): _____ Boring No.: SB-27

Drilling Method: Direct Push Geoprobe Driller: J. Zajdel Total Depth (ft): 15 Date: 10/27/14 Drilling Start: 1035

Drilling Equipment: Geoprobe Northing: _____ Easting: _____ Borehole Diameter: _____ Date: _____ Drilling Finish: 1037

Sample Method: _____ Logger: _____ Split Spoon Length: 5 Coord. System _____

Depth in Feet (BLS)	USCS	Descriptor	Soil Type	Color	Partical Size	Grading	Angularity/ shape	Density	Plasticity	Moisture	Odor	PID/ FID	% Rec.	Sample No./Int.	Comments
0-2.5		Sandy Clayey Silty Gravelly	SAND CLAY SILT GRAVEL	10YR 3/1 v. dark gray	very fine fine medium coarse	poor well	angular subangular subrounded rounded	(sand or gravel) very loose loose dense very dense (silt or clay) very soft soft hard very hard	non-plastic slightly plastic plastic very plasitc	dry moist wet	none organic hydrocarbon	0-5 1.4	0-5 80	SB-27(0-5) 1038	
Depth in Feet (BLS)	**USCS**	**Descriptor**	**Soil Type**	**Color**	**Partical Size**	**Grading**	**Angularity/ shape**	**Density**	**Plasticity**	**Moisture**	**Odor**		**% Rec.**	**Sample No./Int.**	**Comments**
2.5-5.5		Sandy Clayey Silty Gravelly	SAND CLAY SILT GRAVEL	7/8 yellow	very fine fine medium coarse	poor well	angular subangular subrounded rounded	(sand or gravel) very loose loose dense very dense (silt or clay) very soft soft hard very hard	non-plastic slightly plastic plastic very plasitc	dry moist wet	none organic hydrocarbon		5-10 85		few gravel pieces
Depth in Feet (BLS)	**USCS**	**Descriptor**	**Soil Type**	**Color**	**Partical Size**	**Grading**	**Angularity/ shape**	**Density**	**Plasticity**	**Moisture**	**Odor**		**% Rec.**	**Sample No./Int.**	**Comments**
5.5-8.5		Sandy Clayey Silty Gravelly	SAND CLAY SILT GRAVEL	4/3 brown	very fine fine medium coarse	poor well	angular subangular subrounded rounded	(sand or gravel) very loose loose dense very dense (silt or clay) very soft soft hard very hard	non-plastic slightly plastic plastic very plasitc	dry moist wet	none organic hydrocarbon	5-15 0.2			
Depth in Feet (BLS)	**USCS**	**Descriptor**	**Soil Type**	**Color**	**Partical Size**	**Grading**	**Angularity/ shape**	**Density**	**Plasticity**	**Moisture**	**Odor**		**% Rec.**	**Sample No./Int.**	**Comments**
8.5-15		Sandy Clayey Silty Gravelly	SAND CLAY SILT GRAVEL	6/4 lt. yellowish brown	very fine fine medium coarse 10.5-15	poor well 8.5-11.5	angular subangular subrounded rounded	(sand or gravel) very loose loose dense very dense (silt or clay) very soft soft hard very hard	non-plastic slightly plastic plastic very plasitc	dry moist wet	none organic hydrocarbon	10-15 0.2	10-15 85		

Site Location: COA Railyard Drilling Co: Vista Geoscience **Soil Boring Log** (Field) Depth to Water (ft): _____ Boring No.: SB-32

Drilling Method: Direct Push 66 Driller: J. Zydel Total Depth (ft): 6 Date: 10/27/16 Drilling Start: 1300

Drilling Equipment: Geoprobe Northing: _____ Easting: _____ Borehole Diameter: _____ Date: _____ Drilling Finish: 1305

Sample Method: _____ Logger: CG Split Spoon Length: 5' Coord. System _____

Depth in Feet (BLS)	USCS	Descriptor	Soil Type	Color	Partical Size	Grading	Angularity/ shape	Density	Plasticity	Moisture	Odor	PID/ FID	% Rec.	Sample No./Int.	Comments
0-0.2		(Sandy) Clayey Silty Gravelly	(SAND) CLAY SILT (GRAVEL)	10YR 5/2 v. pale brown	very fine fine medium coarse	poor (well)	angular subangular subrounded rounded	(sand or gravel) very loose (loose) dense very dense (silt or clay) very soft soft hard very hard	non-plastic slightly plastic plastic very plasitc	(dry) moist wet	(none) organic hydrocarbon	0-3 0.0	5-6 90	SB-32(0-3) @ 1305	
Depth in Feet (BLS)	USCS	Descriptor	Soil Type	Color	Partical Size	Grading	Angularity/ shape	Density	Plasticity	Moisture	Odor		% Rec.	Sample No./Int.	Comments
0.2-6		Sandy Clayey Silty (Gravelly)	(SAND) CLAY SILT GRAVEL	10YR 3/1 v. dark gray	very fine (fine) medium (coarse)	(well)	angular subangular subrounded rounded	(sand or gravel) very loose (loose) dense very dense (silt or clay) very soft soft hard very hard	non-plastic slightly plastic plastic very plasitc	(dry) moist wet	(none) organic hydrocarbon	3-6 0.0	5-6 100		w/ some clay lenses
Depth in Feet (BLS)	USCS	Descriptor	Soil Type	Color	Partical Size	Grading	Angularity/ shape	Density	Plasticity	Moisture	Odor		% Rec.	Sample No./Int.	Comments
		Sandy Clayey Silty Gravelly	SAND CLAY SILT GRAVEL		very fine fine medium coarse	poor well	angular subangular subrounded rounded	(sand or gravel) very loose loose dense very dense (silt or clay) very soft soft hard very hard	non-plastic slightly plastic plastic very plasitc	dry moist wet	none organic hydrocarbon				
Depth in Feet (BLS)	USCS	Descriptor	Soil Type	Color	Partical Size	Grading	Angularity/ shape	Density	Plasticity	Moisture	Odor		% Rec.	Sample No./Int.	Comments
		Sandy Clayey Silty Gravelly	SAND CLAY SILT GRAVEL		very fine fine medium coarse	poor well	angular subangular subrounded rounded	(sand or gravel) very loose loose dense very dense (silt or clay) very soft soft hard very hard	non-plastic slightly plastic plastic very plasitc	dry moist wet	none organic hydrocarbon				

3/2/12

- Deconned bladder pump with liquinox and DI. Switched out bladder.

- 0915 moved to MW-03
- Started pumping at 0942 water silty at first, black.

- Minimal drawdown observed Pumping at

- Collected Sample @ 1004 final readings

pH = 7.38	6-VOAs
Temp°C = 17.89	W/ HCL
SpCys/cm = 567	8260SL
ORPmV = -88.4	8015
DO mg/L = 2.12	

Tagged DTW @ ~~MW-07~~ SB-09
DTW = 29.69', NO LNAPL detected
Pulled well and backfilled with bentonite

- Cleanup. Off-site 1020

10/19/2016 One Call Utility Marking MJS

1000 M. Sophy on-site in Northern Parking Lot
Weather: Sunny, 60's
TGSM - watch for traffic

Objective:
① Mark "Spot" on western boundary of Railyard: 1st + 2nd Street
② Contact One-Call Utility Check
③ Coordinate site access between One Call + COA.

1015 Meet Justin D. Schara, E.I. from High Mesa Consulting Group.
Hire company is designing storm drain system on the Railyard
They have U.G. Utility Map, we can contact H.M Surveyor Chuck Cala for more info.

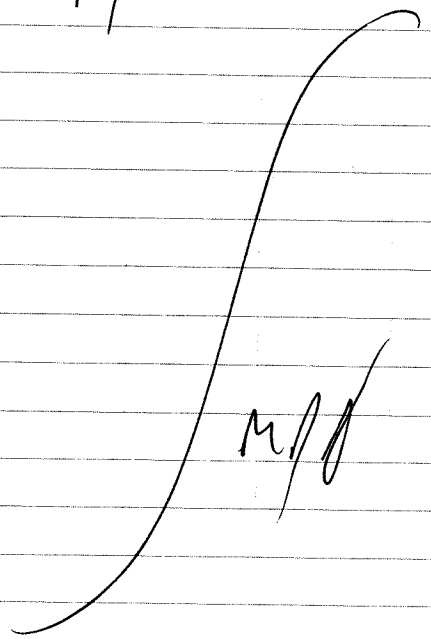
1115 Complete Spot Marking " ⟷ SPOR 10/19 " on N/S Boundary at 1st / 2nd Street of Railyard.
Call One Call, Ticket #162801903 94

10/19/2016 One Call Utility Marking MJS

- One call will issue 10-Dy work permit, expires COB Nov 4.
- Must notify one call 2 Business days befor Nov 4 for Permit Extension
- Utility Locator to Complete work by 10/21/2016.

1120 Uptake J. Tracy, E. Marcille

1135 M. Sophy off-site



10/24/2016 Addn'l Site Characterization MJS

0850 M. Sophy on-site to meet w/ David Charlesworth Environmental (DCE) & City of Albuquerque (COA) representatives regarding Asbestos & Lead Testing.

0920 Met Wheels Museum representative
Annie Chavez
cell 550-5066
office 243-6269
She will open/close Wheels museum during DCE's investigation

Matt Butkus - COA
here today while Gabe is unavailable
cell: (505)507-0212

Michael Nieman - DCE
cell (505)401-8905

0930 Site tour w/ Matt Butkus
D Charlesworth would like to visit/sample sites requiring lift, first. Rather than visit/sample site by site. Will check if OK w E Marcille/J Tracy.

10/24/16 Addn'l Site Charac. MJS

1000 MS Soph off site to INTERA Abq office to mob for Soil Sampling

1300 Lynde on-site @ Wheels Museum and meet Vista drillers. They are getting prepped.

Objectives Start drilling in parcel 1 or 2. Collect soil + vapor samples

1315 Conduct H+S meeting
1325 Walk around Parcels 1+2 to identify site boundary and proposed locations.

1400 Vista begins unloading geoprobe. Calibrate PID Mini. Rae (INTERA's)
1420 Eileen + Matt on-site
1445 Begin setting up @ SB-1 (Parcel 1, SE corner)

1645 Finished collecting sample @ SB-4. Have collected soil samples from SB-2 + SB-3 as well.

MS Addn'l Site Charac. 10/24/16

Summary of PID results — Sample Submitted

SB-1
0-4 = 3402
4-9 = 788
9-10 = >10,000
→ SB-1 (9-10) @1510

SB-2
0-4 = 921
4-8.5 = 874
8.5-10 = >9999
→ SB-2 (8.5-10) @1535

SB-3
0-3.5 = 33.4
3.5-4.5 = 28.5
4.5-7 = 55.6
8.5-10 = 479
→ SB-3 (8.5-10) @1600

SB-4
0-4 = 51.8
4-10 = 3.7
10-12 = 227
12-15 = 156.
→ SB-4 (10-12) @1630

- Soil samples will be submitted to HEAL for VOCs (8260B), PAHs (8310) TPH (GRO, DRO MRO via 8015) + metals (antimony arsenic, chromium, iron, lead, manganese, thallium via 6010)
- We used the heated head space method to
- collect PID readings
- Mason jars + tools were decon'ed betwn borings. Geoprobe equip as well.

1650 Matt from the city on-site to lock gate
1705 INTERA + ~~geo~~ Vista geo offsite.

MS 10/24/16

October 25, 2016
Lynda Price
Cloudy, little rain in a.m. (50's); partly sunny p.m. (70's)

0720 Lynda on-site
0725 Vista Geo on-site
0740 Matt Butkus from COA on-site to unlock the gate.

Objectives: Finish collecting soil samples from Parcels 1 + 4. Collect soil vapor samples from those parcels too.

0755 Conduct H+S meeting + go over objectives. Cal PID.
0810 Walk site to spray paint the next 3 boring locations

825 Drilling boring @ **SB-5** (located in Parcel 1, SE portion)

PID is not working properly so Jim was called + he is bringing a new PID to the site. We will start

collecting SV samples in Parcel 4 since we know the locations.

0955 Begin marking boring locations in Parcel 4.

1005 Vista Geo Sets up @ **SB-6** location to collect soil vapor sample @ 5' bgs.

1025 Jim from INTERA on-site and has new PID. I finish doing the headspace readings (meant) and they are more accurate. SB-5 (6-10) is collected @0840

1045 JIM offsite. Vista did not get a good seal on the first boring so they are moving over to drill again to 5' and will try to set up again.

Vista collects **SV-06** (2 sorbant tubes). They purge 3 volumes before collecting sample + verify O_2/CO_2 is stable. PID value is measured after purging and before sample collection.

PID = 1.1 ppm

10/25/14 Addn'l Site Charac. cp/ms

1145 Finished collect SV sample: Move over to collect soil sample + drill to 10'.
1157 SB-6(5-10) collected
1210 Begin drilling SB-7 (In parcel 4, most western location)
1220 SB-7(5-10) collected
→ Soil Vapor samples were collected @ ~1335. PID = 1.9 ppm SV-07
1320 Matl Saphy on-site
1345 At SB-8 (in Parcel 4, central)
1356 Sampled SB-8(5-10)
1400 Vista Geo sets up to collect SV sample. CO_2 is reading zero, indicating a possible leak in tubing set-up. They drill a new boring next to the original. O_2/CO_2 levels look good. They collect SV-08 PID = 4.5ppm
1605 Begin drilling SB-9 (In parcel 4, SE corner)
1613 SB-9(5-10) collected.

cp/ms Addn'l Site Charac. 10/25/14

1615 Move over to set up to drill borehole for SV-09

Had difficulties with sealing 3 way valve but made it work after trouble shooting for awhile.
PID = 0.0 ppm

1745 At SB-10 to drill (Parcel 1, NE)
1755 SB-10(5-10) collected

Summary of PID Results

	Interval	ppm	★ = Interval soil sample was collected & submitted.
SB-5	0-4'	= 2.2	
	4.5-6	= 0.0	
	6-10	= 107 ★	
SB-6	0-3	= 0.0	
	3-5	= 0.0	
	5-10	0.5 ★	
SB-7	0-5	= 1.6	
	5-10	= 9.4 ★	
SB-8	0-5	= 0.0	
	5-10	0.1 ★	
SB-9	0-5	= 0.0	
	5-10	= 1.2 ★	

10/26/14 Addn'l Site Charac. up/my

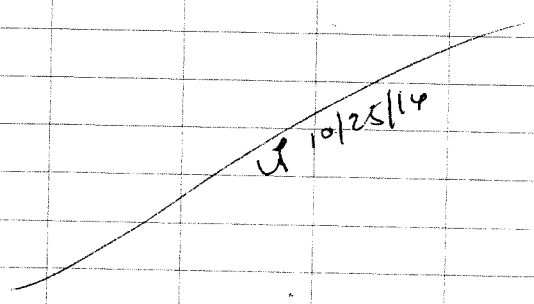
SB-10 0-5 = 0.4
10-10 = 0.5

- Mason jars + geoprobe were decon'ed between sample locations.

- Vista Geoscience were contracted to collect SV samples. They recorded O_2/CO_2/MeOH values on field forms. 2 sorbent tubes were collected at each location.

1800 Matt from the COA on-site to lock up site.
INTERA + Vista clean up area + they secure their Geoprobe

1815 INTERA, Vista Geo, + Matt off-site.



10/26/14 Addn'l Site Charac.

October 26, 2016
Sunny 50's am, 70's pm
Lynda Pirie

0720 Lynda on-site
0725 Geo Vista on-site and Matt from the city. Matt opens the gate for us.
0735 Conduct H+S meeting. Go over objectives for today

Objectives Finish collecting soil samples in Parcels 1 + 2. Collect as many SV samples as possible.

0745 Calibrate PID MiniRae w/ 100 ppm Isobutylene. (ESP Rental)
0755 Start drilling @ SB-11 (in Parcel 1, in NW corner)
0802 Collect SB-11 (0-5)

0845 Starting drilling @ SB-12 (Parcel 1, west side)

0852 SB-12 (0-5) collected

10/21/14 Addn'l Site Charac.

0923 Starting to drill @ SB-13 (Parcel 1, East side

0930 SB-13 (10-15) Collected

0958 Starting to drill @ SB-14 (Parcel 2, NE corner)

1003 SB-14 (5-10) Collected

1029 Drilling SB-15 (Parcel 2, SW of SB-14)

1035 SB-15 (3-6) collected

~~1055~~

1055 Drilling ~~SB-16~~ (Parcel 2, E of platform [on east side])

1106 SB-16 (5-10) collected

1135 Drilling SB-17 (Parcel 2, W of platform + ~~south of SB-16~~)

1140 SB-17 (3-6) collected

1155 Drilling SB-18 (Parcel 2, W of platform + south of SB-17)

1202 Sampled SB-18 (3-6)

10/21/14 Addn'l Site Charac.

1214 Drilling SB-19 (Parcel 2, S central)

1217 Sampled SB-19 (5-10)

1225 Drilling SB-20 (Parcel 2, middle of the southern border)

1232 Sampled SB-20 (3-6)

1300 Vista Geo begins setting up @ SB-16 for soil vapor collection. O_2/CO_2 levels stable + 2 sorbent tubes are filled PID = 2.7 ppm SV-16 collected

1315 Discuss w/ Eileen about SV sample locations and instead of collecting them where we saw the highest PID values, we decide to spread them across the footprint of the proposed development in parcels 1 + 2. (buildings and/or parking structures)

Decide to collect them from:

Parcel 1	Parcel 2
SB-4; SB-12	SB-3; SB-14
SB-10;	SB-16;
SB-11;	SB-17;

10/26/16: Addn'l Site Charac.

1400 Set up @ SB-17 to collect [SV-17] Purged 3 volumes; O_2/CO_2 levels good/stable; PID = 1.6 ppm (before sample collected)

1440 Set up @ SB-3 to collect [SV-03] Purged 3 volumes; O_2/CO_2 levels good/stable; PID = 2.1 ppm (before sample collected)

1512 Heading to SB-14 to collect [SV-14] Purged 3 volumes; O_2/CO_2 levels stable; PID = 3.6 ppm.

1550 Setting up @ SB-4 to collect [SV-04]. Purged 3 volumes; O_2/CO_2 levels stable; PID = 1.9 ppm

1620 Setting up @ SB-12 to collect [SV-12]. Purged 3 volumes; O_2/CO_2 levels stable; PID = 1.3 ppm

Addn'l Site Charac. 10/26/16

1650 Moving to SB-11 to collect [SV-11]. CO_2/O_2 levels are not stabilizing so we will move over and drill in a new location, ~2' over. The new location is producing stable O_2/CO_2 levels. 3 volumes purged. PID = 0.5 ppm

1730 At SB-10 to collect [SV-11]. Purged over 3 volumes; O_2/CO_2 stabilized; PID = 1.0 ppm

- The soil + soil vapor samples have been collected from Parcels 1, 2 + 4 successfully. Will move to the northern portion of the Site tomorrow.
- The soil samples are on ice, labeled and the metnanol extraction kits have been used.
- Mason jars for head space readings + Geoprobe rods were deco

10/26/16 Addn'l Site Charac. LP

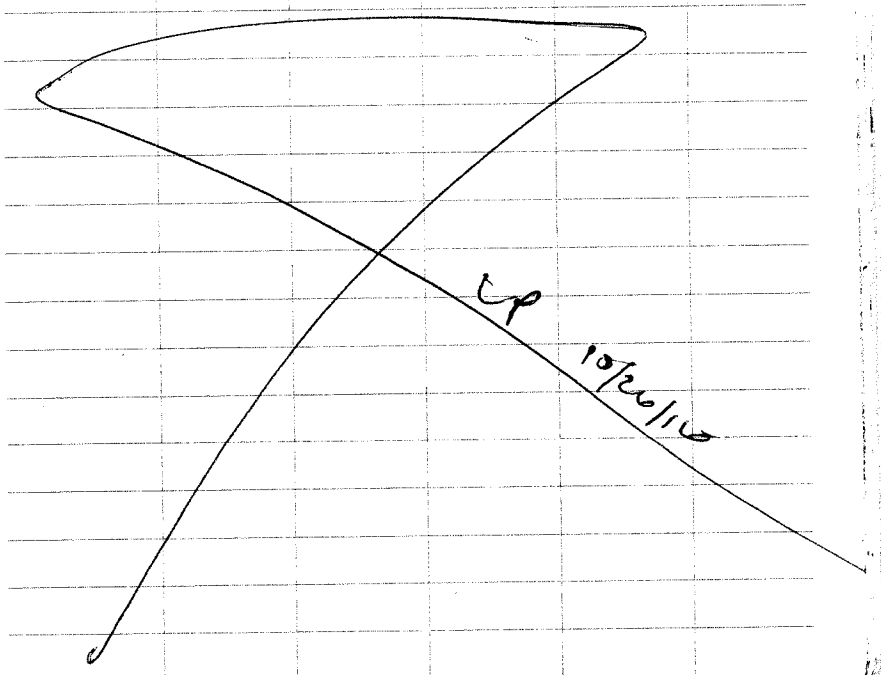
Summary of PID Readings

	Interval (ft)	ppm
SB-11	0-5 =	0.4 ★
	5-10 =	0.1
SB-12	0-5 =	0.2 ★
	5-10 =	0.0
SB-13	0-5 =	1.3 ★
	5-10 =	0.4
	10-15 =	3.5 ★
SB-14	0-5 =	1.3
	5-10 =	28.3 ★
SB-15	0-3 =	0.8
	3-6 =	558 ★
SB-16	0-5 =	1.8
	5-10 =	358 ★
SB-17	0-3 =	0.3
	3-6 =	0.9 ★
SB-18	0-3 =	0.4
	3-6 =	0.8 ★
SB-19	0-5 =	0.7
	5-10 =	44.4 ★
SB-20	0-3 =	0.4
	3-6 =	0.9 ★

★ = Interval the soil sample was collected + submitted to HEAL.

1825 Matt B. on-site. He locks the southern portion of the site and he brings us to the northern portion of the site so Vista can drop off their Geoprobe/trailer.

1900 Gate is locked + INTERA, Vista, + COA off-site. Site is secure



10/27/16 Addn'l Site Charac. LP/MS

October 27, 2016
Sunny, 40's a.m + 70's p.m, breezy
Lynda Price + Matt Sophy

0725 Matt + Lynda on-site + meets Vista Geo + MattB. from the city. MattB opens the gates on the north side of the property for us.

0740 Conduct H + Safety meeting + go over todays objectives.

Objectives: Collect all soil samples from Section 9 + 10 and collect as many soil vapor samples as we can from those locations.

0755 Calibrate the MiniRae PID (Rental from ESP) w/ Isobutylene 100 ppm.

0810 Begin drilling at SB-21 (Parcel 10, E side).

0815 Sample collected SB-21 (0-5)

LP/MS Addn'l Site Charac. 10/27/16

0830 Begin drilling @ SB-22 (Parcel 10, SE)

0835 SB-22 (3-6) collected

0853 Begin drilling @ SB-23 (Parcel 10, central)

0858 SB-23 (0-5) collected.

0915 Begin drilling SB-24 (Parcel 10, SW corner)

0920 SB-24 (0-5) collected

0937 Begin drilling SB-25 (Parcel 10, central N)

0945 SB-25 (0-3) collected

0957 Begin drilling SB-26 (Parcel 10, N)

1002 SB-26 (10-15) collected

1035 Begin drilling SB-27 (Parcel 10, NW)

1038 SB-27 (0-5) collected

1055 Begin drilling SB-28 (Parcel 9&, NE corner)

1057 SB-28 (0-5) collected

10/27/16 Addn'l Site Characterization w/ MS

1120 Begin drilling SB-29 (Parcel 9, NW)
1122 SB-29 (0-5) collected

1138 Begin drilling SB-30 (Parcel 9, southern portion of parcel)
1146 SB-30 (0-5) collected

1200 Lunch break
1235 End of break

1244 Begin drilling SB-31 (Parcel 9, E side)
1250 SB-31 (0-5) collected

1300 Begin drilling @ SB-32 (Parcel 10, Southern border)
1305 SB-32 (0-3) collected

1320 Vista Geoscience begins setting up @ SB-32 to collect a soil vapor sample here SV-32

d/MS Addn'l Site Charac.. 10/27/16

I talked to Eileen and confirmed the SV locations in Parcel 10. We will collect them @:
SB-21; SB-23; SB-27; SB-32

1330 The O_2/CO_2 levels have stabilized and >3 volumes have been purged @ SV-32.
PID = 0.9 ppm

1345 At SB-31 to collect a soil vapor sample SV-31 (Parcel 9)
O_2/CO_2 stabilized, >3 volumes removed.
PID = 1.3 ppm

1410 At SB-30 to collect SV-30

Note Each soil vapor point is pushed to 5' bgs.

1420 CO_2/O_2 levels stable; >3 volumes purged; PID = 1.0 ppm

10/27/10 Addn'l Site Charac. cl/ms

1440 At SB-29 to collect SV-29 O_2/CO_2 levels stable; >3 volumes purged; PID = 1.3 ppm

1510 At SB-28 to drill + collect SV-28 O_2/CO_2 levels stable; > 3 volumes purged; PID = 1.5 ppm

1540 At SB-27 to drill + collect SV-27 O_2/CO_2 levels stable; > 3 volumes purged; PID = 2.7 ppm

1605 At SB-21 to drill + collect SV-21 O_2/CO_2 levels stable; > 3 volm purged; PID = 1.5 ppm

1640 At SB-23 to drill + collect SV-23 O_2/CO_2 levels stable; > 3 volumes purged; PID = 1.6 ppm

Note Vista Geosciences gave INTERA the remaining sorbant tubes. There were 11 total left over.

1700 Parcels 9 + 10 have successfully been sampled - soil + soil vapor. INTERA will drop off soil sample to HEAL first thing in the morning + Vista Geosciences will submit the sorbant tubes.

Summary of PID Results

	Interval	ppm	
SB-21	0-5	5.3	★
	5-10	0.0	
	10-15	0.3	
SB-22	0-3	1.2	
	3-6	2.1	★
SB-23	0-5	0.0	★
	5-10	0.0	
	10-15	0.0	
SB-24	0-3	2.1	★
	3-6	0.0	

10/27/14 Addril Site Charact. cp/ms

	Interval	ppm	
SB-25	0-3	0.4	☆
	3-6	0.0	
SB-26	0-5	0.8	
	5-10	0.0	
	10-15	1.8	☆
SB-27	0-5	1.4	☆
	5-10	0.0	
	10-15	0.0	
SB-28	0-5	0.0	☆
	5-10	0.0	
SB-29	0-5	0.0	☆
	5-10	0.0	
SB-30	0-5	5.0	☆
	5-10	0.0	
SB-31	0-5	1.2	☆
	5-10	0.0	
SB-32	0-3	0.0	☆
	3-6	0.0	

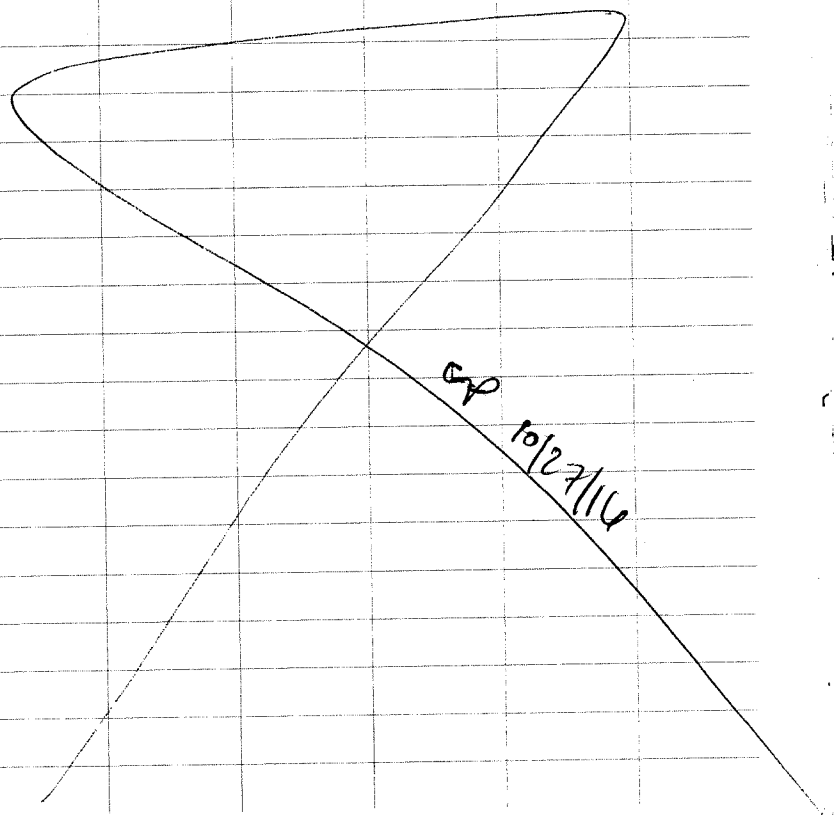
☆ = Indicates the interval that the soil sample was ~~Subm~~ collected + submitted to HEAL.

1715 INTERA calls Matt B. form COA + let him know

cp/ms Addril Site Charac. 10/27/14

we are finished. He's ok w/ us leaving w/out him there. We will dummy lock the gates.

1720 INTERA + Vista Geosciences offsite.



10/31/2016 Sub-Slab Soil Vapor MS/CS

750 MS Soph, CShort on-site
Meet Gabriel (COA) to open N. Gate & S. Gate to railyard
Gabriel is point of contact. He will meet us every day at 0800 & 1700 to open/close gates.

Objective: Install 6 vapor pins in Machine Shop
Collect 6 sub-slab vapor samples from pins in Machine Shop.

Weather: Clear, 60's

0815 TGSM, Calibrate CGI: CO: 100ppm, LEL: 2.5%, H2S: 25ppm, O2: 18ppm
PID: 100ppm isobutylene gas
0830 Mark 6x vapor pin locations.
Phone call to confirm locations w/ E. Murcillo
0845 Set up to install Vapor pin
SV-5-1
↑ ↑ ↑
Soil Vapor Parcel # Sample #
0930 First Location, slab too thick for 5/8" bit, 16" long.
Move North to Train Bay, ~3' deep
Will test w/ small bit first.

10/31/2016 Sub-Slab Soil/Vapor MS/CS

1015 Unable to get through slab in train sump. At least 16-inch thick. Scraphater
Contact E. Murcillo to let her know situation
SK says to go attempt pin install in Boiler room

1114 Successfully instal first vapor pin.
Broke through concrete slab into sand @ 11" bgs
Located in 3rd bay from west in Boiler Room
SV-8-1

Clark goes to scout additional vapor pin locations

1155 Install Vapor Pin #2
In first train sump from west side of build.
SV-8-2

1225 Attempt to drill through slab at ground surface, not in a train sump.
Next to entrance to Tenders Shop, east side of doorway
Cannot penetrate slab, <16" thick

Lunch

10/31/2016 Sub-Slab Soil Vapor MS/CS

1320 Phone call w/ Eiken
- Concrete coring company will be on-site tomorrow at 1200. 1 5/8" core bit is 22" long, if slab is deeper, we will order a longer bit.
- Coring company has 1-½" core to test slab thickness if we can't get through w/ 5/8" bit. Will fill w/ Cement
- Gabriel (COA) to meet us at Wheels Museum at 0800 on Wednesday.
- Current plan, install 2x vapor pins in Tender House

1330 Set up to install Vapor Pin
Concrete slab < 16"
Also, high torque at bottom, possible different material

1345 Set up to install Vapor pin near to office along E. Wall of Tender shop.
<16" Concrete Slab
High torque on bottom

10/31/2016 Sub-Slab Soil Vapor MS/CS

1400 Set up to install Vapor pin in Northern End of Flow Shop

1415 Install Vapor Pin SV-8-3
5-½" of concrete slab (bgs)
Drill vapor well 16" bgs
Mark Location w/ Arrow on Wall (See Photos)

1430 Set up to install vapor pin in Central Flow Shop
SV-8-4
14-½" of slab concrete bgs
Drill Vapor well 16" bgs
Mark Location w/ Arrow on Flow (See Photos)

1500 Set-up to collect soil vapor sample at SV-8-4
Phone call to John Fontana (Vista Geosciences) for confirm to pass 1 vol of air through sorbent tube

Calibrate PID, w/ 100 ppm Isobutylene gas
CGI w/ O_2: 18% CO 10ppm CH_4 LEL: 2.5% H_2S: 25ppm

SV-0804	3CV's = 300 cm^3, 1.5 min @ 200 cc/min

Stabilized Parameters:
CO: 0ppm LEL: 0ppm H_2S: 0ppm O_2: 6.8ppm
PID = 3.2ppm, Vol: 0.9L

10/31/2016 Sub-Slab Soil Vapor MS/CS

Sample collected at 1614

1630 Set-up to collect soil vapor sample at SV-08-03 3 CVs: 301 cm³, 1.5 mm pin, 200mL/min

Stabilized parameters:

CO: 0ppm LEL: 0ppm H_2S: 0.0ppm O_2: 11.1ppm PID: 3.0

Vol: 1.0L

Sample collected at 1652

Samples placed in coolers, no ice

1710 Phone call to Gabriel Rivera (COA)

Confirm he will lock N Gate (1st)

Will meet INTERA at 0800 tomorrow at 1st St. Gate

1717 M Sophy C Sheets off-site

MSoph

11/1/2016 Sub-Slab Soil Vapor MS/FR

0720 M. Sophy, F. Rocker to Home Depot to purchase Shop Vac, Dust Masks, Concrete Patch Materials

0755 M. Sophy, F. Rocker on-site, North end Rail Yard

J. Tracy (INTERA), Gabe Rivera (COA) on-site

- Walk through Blacksmith Shop to site vapor pin locations
- Will set pins 1) SE Corner next to Kiln
  2) W. Side, next to office

0815 J. Tracy, G. Rivera off-site to COA offices to collect building blueprints to determine concrete slab thickness

- M. Sophy, F. Rocker off-site to get fuel for generator

0830 M. Sophy, F. Rocker on-site at Tender Shop

- TGSM

- Set up to concrete P&A 3 failed soil vapor pin locations.

11/1/2016 Sub-Slab Soil Vapor MS/FR

0915 Patching complete
Take photos to document job.

J. Tracy, G. Rivera on-site.
DCE team on-site

- DCE needs to cut lock on powerhouse building to continue LBP, Asbestos survey
- INTERA looking for bolt cutters to open powerhouse.

0950 G. Rivera opens up gate on south side of Machine shop to access Machine Shop

Set-up to PoA 2 failed vapor pin wells.
- Photos to document work - 2x

J. Tracy (INTERA) looking at blueprints to determine slab thickness in Blacksmith shop
- Will mark vapor pin locations for MSoby/F. Roecker to install this AM.

11/11/2016 Sub-Slab Soil Vapor MS/FR

1020 Set-up to install vapor pins in Blacksmith Shop
SV-07-01 w/ Stainless steel flush-mount cap.
Slab 5-½" thick
Well TD = 18" bgs

1040 - J. Tracy on-site at Blacksmith shop.
- He has marked 4 vapor pin locations in Blacksmith shop
- Instructs us to split distance between pilot locations in buildings, where slab is thick. Everywhere else, slab is "6" thick

1050 J. Tracy, M. Soby, F. Roecker ~~walk through~~ MS to Powerhouse
F. Roecker cuts lock on Powerhouse
G. Rivera on-site
- he installs new lock w/ key on Powerhouse
DCE team to enter Powerhouse to sample for LBP + Asbestos

1115 J. Tracy, F. Roecker, M. Soby walk through Machine Shop.
- Mark 6x vapor pin locations.
- Concrete coring company will drill these

11/1/2016 Sub-Slab Soil Vap. MS/FR

holes w/ 5/8" bit to 6" below slab

1145 J. Tracy, M. Sphy, F. Roecker exit Bob's room to mark 4x Vapor pin locations

1200 J. Tracy, M. Sphy, F. Roecker enter Tendard house
- Mark 2x Vapor Pin Locations.

1230 Lunch

1240 Set-up to install SV-07-02
Slab was 7" thick
Vapor well TD = 21" bgs

1250 Set-up to install SV-07-03
Slab thickness 10-1/2"
TD = 21" bgs

1315 Set-up to install SV-07-04
Slab thickness 13"
TD = 21" bgs

11/1/2016 Sub-Slab Soil Vap. MS/FR

1345 Concrete Coring Company on Site
F. Roecker, M. Sphy met CCC at Machine Shop

Phone call w/ E. Mueller
- if we run of drink, Frank + I will start to locate monitoring wells.

1400 CCC Set up to drill 5/8" core on
SV-05-01 Slab 6" thick
SV-05-02 Slab

1430 CCC Set up to drill drop holes, no core w/ water.
E. Mueller is concerned about contaminate to the well

SV-05-01 Slab 6" thick
SV-05-02 Slab 6" thick
SV-05-03 Slab 6" thick
SV-05-04 Slab 6" thick
SV-05-05 Slab 5" thick
SV-05-06 Slab 5" thick

11/1/2016 Sub-Slab Soil Vapor MS/FR

1530 M. Soph takes CCC crew to Bakeshop to continue Hammer Drilling 5/8" holes
F. Roecker cont. drilling 1-1/2" top hole for SV-05-01 → 06 wells

- Set Vapor pins
- Cover w/ Black Plastic caps, Label w/ Black Sharpie

SV-05-01	TD = 21" bgs	
SV-05-02	TD = 21" bgs	
SV-05-03	TD = 21" bgs	
SV-05-04	TD = 21" bgs	
SV-05-05	TD = 21" bgs	
SV-05-06	TD = 21" bgs	

- Plan to let vapor pins equilibrate at least 24-hours before sampling.

1605 M. Soph, F. Roecker to Baker room to check on CCC Crew.

1620 CCC crew has drilled • 4x 5/8" wells in Bake Shop
• 2x 5/8" wells in Tender House

1630 CCC crew off-site.

1640 M. Soph, F. Roeck Set-up to drill 1-1/2" hole in wells in Tender House and set Vapor Pins.

11/1/2016 Sub-Slab Soil Vapor MS/FR

MJ • SV-05-05 Slab = 12", TD = 21" bgs
MJ • SV-05-06 Slab = 12", TD = 21" bgs

↳ Wells have stainless steel caps since building may get new roof (prevent damage)

1715 M. Soph, F. Roecker set-up to drill 1-1/2" hole in Bakeshop, & set Vapor pins

MS	• SV-05-07	Slab = 6"	TD = 21" bgs
MS	• SV-05-08	Slab = 6"	TD = 21" bgs
MJ	• SV-05-09	Slab = 6"	TD = 21" bgs
MJ	• SV-05-10	Slab = 6"	TD = 21" bgs

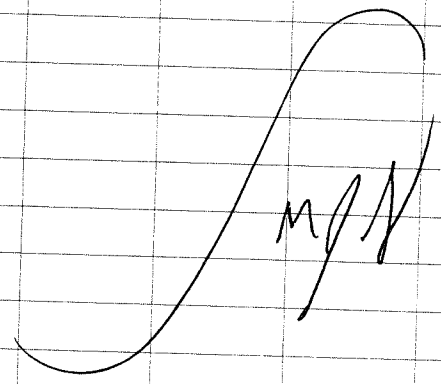
1730 G. River (COA) stops by Bakeshop to let us know the Southern Railyard Gates are Secure, including door on Paint house
- He asks us to Lock 1st Street (North) gate for [illegible] when we leave
- Plan to meet at Wheels museum tomorrow at 0800.

1745 M. Soph, F. Roecker off-site
Call to J. Tracy for update
- Plan to Set Vapor pins in Wheels Museum in AM sample in PM, or 24-hours later.

11/1/2016 Sub-Slab Soil Vapor MS/FR

Summary: 20 Vapor Pins installed (4x Stainless Caps - Blacks, 20 Stainless Tender Vest and Plastic Caps)
2 Vapor Pins sampled, set-01
Will install 3x Vapor Pins @ Wheels Museum tomorrow

- Used Shop Vac to Remove Dust From Vapor wells while drilling
- Wore Dust Masks to Protect Breathing Zone
- Generator capable of powering Vac & Drill at Same Time
- If Vapor pin silicon sleeve is not properly sealing, more sleeve may be taken bottom of pin. It slides up, along pin during install & seals properly.
- Sharpie marker used to Label Vapor Pin Caps.



11/2/2016 Sub-Slab Soil Vapor MS/FR

0755 M. Sophy FRoecker on-site
Weather: Sunny, 50°F.
Objective: 1) Install 3x vapor pins in the Storehouse at Wheels Museum
2) Begin sampling vapor pins, starting in Boilerhouse, then Blacksmith Shop

0800 G. Rivera (COA) on-site

0815 M. Sophy FRoecker set-up to install 3x Vapor pins in Wheels Museum (Storehouse)

0845 J. Tracy (INTERA) on-site to confirm vapor pin locations

-TGSM

0900 Set-up to install SV-03-01, in closet behind stairs
Slab 6" thick
TD = 21" bgs
Cover w/ Stainless steel cap.

0920 Set-up to install SV-03-02

11/2/2016 Sub-Slab Soil Vapor MS/FR

cont - SV-03-02 located in 1st Large Room when walking South from Wheels of museum
Located in SE Corner
Slab 7" thick
TD = 21" bgs
- Cov w/ stainless steel cap

0940 Set-up to install SV-03-03
located in 2nd Large room when walking South from Wheels museum
· 1 room South from SV-03-02
· Located in SE corner of room
Slab 6" thick
TD = 21" bgs

0955 Clean-up equipment in Wheels Museum
Will return tomorrow morning at 0800 to collect vapor samples
G. Rivera off-site, J. Tracy offsite

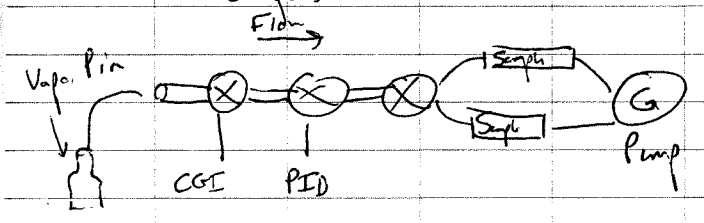
0000 M. Soghy, FRoecker to Blacksmith shop to collect soil vapor samples
· J. Tracy calls to confirm sampling @ Wheels Museum

11/2/2016 Sub-Slab Soil Vapor MS/FR

1010 G. Rivera meets M. Soghy, F. Roecker at Blacksmith shop to open lock
G. Rivera off-site

1030 · Calibrate PID & w/ 100ppm Isobutylene Gas
· Calibrate CGI w/ O_2 18 ppm, LEL 2.5%, H_2S 25 ppm CO 100 ppm

· Build Valving & Tubing for ~~Sub-Slab~~ soil Vapor



1100 Set-up to collect sample at SV-07-01
3 CV's = 346 cm³
Stabilized parameters:
PID: 82.6 ppm, CO: 0 ppm LEL: 0%, H_2S: 0.0 ppm O_2: 11.4 ppm
Sample collected at 1135
Vol: 1.0L

· PID readings was high, but consistent, checked w/ rental PID, read 0 ppm.

11/2/2016 Sub-Slab Soil Vapor MS/FR

- Phone call to E. Mucilli
  - She says to use rental PID from now on.
- Calibrate rental PID w/ 100ppm Isobutylene Gas

1200 Lunch

F. Roecker off-site to INTERA office for supplies

1220 ~~1240~~ Set-up to collect sample at SV-07-02
3CV's: 346 cm³
Stabilized parameters:
PID: 1.6ppm, CO: 0ppm, LEL: 0%, H2S: 0.0ppm
O2: 12.1 ppm, Vol: 1.0L
Sample collected at 1232

1240 F. Roecker on-site
Set up to collect vapor sample at ~~SV-07-03~~ SV-07-01 MS
3CV's: 346 cm³
Stabilized Parameter
PID: 1.5ppm, CO: 0ppm, LEL: 0ppm, H2S: 0.0 ppm
O2: 14.0ppm, Vol: 1.0L
Sample Collected at 1259

1300 Set-up to collect vapor sample at SV-07-03
3CV's: 346 cm³
Stabilized Parameters:

11/2/2016 Sub-Slab Soil Vapor MS/FR

cont: Stabilized parameters
PID: 1.7ppm, CO: 0ppm, LEL: 0%, H2S: 0.0ppm
O2: 14.0ppm, Vol: 1.0L
Sample collected at 1321

1330 Lock-up Blacksmith Shop
Move to Tender Shop

1340 Set-up to collect soil vapor sample at SV-08-05
3CV's: 346 cm³
Stabilized parameters:
PID: 2.0ppm, CO: 0ppm, LEL: 0%, H2S: 0.0ppm
O2: 13.5 ppm, Vol: 1.0L
Sample Collected at 1352

1400 Set up to collect soil vapor sample at SV-08-06
3CV's: 346cm³
Stabilized Parameters: H2S
PID: 2.0ppm, CO: 0ppm, LEL: 0%, ~~H2S~~: 0.0ppm
O2: 11.0ppm, Vol: 1.0L
Sample Collected at 1415

1430 Set up to Collect SV sample at SV-08-02

11/2/2016 Sub-Slab Soil Vapor MS/FR

SV-08-02

cont: 3CV's: 346 cm³

Stabilized Parameters:

PID: —, CO: 0ppm, LEL: 0%, H_2S: 0.0ppm

O_2: 14.4ppm, Vol: 1.0L

Sample collected at 1450

- Note: low flow from well caused PID pump to stall. Stabilized O_2 readings indicated well was purged, therefore no PID reading taken.

1450 Set-up to collect SV sample at SV-08-01

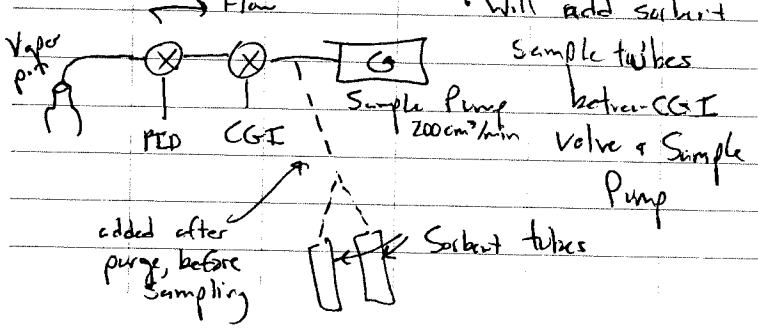
3CV's 346 cm³

Not able to get enough flow for well, PID pump stalls out.

- Phone call w/ E. Marolla

Plan to use sample pump to pull from well while sampling PID, CGI on side outlet valves.

Will add sorbent sample tubes between CGI valve & Sample Pump



11/2/2016 Sub-Slab Soil Vapor MS/FR

1330 Ream MS Pull vapor pin

Ream out 5/8" hole

Set Pin

Will let well sit for 24-hours prior to sampling

1600 Set-up to collect SV sample at SV-08-09

3CV's: 346 cm³

Stabilized Parameters:

PID: 1.4 ppm, CO: 0ppm, LEL: 0%, H_2S: 0.0ppm

O_2: 12.8ppm, Vol: 0.8L

Sample collected at 1636

1640 Set-up to collect SV sample at SV-08-10

3CVs: 346 cm³

Stabilized parameters:

PID: 41.2ppm, CO: 0ppm, LEL: 0%, H_2S: 0.0ppm

O_2: 13.7 ppm Vol: 0.8L

Sample Collected at 1656

1710 Secure Gate to Tender Shop @ N. Railyard Entrance (1st Street)

1715 M. Spry, F. Rooker offsite

11/3/2016 Sub-Slab Soil Vapor MS/FR

0755 M. Soph, FRoeder on-site at Wheels Museum
Met Anne to access Museum to Soph
3x Vapor Pin Locations

PID: 100ppm isobutylene eq
- TGSM, Calibrite CGI: H_2S: 25ppm, CO: 100ppm, (LEL: 2.5%, O_2: 18%)
- Objective: Continue collecting Soil Vapor Samples from 12 remaining vapor pin locations.
  - Start in Wheels Museum (3x)
  - Move to Machine Shop (6x)

0820 Set-up to collect soil vapor sample at SV-03-01
3 CVs: 346 cm^3 (1 min 45 sec purge) at 0.2 L/min

Stabilized Parameters:
PID: 0.0ppm, CO: 0ppm, LEL: 0%, H_2S: 0.0ppm
O_2: 20.0ppm, Vol: 0.8L

- Sample Collected at 0941

0840 Phone call to E. Marcelle to inform her of relatively higher O_2 readings in Wheels Museum than other Locations.

11/3/16 Sub-Slab Soil Vapor MS/FR

- We see ~16.0ppm O_2 on the vapor wells SV-03-01 & SV-03-03, but ~20.9ppm O_2 in ambient air. The consistent decrease indicates no fresh-air intrusion of samples

0850 Set-up to collect soil vapor sample at SV-03-03
3 CVs: 346mL or 1min 45sec at 0.2L/min
Stabilized Parameters:
PID: 0.0ppm; CO: 0ppm H_2S: 0.0ppm, LEL: 0%
O_2: 17.5ppm Vol: 0.6L
Sample collected at 0910

0910 Set-up to collect soil vapor sample at SV-02-01
3-CVs: 346mL or 1min 45sec at 0.2L/min
Stabilized parameters:
PID: 0.0ppm, CO: 0ppm, LEL: 0%, H_2S: 0.0ppm
O_2: 16.4ppm, Vol: 0.6L
Sample collected at 0926.

0925 Return to collect Sample (Soil Vapor) at SV-01-01
- Perform 3CV purge
- See Stabilized Parameters on Facing Page.

11/3/16 Sub Slab Soil Vapor MS/FR

1010 Met w/ G. Rivera, he opens N. Gate (1st St)

1015 Scout for monitoring wells, located:
MW-6
MW-8
MW-7
Could not locate MW-09 (possibly buried)

1020 Set-up to Called SV sample at SV-08-07
3CV's: 346mL or 1min 45sec purge at 0.2L/min
Stabilized Parameters:
PID: 0.9ppm, CO: 0ppm, LEL: 0%, H_2S: 0.0ppm
O_2: 7.8 ppm, Vol: 0.6L
Sample Collected at: 1041

1045 Set-up to collect SV sample at SV-08-08
3CV's: 346mL or 1min 45sec purge at 0.2L/min
Stabilized parameters
~~mg~~ PID: ~~0.9ppm~~, CO: ~~0ppm~~, LEL: ~~0%~~, H_2S: ~~0.0ppm~~
~~O_2:~~
PID: 0.7ppm, CO: 0ppm, LEL 0%, H_2S: 0ppm
O_2: 3.6ppm, Vol: 0.6L
Sample Collected at: 1105

11/3/16 Sub-Slab Soil Vapor MS/FR

10

1115 Set-up to collect soil vapor sample at SV-08-01
- reamed well yesterday to check for blockage since the low flow stalled out the PID pump.
- re-set pin w/ new silicon sleeve.
3CV's: 346mL or 1min 45sec at 0.2L/min
Stabilized Parameters
PID: 1.5ppm, CO: 0ppm, LEL: 0%, H_2S: 0.0ppm
O_2: 15.5ppm, Vol: 0.8L
Sample collected at: ~~1130~~ MS 1131

1200 M. Sophy, E. Roecker checking for Monitoring wells on South side of Railyard
- Located: MW-02, riser bend, PVC bent (scephoto)
MW-01, possibly mislocated or mgp found well riser (same type as others) on East Side of Building (scephoto)
MW-03
MW-04
MW-05

1230 Lunch in Machine Shop
1245 Phone call w/ E. Mirallo

11/3/16 Sub-Slab Soil Vapor MS/FR

cont: Phone call w/ E. Marcille
M. Soth, F Roecker to conduct GW sampling on 9 MW's at Railyard Terminal
E. Marcille will confirm this w/ G. Rivera (COA)

1300 Set-up to collect soil vapor sample at SV-05-01
3CV's: 346mL, 1min 45sec purge at 0.2L/min
Stabilized Parameters:
PID: 1.1ppm, CO: 0ppm, LEL: 0%, H_2S: 0.0ppm
O_2: 7.8ppm, Vol: 0.6L
Sample Collected at 1322

F Roecker set up to plug & Abandon 2x core wells drilled in machine Shop w/ Concrete Mix

1325 Set up to collect soil vapor sample at SV-05-02
3CV's: 346mL, 1min 45 sec
Stabilized Parameters:
PID: 0.9ppm, CO: 0ppm, H_2S: 0.0ppm LEL: 0%
O_2: 0.4ppm, Vol: 1.0L
Sample Collected at 1342

11/3/16 Sub-Slab Soil Vapor MS/FR

1345 Set up to collect soil vapor sample at SV-05-03
3CV's: 346mL or 1min 45 sec purge at 0.2L/m
Stabilized Parameters
PID: 0.7ppm, CO: 0ppm LEL: 0%, H_2S: 0ppm
O_2: 12.6ppm, Vol: 1.0L
Sample Collected at 1410

1415 Set up ~~takeoff~~ M³ to collect soil vapor sample at SV-05-04
3CV's: 346mL or 1min 45 sec purge at 0.2L/min
Purge for 3min, Vol: 1.0L
Stabilized Parameters:
PID: 0.9ppm, CO: 0ppm, LEL: 0%, H_2S: 0.0ppm
O_2: 0.0ppm
Sample collected at 1428

1435 Set up to collect soil vapor sample at SV-05-05
3CV's: 346mL or 1min 45sec purge at 0.2L/m
Stabilized Parameters
PID: 0.9ppm, CO: 0ppm, LEL: 0%, H_2S: 0.0ppm
O_2: 0.0ppm, Vol: 0.6L
Sample Collected at 1442

11/3/16 Sub-Slab Soil Vapor MS/FR

1450 Set up to collect soil vapor sample at SV-05-06

3 CV's: 346mL = 1min 45 sec purge at 0.2L/min rate

Stabilized Parameters:

PID: 0.9ppm, CO: 0ppm, LEL: 0%

H_2S: 0.0ppm, O_2: 1.8ppm, 0.6L

Sample Collected at 1506

1500 Sort out samples by parcel #.

10x Parcel 8: Boiler Shop, Tender Shop, Fire Shop

SV-08-01 SV-08-06

SV-08-02 SV-08-07

SV-08-03 SV-08-08

SV-08-04 SV-08-09

SV-08-05 SV-08-10

6x Parcel 5: Machine Shop

SV-05-01 SV-05-03 SV-05-05

SV-05-02 SV-05-04 SV-05-06

3x Parcel 13: Storehouse (Wheels Museum)

SV-03-01, SV-03-02, SV-03-03

4x Parcel 7: Blacksmith Shop

SV-07-01 SV-07-03

SV-07-02 SV-07-04

11/3/16 Sub-Slab Soil Vapor MS/FR

1530 Text to E. Marello (JTrans) confirming that Sub-Slab Soil Vapor Sampling is complete

1535 Phone call to G. Rivera (COA) to confirm work complete.

M. Butkus (COA) will open gates at 1st St (N. Side) to give INTERA access for GW Sampling.

1540 M. Saghy, E. Loecke off-site

Summary:

- Installed 23x vapor pins to collect sub-slab soil vapor samples
- Collected 23x soil vapor samples in 4 parcel locations at the railyard - list on facing page.
- Sample (sorbent tubes) sampled at 200 cm^3/min for 5 min (1L)
- Test for TO-17 Suite

MSH

11/4/16 GW Sampling MS/FR

0755 M Soph, F. Rocker on-site
N. Gate open, pull in near site of MW-09

- TGSM

- Weather: overcast, rain, 55°F.
- Objective: 1) Gauge/Locate 9 MW's
2) Gauge DTW, DTB in MW's
3) GW Sample for VOC's 8260
EDB 504.1

0805 M. Butkus (COA) on-site.
He will open South Gate near Wheels museum for GW sampling.

0810 - F. Rocker attempts to locate MW-09
- after using metal detector & shovel for 20 min, NO well found
- will not gauge/sample this well
- Calibrate Oakton pc450 Water Quality Meter pH: 4, 7, 10 Spec Cond: 1413 µS-cm

0830 - Begin gauging DTW/DTB using properly decontaminated Solinst O.I/Water interface probe & EnviroSupply Water Level Meter
- Will Gauge wells on N. Side of Site, then sample to get out of way of filming crew.

11/4/16 GW Sampling MS/FR

← [ft bTOC(N)] →

Well ID	DTP	DTW	DTB	Notes
MW-09				Not located
MW-08	—	26.16	46.11	0839; 4", J-Plug OK
MW-06	—	29.44	49.28	0832; 2"; J-Plug OK
MW-07	—	26.74	44.85	0847; 2"; J-Plug OK
MW-02	—	19.10	41.34	1245; 2"; Needs New J-Plug
MW-01	—	22.65	44.16	1002; 2"; J-Plug OK
MW-03	—	24.33	44.75	1008; 2"; J-Plug OK
MW-04	—	25.37	44.48	1015; 2"; J-Plug OK
MW-05	—	26.52	46.16	1024; 2"; Needs J-Plug

0850 - Completed gauging of wells on north side of site.
- Plan to collect GW samples of n. side wells to stay clear of film crew.

0855 Set-up to Collect GW sample at MW-07
- 3 CV: 9.2 gal
- Stabilized Parameters:
pH: ~~4.41~~ 7.17; Temp: 18.6°C; SpecCond: 829.2 µS-cm
Vol: 9.3 gal
Sample Collected at 0912

11/4/16 MJ — GW Sampling — MS/FR

0920 Setup to collect GW Sample at MW-06
- 3 CV's: 11.4 gal
- Stab. Parameters:
  Temp: 17.9°C; pH: 7.28; Spec Cond: 883.2 µs-cm
  Vol: 11.5 gal
- Sample collected at 0947

0950 Will head to south side of site to gauge MW's, specifically to check casing diameters. If any 4" wells, we will get larger bailers from office

1030 - Gauging of all wells complete except MW-02. This well casing riser is damaged. We will return later today to repair, access, gauge, sample, t
- M. Soply, F. Boecker off-site to get ice

1045 Set-up to collect GW Sample at MW-08
- 3 CVs: 39.6 gal
- Stab. Parameters:
  Temp: 18.8°C, pH: 7.17; Spec Cond: 951.9 µs-cm
  Vol: 40 gal
  Sample collected at 1145

11/4/16 MJ — GW Sampling — MS/FR

1200 Move to South Side of site
Lunch

1215 MW-02 riser pipe is bent & cement skirt is sticking up
Break off concrete around riser
Remove riser
Cut PVC casing (2") to ground level
INTERA will replace surface completion at a later date (E. Marcillo)

1245 Setup to ~~collect~~ gauge water level in MW-02
- Set up to collect GW sample at MW-02
  - 3 CV's: 11.4 gal
  - Stabilized parameters:
    Temp: 18.5°C, pH: 7.74, Spec. Cond: 667.2 µs-cm
    Vol: 12.0 gal
    Sample collected at 1310

1315 Set up to collect GW sample at MW-01
- 3 CV's: 11.1 gal
- Stabilized parameters:
  Temp: 18.7°C, pH: 7.42; Spec Cond: 996.0 µs-cm
  Vol: 11.5 gal
  Sample collected at 1335

11/4/16 MS — GW Sampling — MS/FR

1340 Set up to collect GW sample at MW-03
- 3CV's: 10.5 gal
- Stabilized parameters:
  Temp: 19.0°C, pH: 7.31, Spec Cond: 671.2 µs/cm
  Vol: 11.0 gal
  Sample collected at 1402

1410 Set up to collect GW sample at MW-04
- 3CV's: 9.6 gal
- Stabilized parameters:
  pH: 7.18, Temp: 18.6°C, Spec Cond: 930.5 µs/cm
  Vol: 10.5 gal
  Sample collected at 1427.

1435 Set up to collect GW sample at MW-05
- 3CV's: 9.9 gal
- Stabilized parameters:
  Temp: 18.6°C, pH: 7.05; Spec Cond: 819.5 µs-cm
  Vol: 11.0 gal
  Sample collected at 1500

1510 Decon all equipment.
Place GW Samples in Cooler w/ Ice.

11/4/16 MS — GW Sampling — MS/FR

- Notes:
  - MW-08 has 4" casing and well vault will not properly close due to PVC casing and J-Plug. Recommend trimming PVC casing
  - MW-02 needs new surface completion well is currently exposed as PVC casing cut ~1 ft bgs. J-Plug is taped into place to prevent debris/water entering well. Left 2-Parking cones around well for protection.
  - MW-05 needs a J-Plug (missing)

1515 M. Suply, FRoeckle off-site.

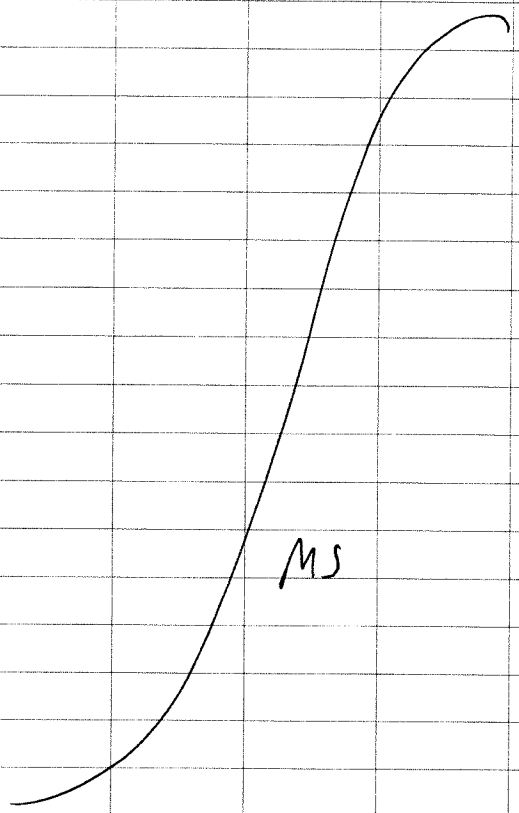
Summary:
- Located 8 of 9 MW's (MW-09 missing)
- Gauged fluid levels / total depth in 8 wells
- Sampled 8 wells for groundwater
  - 8260 (VOC's) - unfiltered
  - 504.1 (EDB) - unfiltered
- Purged wells 3x Casing Volume + confirmed Stabilization of Water Quality Parameters before sampling.

11/4/16 GW Sampling MS/FR

MJ

cont:

- All purged fluds spread on impermeable surface to evaporate



Vista GeoScience — FIELD SERVICES DRILLING REMEDIATION LOG

Use 24-hour clock for time. Fill out at end of each probe hole entry. Number holes based on clients description of the location. Start with a new sheet for each day. Note operators and change of operator. **Include all PID/Landtec/FID readings etc...**

Date: 10/27/16 **Day #:** 4 **Page #:** 1 **of** _____ **Project #:** 16117.01

Client: Intera **Project Name:** CoA Railway

START TIME	END TIME	LOCATION#	ACTIVITY DESCRIPTION	READINGS
0727			on Site / Setup / Safety Meeting / DT 22 sampling	
0807	0824	SB-21	(0-5)(5-10)(10-15); pull & backfill w/ Bentonite chips; Decon	
0808	0838	SB-22	(0-6); pull & backfill; Decon	
0848	0910	SB-23	(0-5)(5-10)(10-15); backfill & pull; Decon	
0914	0922	SB-24	(0-6); pull & backfill; Decon	
0938	0948	SB-25	Drill Steel (0-6); [redacted] pull & backfill; Decon	
0955	1009	SB-26	(0-5)(5-10)(10-15); pull & backfill; Decon	
1030	1047	SB-27	(0-5)(5-10)(10-15); pull & backfill; Decon	
1053	1107	SB-28	Drill Steel (0-5)(5-10); pull & backfill; Decon	
1114	1131	SB-29	Drill Steel (0-5)(5-10); pull & backfill; Decon	
1138	1149	SB-30	(0-5)(5-10); pull & backfill; Decon	
			Client had to run to get more Sampling jars	
1243	1251	SB-31	(0-5)(5-10); pull & backfill; Decon; [redacted]	
1254		SB-32	(0-6); pull & backfill; Decon; Setup Soil gas equipment	
	1343	SV-32	DPT 1.5" to 5'; pull to 4'; purge & Sample; pull & backfill	
1349	1407	SV-31	DPT 1.5' to 5'; pull to 4'; purge & Sample; pull & backfill	
1414	1441	SV-30	DPT 1.5" to 5'; pull to 4'; purge & Sample; pull & Backfill	

Operator Initials: [redacted] (Required) Bent: 1111

10) 21, 23, 27, 32
9) 31, 34, 28, [redacted]

130 Capital Drive, Suite C Golden, CO 80401 (303) 277-1694; Fax: (303) 278-0104

Vista GeoScience — FIELD SERVICES DRILLING REMEDIATION LOG

Use 24-hour clock for time. Fill out at end of each probe hole entry. Number holes based on clients description of the location. Start with a new sheet for each day. Note operators and change of operator. **Include all PID/Landtec/FID readings etc...**

Date: 10/27/16 Day #: 4 Page #: 2 of _____ Project #: 16117.01

Client: Intera Project Name: CCA Railway

START TIME	END TIME	LOCATION#	ACTIVITY DESCRIPTION	READINGS
1444	1505	SU-29	DPT 1.5" to 5'; pull to 4'; purge & Sample; pull & backfill	
1510	1535	SU-28	DPT 1.5" to 5'; pull to 4'; purge & Sample; pull & backfill	
1540	1604	SU-27	DPT 1.5" to 5'; pull to 4'; purge & Sample; pull & backfill	
1612	1638	SU-21	DPT 1.5" to 5'; pull to 4'; purge & Sample; pull & backfill	
1643	1704	SU-23	DPT 1.5" to 5'; pull to 4'; purge & Sample; pull & backfill	
			Cleanup	

Operator Initials: JR Brt: 1

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Vista GeoScience
130 Capital Drive, Suite C
Golden, CO 80401-5654
Phone: 303-277-1694
Fax: 303-278-0104

PAGE:	7 OF
DATE / TIME:	10/27/16
PROJECT:	6117.01
JOB NO. :	
REC / SAMP BY:	

SOIL-VAPOR SAMPLING FORM

WELL/LOC. NO. :	WELL TYPE:	☐ Monitor	☐ Extraction	☑ PRT Sys.	☐ Other
	WELL MATERIAL:	☐ PVC	☑ Poly / Implant	☐ Teflon	☐ Other

WELL OR PRT PURGING & SAMPLING LOG

PURGE VOLUME
Casing/Tubing Inner Diameter:
☑ 1/4-inch ☐ 1/2-inch ☐ 3/4-inch ☐ 1-inch
☐ Other _____
Total Length of Tubing/Casing: 7'
Number of Well Volumes to be Purged (# Vols): 3

PURGING METHOD
☑ Landtec
☐ Peristaltic pump
☐ Other - Type: _____
Well Depth: _____

PURGE VOLUME CALCULATION: (Tubing Volume/ft x length) **X** (# Purge Volumes) = 204 CC or Liters
(Refer to Tubing / Hole Volume Table)

PURGE TIME
SV-32 1327 START 1331 STOP _____ ELAPSED
SV-31 1355 1357

PURGE RATE
Initial 200 L/pm Final 200 L/pm
200 200

ACTUAL PURGE VOLUME
_____ Liters

FIELD PARAMETER MEASUREMENT

	Time	Minutes	FLOW	Vacuum	PID	FID	CH4	CO2	O2	Bal		
	00:00		L/min		ppm	ppm	%	%	%	%		
SV-32	1330		200		0.9	—	0	3.3	16.3	80.4		
SV-31	1357		200		1.3	—	0	6.0	13.1	80.9		

Observations/Note:

SAMPLE COLLECTION

SAMPLE CONTAINER TYPE
☐ Tedlar Bag ☑ Sorption Tubes ☐ Summa Canister ☐ Septum Bottle

SAMPLES Sample Series: _____

Sample/Location ID		Contain ID		Date	Time	Depth	Volume			Comments	
SV-32-A		G016	4984	10/27	1336	4-5'	1L				
SV-32-B		G017	7478	10/27	1336	4-5'	1L				
SV-31-A		H020	0236	10/27	1403	4-5'	1L				
SV-31-B		M110	2989	10/27	1403	4-5'	1L				

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Golden, CO 80401-5654
Phone: 303-277-1694
Fax: 303-278-0104

PAGE:	9 OF
DATE / TIME:	10/27/16
PROJECT:	16117.01
JOB NO. :	
REC / SAMP BY:	

SOIL-VAPOR SAMPLING FORM

WELL/LOC. NO. :	WELL TYPE:	☐ Monitor	☐ Extraction	☑ PRT Sys.	☐ Other
	WELL MATERIAL:	☐ PVC	☑ Poly / Implant	☐ Teflon	☐ Other

WELL OR PRT PURGING & SAMPLING LOG

PURGE VOLUME
Casing/Tubing Inner Diameter:
☑ 1/4-inch ☐ 1/2-inch ☐ 3/4-inch ☐ 1-inch
☐ Other _____
Total Length of Tubing/Casing: 7'
Number of Well Volumes to be Purged (# Vols): 3

PURGING METHOD
☑ Landtec
☐ Peristaltic pump
☐ Other - Type: _____
Well Depth: _____

PURGE VOLUME CALCULATION: (Tubing Volume/ft x length) **X** (# Purge Volumes) = 204 CC or Liters
(Refer to Tubing / Hole Volume Table)

PURGE TIME
SU-28 1518 START 1520 STOP _____ ELAPSED
SU-27 1547

PURGE RATE
Initial 200 / 200 L/pm Final 200 / 200 L/pm

ACTUAL PURGE VOLUME
_____ Liters

FIELD PARAMETER MEASUREMENT

	Time	Minutes	FLOW	Vacuum	PID	FID	CH4	CO2	O2	Bal		
	00:00		L/min		ppm	ppm	%	%	%	%		
SU-28	1520		200		1.5	–	0	8.5	11.3	80.1		
SU-27	1549		200		2.7	–	0	6.4	12.5	81.1		

Observations/Note:

SAMPLE COLLECTION

SAMPLE CONTAINER TYPE
☐ Tedlar Bag ☑ Sorption Tubes ☐ Summa Canister ☐ Septum Bottle

SAMPLES Sample Series: _____

Sample/Location ID		Contain ID		Date	Time	Depth	Volume			Comments	
SU-28-A		1100	863	10/27	1526	4-5'	1L				
SU-28-B		1100	880	10/27	1526	4-5'	1L				
SU-27-A		1049	249	10/27	1555	4-5'	1L				
SU-27-B		6016	8290	10/27	1555	4-5'	1L				

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Phone: 303-277-1694
Fax: 303-278-0104

PAGE:	10 OF
DATE / TIME:	10/27/16
PROJECT:	16117.01
JOB NO. :	
REC / SAMP BY:	

SOIL-VAPOR SAMPLING FORM

WELL/LOC. NO. :	WELL TYPE:	☐ Monitor	☐ Extraction	☑ PRT Sys.	☐ Other
	WELL MATERIAL:	☐ PVC	☑ Poly / Implant	☐ Teflon	☐ Other

WELL OR PRT PURGING & SAMPLING LOG

PURGE VOLUME
Casing/Tubing Inner Diameter:
☑ 1/4-inch ☐ 1/2-inch ☐ 3/4-inch ☐ 1-inch
☐ Other _____
Total Length of Tubing/Casing: 7'
Number of Well Volumes to be Purged (# Vols): 3

PURGING METHOD
☑ Landtec
☐ Peristaltic pump
☐ Other - Type:_____

Well Depth: _____

PURGE VOLUME CALCULATION: (Tubing Volume/ft x length) **X** (# Purge Volumes) = 204 CC or Liters
(Refer to Tubing / Hole Volume Table)

PURGE TIME
SV-21: 1616 START 1619 STOP _____ ELAPSED
SV-23: 1649 1652

PURGE RATE
Initial 200 200 L/pm Final 200 200 L/pm

ACTUAL PURGE VOLUME
_____Liters

FIELD PARAMETER MEASUREMENT

	Time	Minutes	FLOW	Vacuum	PID	FID	CH4	CO2	O2	Bal		
	00:00		L/min		ppm	ppm	%	%	%	%		
SV-21	1619		200		1.5	–	0	15.6	1.6	82.8		
SV-23	1652		200		1.6	–	0	9.8	4.4	85.8		

Observations/Note:

SAMPLE COLLECTION

SAMPLE CONTAINER TYPE
☐ Tedlar Bag ☑ Sorption Tubes ☐ Summa Canister ☐ Septum Bottle

SAMPLES Sample Series:_____

Sample/Location ID		Contain ID		Date	Time	Depth	Volume			Comments	
SV-21-A		H0199	664	10/27	1624	4-5'	1L				
SV-21-B		G016	3271	10/27	1624	4-5'	1L				
SV-23-A		H0200	288	10/27	1657	4-5'	1L				
SV-23-B		H019	4654	10/27	1657	4-5'	1L				

Appendix B

Laboratory Analytical Report for Soil

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

November 22, 2016

Joseph Tracy

Intera, Inc.
6000 Uptown Boulevard, NE Suite 220
Albuquerque, NM 87110
TEL: (505) 246-1600
FAX (505) 246-2600

RE: COA Railyards OrderNo.: 1610E23

Dear Joseph Tracy:

Hall Environmental Analysis Laboratory received 33 sample(s) on 10/28/2016 for the analyses presented in the following report.

This report is a revised report and it replaces the original report issued November 15, 2016.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. All samples are reported as received unless otherwise indicated.

Please don't hesitate to contact HEAL for any additional information or clarifications.

Sincerely,

Andy Freeman

Laboratory Manager

4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Intera, Inc. **Client Sample ID:** SB-1 (9-10)
Project: COA Railyards **Collection Date:** 10/24/2016 3:10:00 PM
Lab ID: 1610E23-001 **Matrix:** MEOH (SOIL) **Received Date:** 10/28/2016 10:11:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: **TOM**	
Diesel Range Organics (DRO)	8.6	1.8	9.7	J	mg/Kg	1	11/1/2016 2:57:59 PM	28372
Motor Oil Range Organics (MRO)	ND	49	49		mg/Kg	1	11/1/2016 2:57:59 PM	28372
Surr: DNOP	98.4	0	70-130		%Rec	1	11/1/2016 2:57:59 PM	28372
EPA METHOD 8310: PAHS							Analyst: **SCC**	
Naphthalene	ND	0.035	0.25		mg/Kg	1	11/6/2016 5:04:33 PM	28374
1-Methylnaphthalene	ND	0.037	0.25		mg/Kg	1	11/6/2016 5:04:33 PM	28374
2-Methylnaphthalene	ND	0.035	0.25		mg/Kg	1	11/6/2016 5:04:33 PM	28374
Acenaphthylene	ND	0.034	0.25		mg/Kg	1	11/6/2016 5:04:33 PM	28374
Acenaphthene	ND	0.031	0.25		mg/Kg	1	11/6/2016 5:04:33 PM	28374
Fluorene	ND	0.0033	0.030		mg/Kg	1	11/6/2016 5:04:33 PM	28374
Phenanthrene	ND	0.0016	0.015		mg/Kg	1	11/6/2016 5:04:33 PM	28374
Anthracene	ND	0.0024	0.015		mg/Kg	1	11/6/2016 5:04:33 PM	28374
Fluoranthene	ND	0.0033	0.020		mg/Kg	1	11/6/2016 5:04:33 PM	28374
Pyrene	ND	0.0034	0.025		mg/Kg	1	11/6/2016 5:04:33 PM	28374
Benz(a)anthracene	ND	0.00050	0.010		mg/Kg	1	11/6/2016 5:04:33 PM	28374
Chrysene	ND	0.0014	0.010		mg/Kg	1	11/6/2016 5:04:33 PM	28374
Benzo(b)fluoranthene	ND	0.00071	0.010		mg/Kg	1	11/6/2016 5:04:33 PM	28374
Benzo(k)fluoranthene	ND	0.00040	0.010		mg/Kg	1	11/6/2016 5:04:33 PM	28374
Benzo(a)pyrene	ND	0.00040	0.010		mg/Kg	1	11/6/2016 5:04:33 PM	28374
Dibenz(a,h)anthracene	ND	0.00050	0.010		mg/Kg	1	11/6/2016 5:04:33 PM	28374
Benzo(g,h,i)perylene	ND	0.00060	0.010		mg/Kg	1	11/6/2016 5:04:33 PM	28374
Indeno(1,2,3-cd)pyrene	ND	0.00080	0.010		mg/Kg	1	11/6/2016 5:04:33 PM	28374
Surr: Benzo(e)pyrene	42.3	0	27.4-110		%Rec	1	11/6/2016 5:04:33 PM	28374
EPA METHOD 6010B: SOIL METALS							Analyst: **MED**	
Antimony	ND	0.98	2.4		mg/Kg	1	10/31/2016 11:04:42 AM	28363
Arsenic	3.4	0.87	2.4		mg/Kg	1	10/31/2016 11:04:42 AM	28363
Chromium	5.7	0.092	0.29		mg/Kg	1	10/31/2016 11:04:42 AM	28363
Iron	8800	37	120		mg/Kg	50	10/31/2016 1:30:42 PM	28363
Lead	4.7	0.17	0.24		mg/Kg	1	10/31/2016 11:04:42 AM	28363
Manganese	49	0.052	0.098		mg/Kg	1	10/31/2016 11:04:42 AM	28363
Thallium	ND	0.75	2.4		mg/Kg	1	10/31/2016 11:04:42 AM	28363
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Benzene	ND	0.015	0.019		mg/Kg	1	10/31/2016 11:47:34 AM	S38351
Toluene	ND	0.0023	0.039		mg/Kg	1	10/31/2016 11:47:34 AM	S38351
Ethylbenzene	ND	0.0032	0.039		mg/Kg	1	10/31/2016 11:47:34 AM	S38351
Methyl tert-butyl ether (MTBE)	ND	0.012	0.039		mg/Kg	1	10/31/2016 11:47:34 AM	S38351
1,2,4-Trimethylbenzene	ND	0.0028	0.039		mg/Kg	1	10/31/2016 11:47:34 AM	S38351
1,3,5-Trimethylbenzene	ND	0.0028	0.039		mg/Kg	1	10/31/2016 11:47:34 AM	S38351

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Intera, Inc. **Client Sample ID:** SB-1 (9-10)
Project: COA Railyards **Collection Date:** 10/24/2016 3:10:00 PM
Lab ID: 1610E23-001 **Matrix:** MEOH (SOIL) **Received Date:** 10/28/2016 10:11:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
1,2-Dichloroethane (EDC)	ND	0.010	0.039		mg/Kg	1	10/31/2016 11:47:34 AM	S38351
1,2-Dibromoethane (EDB)	ND	0.0027	0.039		mg/Kg	1	10/31/2016 11:47:34 AM	S38351
Naphthalene	ND	0.0060	0.077		mg/Kg	1	10/31/2016 11:47:34 AM	S38351
1-Methylnaphthalene	ND	0.0086	0.15		mg/Kg	1	10/31/2016 11:47:34 AM	S38351
2-Methylnaphthalene	ND	0.0083	0.15		mg/Kg	1	10/31/2016 11:47:34 AM	S38351
Acetone	ND	0.050	0.58		mg/Kg	1	10/31/2016 11:47:34 AM	S38351
Bromobenzene	ND	0.0031	0.039		mg/Kg	1	10/31/2016 11:47:34 AM	S38351
Bromodichloromethane	ND	0.0022	0.039		mg/Kg	1	10/31/2016 11:47:34 AM	S38351
Bromoform	ND	0.0047	0.039		mg/Kg	1	10/31/2016 11:47:34 AM	S38351
Bromomethane	0.040	0.014	0.12	J	mg/Kg	1	10/31/2016 11:47:34 AM	S38351
2-Butanone	0.035	0.022	0.39	J	mg/Kg	1	10/31/2016 11:47:34 AM	S38351
Carbon disulfide	ND	0.013	0.39		mg/Kg	1	10/31/2016 11:47:34 AM	S38351
Carbon tetrachloride	ND	0.0025	0.039		mg/Kg	1	10/31/2016 11:47:34 AM	S38351
Chlorobenzene	ND	0.0031	0.039		mg/Kg	1	10/31/2016 11:47:34 AM	S38351
Chloroethane	ND	0.0077	0.077		mg/Kg	1	10/31/2016 11:47:34 AM	S38351
Chloroform	ND	0.0029	0.039		mg/Kg	1	10/31/2016 11:47:34 AM	S38351
Chloromethane	0.014	0.0034	0.12	J	mg/Kg	1	10/31/2016 11:47:34 AM	S38351
2-Chlorotoluene	ND	0.0028	0.039		mg/Kg	1	10/31/2016 11:47:34 AM	S38351
4-Chlorotoluene	ND	0.0034	0.039		mg/Kg	1	10/31/2016 11:47:34 AM	S38351
cis-1,2-DCE	ND	0.0022	0.039		mg/Kg	1	10/31/2016 11:47:34 AM	S38351
cis-1,3-Dichloropropene	ND	0.0036	0.039		mg/Kg	1	10/31/2016 11:47:34 AM	S38351
1,2-Dibromo-3-chloropropane	ND	0.012	0.077		mg/Kg	1	10/31/2016 11:47:34 AM	S38351
Dibromochloromethane	ND	0.0035	0.039		mg/Kg	1	10/31/2016 11:47:34 AM	S38351
Dibromomethane	ND	0.0033	0.039		mg/Kg	1	10/31/2016 11:47:34 AM	S38351
1,2-Dichlorobenzene	ND	0.0034	0.039		mg/Kg	1	10/31/2016 11:47:34 AM	S38351
1,3-Dichlorobenzene	ND	0.0032	0.039		mg/Kg	1	10/31/2016 11:47:34 AM	S38351
1,4-Dichlorobenzene	ND	0.0048	0.039		mg/Kg	1	10/31/2016 11:47:34 AM	S38351
Dichlorodifluoromethane	ND	0.012	0.039		mg/Kg	1	10/31/2016 11:47:34 AM	S38351
1,1-Dichloroethane	ND	0.0021	0.039		mg/Kg	1	10/31/2016 11:47:34 AM	S38351
1,1-Dichloroethene	ND	0.013	0.039		mg/Kg	1	10/31/2016 11:47:34 AM	S38351
1,2-Dichloropropane	ND	0.0032	0.039		mg/Kg	1	10/31/2016 11:47:34 AM	S38351
1,3-Dichloropropane	ND	0.0044	0.039		mg/Kg	1	10/31/2016 11:47:34 AM	S38351
2,2-Dichloropropane	ND	0.0022	0.077		mg/Kg	1	10/31/2016 11:47:34 AM	S38351
1,1-Dichloropropene	ND	0.0031	0.077		mg/Kg	1	10/31/2016 11:47:34 AM	S38351
Hexachlorobutadiene	ND	0.0047	0.077		mg/Kg	1	10/31/2016 11:47:34 AM	S38351
2-Hexanone	ND	0.021	0.39		mg/Kg	1	10/31/2016 11:47:34 AM	S38351
Isopropylbenzene	ND	0.0033	0.039		mg/Kg	1	10/31/2016 11:47:34 AM	S38351
4-Isopropyltoluene	ND	0.0035	0.039		mg/Kg	1	10/31/2016 11:47:34 AM	S38351
4-Methyl-2-pentanone	ND	0.011	0.39		mg/Kg	1	10/31/2016 11:47:34 AM	S38351

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Intera, Inc. **Client Sample ID:** SB-1 (9-10)
Project: COA Railyards **Collection Date:** 10/24/2016 3:10:00 PM
Lab ID: 1610E23-001 **Matrix:** MEOH (SOIL) **Received Date:** 10/28/2016 10:11:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Methylene chloride	0.014	0.011	0.12	J	mg/Kg	1	10/31/2016 11:47:34 AM	S38351
n-Butylbenzene	ND	0.0034	0.12		mg/Kg	1	10/31/2016 11:47:34 AM	S38351
n-Propylbenzene	ND	0.0030	0.039		mg/Kg	1	10/31/2016 11:47:34 AM	S38351
sec-Butylbenzene	ND	0.0053	0.039		mg/Kg	1	10/31/2016 11:47:34 AM	S38351
Styrene	ND	0.0034	0.039		mg/Kg	1	10/31/2016 11:47:34 AM	S38351
tert-Butylbenzene	ND	0.0032	0.039		mg/Kg	1	10/31/2016 11:47:34 AM	S38351
1,1,1,2-Tetrachloroethane	ND	0.0037	0.039		mg/Kg	1	10/31/2016 11:47:34 AM	S38351
1,1,2,2-Tetrachloroethane	ND	0.0062	0.039		mg/Kg	1	10/31/2016 11:47:34 AM	S38351
Tetrachloroethene (PCE)	ND	0.0032	0.039		mg/Kg	1	10/31/2016 11:47:34 AM	S38351
trans-1,2-DCE	ND	0.011	0.039		mg/Kg	1	10/31/2016 11:47:34 AM	S38351
trans-1,3-Dichloropropene	ND	0.0056	0.039		mg/Kg	1	10/31/2016 11:47:34 AM	S38351
1,2,3-Trichlorobenzene	ND	0.0058	0.077		mg/Kg	1	10/31/2016 11:47:34 AM	S38351
1,2,4-Trichlorobenzene	ND	0.0041	0.039		mg/Kg	1	10/31/2016 11:47:34 AM	S38351
1,1,1-Trichloroethane	ND	0.0024	0.039		mg/Kg	1	10/31/2016 11:47:34 AM	S38351
1,1,2-Trichloroethane	ND	0.0045	0.039		mg/Kg	1	10/31/2016 11:47:34 AM	S38351
Trichloroethene (TCE)	ND	0.0041	0.039		mg/Kg	1	10/31/2016 11:47:34 AM	S38351
Trichlorofluoromethane	ND	0.0029	0.039		mg/Kg	1	10/31/2016 11:47:34 AM	S38351
1,2,3-Trichloropropane	ND	0.0067	0.077		mg/Kg	1	10/31/2016 11:47:34 AM	S38351
Vinyl chloride	ND	0.0032	0.039		mg/Kg	1	10/31/2016 11:47:34 AM	S38351
Xylenes, Total	ND	0.0073	0.077		mg/Kg	1	10/31/2016 11:47:34 AM	S38351
Surr: Dibromofluoromethane	102		70-130		%Rec	1	10/31/2016 11:47:34 AM	S38351
Surr: 1,2-Dichloroethane-d4	99.2		70-130		%Rec	1	10/31/2016 11:47:34 AM	S38351
Surr: Toluene-d8	93.1		70-130		%Rec	1	10/31/2016 11:47:34 AM	S38351
Surr: 4-Bromofluorobenzene	94.4		70-130		%Rec	1	10/31/2016 11:47:34 AM	S38351
EPA METHOD 8015D MOD: GASOLINE RANGE							Analyst: **DJF**	
Gasoline Range Organics (GRO)	ND	0.58	3.9		mg/Kg	1	10/31/2016 11:47:34 AM	GS3835
Surr: BFB	99.3	0	70-130		%Rec	1	10/31/2016 11:47:34 AM	GS3835

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Intera, Inc. **Client Sample ID:** SB-2 (8.5-10)
Project: COA Railyards **Collection Date:** 10/24/2016 3:35:00 PM
Lab ID: 1610E23-002 **Matrix:** MEOH (SOIL) **Received Date:** 10/28/2016 10:11:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	1.8	9.5		mg/Kg	1	11/1/2016 3:19:44 PM	28372
Motor Oil Range Organics (MRO)	ND	48	48		mg/Kg	1	11/1/2016 3:19:44 PM	28372
Surr: DNOP	90.0	0	70-130		%Rec	1	11/1/2016 3:19:44 PM	28372
EPA METHOD 8310: PAHS							Analyst: **SCC**	
Naphthalene	ND	0.034	0.25		mg/Kg	1	11/6/2016 5:33:46 PM	28374
1-Methylnaphthalene	ND	0.037	0.25		mg/Kg	1	11/6/2016 5:33:46 PM	28374
2-Methylnaphthalene	ND	0.035	0.25		mg/Kg	1	11/6/2016 5:33:46 PM	28374
Acenaphthylene	ND	0.033	0.25		mg/Kg	1	11/6/2016 5:33:46 PM	28374
Acenaphthene	ND	0.030	0.25		mg/Kg	1	11/6/2016 5:33:46 PM	28374
Fluorene	ND	0.0033	0.030		mg/Kg	1	11/6/2016 5:33:46 PM	28374
Phenanthrene	0.0032	0.0016	0.015	J	mg/Kg	1	11/6/2016 5:33:46 PM	28374
Anthracene	ND	0.0024	0.015		mg/Kg	1	11/6/2016 5:33:46 PM	28374
Fluoranthene	ND	0.0033	0.020		mg/Kg	1	11/6/2016 5:33:46 PM	28374
Pyrene	ND	0.0034	0.025		mg/Kg	1	11/6/2016 5:33:46 PM	28374
Benz(a)anthracene	ND	0.00049	0.0099		mg/Kg	1	11/6/2016 5:33:46 PM	28374
Chrysene	0.0017	0.0014	0.0099	J	mg/Kg	1	11/6/2016 5:33:46 PM	28374
Benzo(b)fluoranthene	ND	0.00070	0.0099		mg/Kg	1	11/6/2016 5:33:46 PM	28374
Benzo(k)fluoranthene	0.00049	0.00039	0.0099	J	mg/Kg	1	11/6/2016 5:33:46 PM	28374
Benzo(a)pyrene	0.00049	0.00039	0.0099	J	mg/Kg	1	11/6/2016 5:33:46 PM	28374
Dibenz(a,h)anthracene	ND	0.00049	0.0099		mg/Kg	1	11/6/2016 5:33:46 PM	28374
Benzo(g,h,i)perylene	0.00074	0.00059	0.0099	J	mg/Kg	1	11/6/2016 5:33:46 PM	28374
Indeno(1,2,3-cd)pyrene	0.0012	0.00079	0.0099	J	mg/Kg	1	11/6/2016 5:33:46 PM	28374
Surr: Benzo(e)pyrene	80.4	0	27.4-110		%Rec	1	11/6/2016 5:33:46 PM	28374
EPA METHOD 6010B: SOIL METALS							Analyst: **MED**	
Antimony	ND	0.98	2.4		mg/Kg	1	10/31/2016 11:08:16 AM	28363
Arsenic	1.2	0.86	2.4	J	mg/Kg	1	10/31/2016 11:08:16 AM	28363
Chromium	2.5	0.092	0.29		mg/Kg	1	10/31/2016 11:08:16 AM	28363
Iron	4500	37	120		mg/Kg	50	10/31/2016 1:32:13 PM	28363
Lead	2.1	0.17	0.24		mg/Kg	1	10/31/2016 11:08:16 AM	28363
Manganese	33	0.052	0.097		mg/Kg	1	10/31/2016 11:08:16 AM	28363
Thallium	ND	0.75	2.4		mg/Kg	1	10/31/2016 11:08:16 AM	28363
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Benzene	ND	0.015	0.019		mg/Kg	1	10/31/2016 1:14:05 PM	S38351
Toluene	ND	0.0023	0.038		mg/Kg	1	10/31/2016 1:14:05 PM	S38351
Ethylbenzene	ND	0.0031	0.038		mg/Kg	1	10/31/2016 1:14:05 PM	S38351
Methyl tert-butyl ether (MTBE)	ND	0.012	0.038		mg/Kg	1	10/31/2016 1:14:05 PM	S38351
1,2,4-Trimethylbenzene	ND	0.0028	0.038		mg/Kg	1	10/31/2016 1:14:05 PM	S38351
1,3,5-Trimethylbenzene	ND	0.0028	0.038		mg/Kg	1	10/31/2016 1:14:05 PM	S38351

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Intera, Inc. **Client Sample ID:** SB-2 (8.5-10)
Project: COA Railyards **Collection Date:** 10/24/2016 3:35:00 PM
Lab ID: 1610E23-002 **Matrix:** MEOH (SOIL) **Received Date:** 10/28/2016 10:11:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
1,2-Dichloroethane (EDC)	ND	0.010	0.038		mg/Kg	1	10/31/2016 1:14:05 PM	S38351
1,2-Dibromoethane (EDB)	ND	0.0027	0.038		mg/Kg	1	10/31/2016 1:14:05 PM	S38351
Naphthalene	ND	0.0060	0.077		mg/Kg	1	10/31/2016 1:14:05 PM	S38351
1-Methylnaphthalene	ND	0.0085	0.15		mg/Kg	1	10/31/2016 1:14:05 PM	S38351
2-Methylnaphthalene	ND	0.0082	0.15		mg/Kg	1	10/31/2016 1:14:05 PM	S38351
Acetone	ND	0.050	0.58		mg/Kg	1	10/31/2016 1:14:05 PM	S38351
Bromobenzene	ND	0.0031	0.038		mg/Kg	1	10/31/2016 1:14:05 PM	S38351
Bromodichloromethane	ND	0.0022	0.038		mg/Kg	1	10/31/2016 1:14:05 PM	S38351
Bromoform	ND	0.0047	0.038		mg/Kg	1	10/31/2016 1:14:05 PM	S38351
Bromomethane	0.052	0.014	0.12	J	mg/Kg	1	10/31/2016 1:14:05 PM	S38351
2-Butanone	ND	0.022	0.38		mg/Kg	1	10/31/2016 1:14:05 PM	S38351
Carbon disulfide	ND	0.013	0.38		mg/Kg	1	10/31/2016 1:14:05 PM	S38351
Carbon tetrachloride	ND	0.0025	0.038		mg/Kg	1	10/31/2016 1:14:05 PM	S38351
Chlorobenzene	ND	0.0031	0.038		mg/Kg	1	10/31/2016 1:14:05 PM	S38351
Chloroethane	ND	0.0077	0.077		mg/Kg	1	10/31/2016 1:14:05 PM	S38351
Chloroform	ND	0.0029	0.038		mg/Kg	1	10/31/2016 1:14:05 PM	S38351
Chloromethane	0.014	0.0034	0.12	J	mg/Kg	1	10/31/2016 1:14:05 PM	S38351
2-Chlorotoluene	ND	0.0028	0.038		mg/Kg	1	10/31/2016 1:14:05 PM	S38351
4-Chlorotoluene	ND	0.0034	0.038		mg/Kg	1	10/31/2016 1:14:05 PM	S38351
cis-1,2-DCE	ND	0.0022	0.038		mg/Kg	1	10/31/2016 1:14:05 PM	S38351
cis-1,3-Dichloropropene	ND	0.0035	0.038		mg/Kg	1	10/31/2016 1:14:05 PM	S38351
1,2-Dibromo-3-chloropropane	ND	0.012	0.077		mg/Kg	1	10/31/2016 1:14:05 PM	S38351
Dibromochloromethane	ND	0.0035	0.038		mg/Kg	1	10/31/2016 1:14:05 PM	S38351
Dibromomethane	ND	0.0033	0.038		mg/Kg	1	10/31/2016 1:14:05 PM	S38351
1,2-Dichlorobenzene	ND	0.0033	0.038		mg/Kg	1	10/31/2016 1:14:05 PM	S38351
1,3-Dichlorobenzene	ND	0.0031	0.038		mg/Kg	1	10/31/2016 1:14:05 PM	S38351
1,4-Dichlorobenzene	ND	0.0048	0.038		mg/Kg	1	10/31/2016 1:14:05 PM	S38351
Dichlorodifluoromethane	ND	0.012	0.038		mg/Kg	1	10/31/2016 1:14:05 PM	S38351
1,1-Dichloroethane	ND	0.0021	0.038		mg/Kg	1	10/31/2016 1:14:05 PM	S38351
1,1-Dichloroethene	ND	0.013	0.038		mg/Kg	1	10/31/2016 1:14:05 PM	S38351
1,2-Dichloropropane	ND	0.0032	0.038		mg/Kg	1	10/31/2016 1:14:05 PM	S38351
1,3-Dichloropropane	ND	0.0043	0.038		mg/Kg	1	10/31/2016 1:14:05 PM	S38351
2,2-Dichloropropane	ND	0.0022	0.077		mg/Kg	1	10/31/2016 1:14:05 PM	S38351
1,1-Dichloropropene	ND	0.0030	0.077		mg/Kg	1	10/31/2016 1:14:05 PM	S38351
Hexachlorobutadiene	ND	0.0047	0.077		mg/Kg	1	10/31/2016 1:14:05 PM	S38351
2-Hexanone	ND	0.021	0.38		mg/Kg	1	10/31/2016 1:14:05 PM	S38351
Isopropylbenzene	ND	0.0033	0.038		mg/Kg	1	10/31/2016 1:14:05 PM	S38351
4-Isopropyltoluene	ND	0.0034	0.038		mg/Kg	1	10/31/2016 1:14:05 PM	S38351
4-Methyl-2-pentanone	ND	0.011	0.38		mg/Kg	1	10/31/2016 1:14:05 PM	S38351

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Intera, Inc. **Client Sample ID:** SB-2 (8.5-10)
Project: COA Railyards **Collection Date:** 10/24/2016 3:35:00 PM
Lab ID: 1610E23-002 **Matrix:** MEOH (SOIL) **Received Date:** 10/28/2016 10:11:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Methylene chloride	0.014	0.011	0.12	J	mg/Kg	1	10/31/2016 1:14:05 PM	S38351
n-Butylbenzene	ND	0.0034	0.12		mg/Kg	1	10/31/2016 1:14:05 PM	S38351
n-Propylbenzene	ND	0.0030	0.038		mg/Kg	1	10/31/2016 1:14:05 PM	S38351
sec-Butylbenzene	ND	0.0053	0.038		mg/Kg	1	10/31/2016 1:14:05 PM	S38351
Styrene	ND	0.0034	0.038		mg/Kg	1	10/31/2016 1:14:05 PM	S38351
tert-Butylbenzene	ND	0.0032	0.038		mg/Kg	1	10/31/2016 1:14:05 PM	S38351
1,1,1,2-Tetrachloroethane	ND	0.0037	0.038		mg/Kg	1	10/31/2016 1:14:05 PM	S38351
1,1,2,2-Tetrachloroethane	ND	0.0062	0.038		mg/Kg	1	10/31/2016 1:14:05 PM	S38351
Tetrachloroethene (PCE)	ND	0.0032	0.038		mg/Kg	1	10/31/2016 1:14:05 PM	S38351
trans-1,2-DCE	ND	0.011	0.038		mg/Kg	1	10/31/2016 1:14:05 PM	S38351
trans-1,3-Dichloropropene	ND	0.0056	0.038		mg/Kg	1	10/31/2016 1:14:05 PM	S38351
1,2,3-Trichlorobenzene	ND	0.0057	0.077		mg/Kg	1	10/31/2016 1:14:05 PM	S38351
1,2,4-Trichlorobenzene	ND	0.0041	0.038		mg/Kg	1	10/31/2016 1:14:05 PM	S38351
1,1,1-Trichloroethane	ND	0.0023	0.038		mg/Kg	1	10/31/2016 1:14:05 PM	S38351
1,1,2-Trichloroethane	ND	0.0045	0.038		mg/Kg	1	10/31/2016 1:14:05 PM	S38351
Trichloroethene (TCE)	ND	0.0041	0.038		mg/Kg	1	10/31/2016 1:14:05 PM	S38351
Trichlorofluoromethane	ND	0.0029	0.038		mg/Kg	1	10/31/2016 1:14:05 PM	S38351
1,2,3-Trichloropropane	ND	0.0066	0.077		mg/Kg	1	10/31/2016 1:14:05 PM	S38351
Vinyl chloride	ND	0.0031	0.038		mg/Kg	1	10/31/2016 1:14:05 PM	S38351
Xylenes, Total	ND	0.0073	0.077		mg/Kg	1	10/31/2016 1:14:05 PM	S38351
Surr: Dibromofluoromethane	103		70-130		%Rec	1	10/31/2016 1:14:05 PM	S38351
Surr: 1,2-Dichloroethane-d4	101		70-130		%Rec	1	10/31/2016 1:14:05 PM	S38351
Surr: Toluene-d8	94.8		70-130		%Rec	1	10/31/2016 1:14:05 PM	S38351
Surr: 4-Bromofluorobenzene	94.7		70-130		%Rec	1	10/31/2016 1:14:05 PM	S38351
EPA METHOD 8015D MOD: GASOLINE RANGE							Analyst: **DJF**	
Gasoline Range Organics (GRO)	ND	0.58	3.8		mg/Kg	1	10/31/2016 1:14:05 PM	GS3835
Surr: BFB	99.5	0	70-130		%Rec	1	10/31/2016 1:14:05 PM	GS3835

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Intera, Inc. **Client Sample ID:** SB-3 (8.5-10)
Project: COA Railyards **Collection Date:** 10/24/2016 4:00:00 PM
Lab ID: 1610E23-003 **Matrix:** MEOH (SOIL) **Received Date:** 10/28/2016 10:11:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: **TOM**	
Diesel Range Organics (DRO)	9.8	1.7	9.4		mg/Kg	1	11/1/2016 3:41:30 PM	28372
Motor Oil Range Organics (MRO)	ND	47	47		mg/Kg	1	11/1/2016 3:41:30 PM	28372
Surr: DNOP	95.0	0	70-130		%Rec	1	11/1/2016 3:41:30 PM	28372
EPA METHOD 8310: PAHS							Analyst: **SCC**	
Naphthalene	0.33	0.034	0.25		mg/Kg	1	11/6/2016 6:03:01 PM	28374
1-Methylnaphthalene	0.13	0.036	0.25	J	mg/Kg	1	11/6/2016 6:03:01 PM	28374
2-Methylnaphthalene	0.31	0.034	0.25		mg/Kg	1	11/6/2016 6:03:01 PM	28374
Acenaphthylene	ND	0.033	0.25		mg/Kg	1	11/6/2016 6:03:01 PM	28374
Acenaphthene	ND	0.030	0.25		mg/Kg	1	11/6/2016 6:03:01 PM	28374
Fluorene	ND	0.0033	0.030		mg/Kg	1	11/6/2016 6:03:01 PM	28374
Phenanthrene	0.0059	0.0016	0.015	J	mg/Kg	1	11/6/2016 6:03:01 PM	28374
Anthracene	ND	0.0024	0.015		mg/Kg	1	11/6/2016 6:03:01 PM	28374
Fluoranthene	ND	0.0033	0.020		mg/Kg	1	11/6/2016 6:03:01 PM	28374
Pyrene	ND	0.0033	0.025		mg/Kg	1	11/6/2016 6:03:01 PM	28374
Benz(a)anthracene	ND	0.00049	0.0099		mg/Kg	1	11/6/2016 6:03:01 PM	28374
Chrysene	ND	0.0014	0.0099		mg/Kg	1	11/6/2016 6:03:01 PM	28374
Benzo(b)fluoranthene	ND	0.00070	0.0099		mg/Kg	1	11/6/2016 6:03:01 PM	28374
Benzo(k)fluoranthene	ND	0.00039	0.0099		mg/Kg	1	11/6/2016 6:03:01 PM	28374
Benzo(a)pyrene	ND	0.00039	0.0099		mg/Kg	1	11/6/2016 6:03:01 PM	28374
Dibenz(a,h)anthracene	0.00074	0.00049	0.0099	J	mg/Kg	1	11/6/2016 6:03:01 PM	28374
Benzo(g,h,i)perylene	ND	0.00059	0.0099		mg/Kg	1	11/6/2016 6:03:01 PM	28374
Indeno(1,2,3-cd)pyrene	ND	0.00079	0.0099		mg/Kg	1	11/6/2016 6:03:01 PM	28374
Surr: Benzo(e)pyrene	61.3	0	27.4-110		%Rec	1	11/6/2016 6:03:01 PM	28374
EPA METHOD 6010B: SOIL METALS							Analyst: **MED**	
Antimony	ND	1.0	2.5		mg/Kg	1	10/31/2016 11:11:36 AM	28363
Arsenic	2.1	0.89	2.5	J	mg/Kg	1	10/31/2016 11:11:36 AM	28363
Chromium	4.9	0.094	0.30		mg/Kg	1	10/31/2016 11:11:36 AM	28363
Iron	7800	38	120		mg/Kg	50	10/31/2016 1:33:57 PM	28363
Lead	3.0	0.17	0.25		mg/Kg	1	10/31/2016 11:11:36 AM	28363
Manganese	72	0.054	0.10		mg/Kg	1	10/31/2016 11:11:36 AM	28363
Thallium	ND	0.77	2.5		mg/Kg	1	10/31/2016 11:11:36 AM	28363
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Benzene	ND	0.013	0.017		mg/Kg	1	10/31/2016 2:40:42 PM	S38351
Toluene	0.0044	0.0020	0.034	J	mg/Kg	1	10/31/2016 2:40:42 PM	S38351
Ethylbenzene	0.027	0.0028	0.034	J	mg/Kg	1	10/31/2016 2:40:42 PM	S38351
Methyl tert-butyl ether (MTBE)	ND	0.011	0.034		mg/Kg	1	10/31/2016 2:40:42 PM	S38351
1,2,4-Trimethylbenzene	0.019	0.0025	0.034	J	mg/Kg	1	10/31/2016 2:40:42 PM	S38351
1,3,5-Trimethylbenzene	0.0060	0.0024	0.034	J	mg/Kg	1	10/31/2016 2:40:42 PM	S38351

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Intera, Inc. **Client Sample ID:** SB-3 (8.5-10)
Project: COA Railyards **Collection Date:** 10/24/2016 4:00:00 PM
Lab ID: 1610E23-003 **Matrix:** MEOH (SOIL) **Received Date:** 10/28/2016 10:11:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
1,2-Dichloroethane (EDC)	ND	0.0088	0.034		mg/Kg	1	10/31/2016 2:40:42 PM	S38351
1,2-Dibromoethane (EDB)	ND	0.0024	0.034		mg/Kg	1	10/31/2016 2:40:42 PM	S38351
Naphthalene	1.0	0.0053	0.067		mg/Kg	1	10/31/2016 2:40:42 PM	S38351
1-Methylnaphthalene	0.32	0.0075	0.13		mg/Kg	1	10/31/2016 2:40:42 PM	S38351
2-Methylnaphthalene	0.67	0.0072	0.13		mg/Kg	1	10/31/2016 2:40:42 PM	S38351
Acetone	0.15	0.043	0.50	J	mg/Kg	1	10/31/2016 2:40:42 PM	S38351
Bromobenzene	ND	0.0027	0.034		mg/Kg	1	10/31/2016 2:40:42 PM	S38351
Bromodichloromethane	ND	0.0020	0.034		mg/Kg	1	10/31/2016 2:40:42 PM	S38351
Bromoform	ND	0.0041	0.034		mg/Kg	1	10/31/2016 2:40:42 PM	S38351
Bromomethane	0.034	0.012	0.10	J	mg/Kg	1	10/31/2016 2:40:42 PM	S38351
2-Butanone	0.045	0.019	0.34	J	mg/Kg	1	10/31/2016 2:40:42 PM	S38351
Carbon disulfide	ND	0.011	0.34		mg/Kg	1	10/31/2016 2:40:42 PM	S38351
Carbon tetrachloride	ND	0.0022	0.034		mg/Kg	1	10/31/2016 2:40:42 PM	S38351
Chlorobenzene	ND	0.0027	0.034		mg/Kg	1	10/31/2016 2:40:42 PM	S38351
Chloroethane	ND	0.0067	0.067		mg/Kg	1	10/31/2016 2:40:42 PM	S38351
Chloroform	0.0081	0.0025	0.034	J	mg/Kg	1	10/31/2016 2:40:42 PM	S38351
Chloromethane	ND	0.0030	0.10		mg/Kg	1	10/31/2016 2:40:42 PM	S38351
2-Chlorotoluene	ND	0.0025	0.034		mg/Kg	1	10/31/2016 2:40:42 PM	S38351
4-Chlorotoluene	ND	0.0030	0.034		mg/Kg	1	10/31/2016 2:40:42 PM	S38351
cis-1,2-DCE	ND	0.0020	0.034		mg/Kg	1	10/31/2016 2:40:42 PM	S38351
cis-1,3-Dichloropropene	ND	0.0031	0.034		mg/Kg	1	10/31/2016 2:40:42 PM	S38351
1,2-Dibromo-3-chloropropane	ND	0.010	0.067		mg/Kg	1	10/31/2016 2:40:42 PM	S38351
Dibromochloromethane	ND	0.0030	0.034		mg/Kg	1	10/31/2016 2:40:42 PM	S38351
Dibromomethane	ND	0.0029	0.034		mg/Kg	1	10/31/2016 2:40:42 PM	S38351
1,2-Dichlorobenzene	ND	0.0029	0.034		mg/Kg	1	10/31/2016 2:40:42 PM	S38351
1,3-Dichlorobenzene	ND	0.0028	0.034		mg/Kg	1	10/31/2016 2:40:42 PM	S38351
1,4-Dichlorobenzene	ND	0.0042	0.034		mg/Kg	1	10/31/2016 2:40:42 PM	S38351
Dichlorodifluoromethane	ND	0.010	0.034		mg/Kg	1	10/31/2016 2:40:42 PM	S38351
1,1-Dichloroethane	ND	0.0018	0.034		mg/Kg	1	10/31/2016 2:40:42 PM	S38351
1,1-Dichloroethene	ND	0.011	0.034		mg/Kg	1	10/31/2016 2:40:42 PM	S38351
1,2-Dichloropropane	ND	0.0028	0.034		mg/Kg	1	10/31/2016 2:40:42 PM	S38351
1,3-Dichloropropane	ND	0.0038	0.034		mg/Kg	1	10/31/2016 2:40:42 PM	S38351
2,2-Dichloropropane	ND	0.0019	0.067		mg/Kg	1	10/31/2016 2:40:42 PM	S38351
1,1-Dichloropropene	ND	0.0027	0.067		mg/Kg	1	10/31/2016 2:40:42 PM	S38351
Hexachlorobutadiene	ND	0.0041	0.067		mg/Kg	1	10/31/2016 2:40:42 PM	S38351
2-Hexanone	ND	0.018	0.34		mg/Kg	1	10/31/2016 2:40:42 PM	S38351
Isopropylbenzene	0.028	0.0029	0.034	J	mg/Kg	1	10/31/2016 2:40:42 PM	S38351
4-Isopropyltoluene	0.0077	0.0030	0.034	J	mg/Kg	1	10/31/2016 2:40:42 PM	S38351
4-Methyl-2-pentanone	0.024	0.0098	0.34	J	mg/Kg	1	10/31/2016 2:40:42 PM	S38351

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Intera, Inc. **Client Sample ID:** SB-3 (8.5-10)
Project: COA Railyards **Collection Date:** 10/24/2016 4:00:00 PM
Lab ID: 1610E23-003 **Matrix:** MEOH (SOIL) **Received Date:** 10/28/2016 10:11:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Methylene chloride	0.024	0.0097	0.10	J	mg/Kg	1	10/31/2016 2:40:42 PM	S38351
n-Butylbenzene	0.064	0.0030	0.10	J	mg/Kg	1	10/31/2016 2:40:42 PM	S38351
n-Propylbenzene	0.12	0.0026	0.034		mg/Kg	1	10/31/2016 2:40:42 PM	S38351
sec-Butylbenzene	0.019	0.0047	0.034	J	mg/Kg	1	10/31/2016 2:40:42 PM	S38351
Styrene	ND	0.0030	0.034		mg/Kg	1	10/31/2016 2:40:42 PM	S38351
tert-Butylbenzene	ND	0.0028	0.034		mg/Kg	1	10/31/2016 2:40:42 PM	S38351
1,1,1,2-Tetrachloroethane	ND	0.0032	0.034		mg/Kg	1	10/31/2016 2:40:42 PM	S38351
1,1,2,2-Tetrachloroethane	ND	0.0054	0.034		mg/Kg	1	10/31/2016 2:40:42 PM	S38351
Tetrachloroethene (PCE)	ND	0.0028	0.034		mg/Kg	1	10/31/2016 2:40:42 PM	S38351
trans-1,2-DCE	ND	0.0094	0.034		mg/Kg	1	10/31/2016 2:40:42 PM	S38351
trans-1,3-Dichloropropene	ND	0.0049	0.034		mg/Kg	1	10/31/2016 2:40:42 PM	S38351
1,2,3-Trichlorobenzene	ND	0.0050	0.067		mg/Kg	1	10/31/2016 2:40:42 PM	S38351
1,2,4-Trichlorobenzene	ND	0.0036	0.034		mg/Kg	1	10/31/2016 2:40:42 PM	S38351
1,1,1-Trichloroethane	ND	0.0021	0.034		mg/Kg	1	10/31/2016 2:40:42 PM	S38351
1,1,2-Trichloroethane	ND	0.0040	0.034		mg/Kg	1	10/31/2016 2:40:42 PM	S38351
Trichloroethene (TCE)	ND	0.0036	0.034		mg/Kg	1	10/31/2016 2:40:42 PM	S38351
Trichlorofluoromethane	ND	0.0025	0.034		mg/Kg	1	10/31/2016 2:40:42 PM	S38351
1,2,3-Trichloropropane	ND	0.0058	0.067		mg/Kg	1	10/31/2016 2:40:42 PM	S38351
Vinyl chloride	ND	0.0027	0.034		mg/Kg	1	10/31/2016 2:40:42 PM	S38351
Xylenes, Total	ND	0.0064	0.067		mg/Kg	1	10/31/2016 2:40:42 PM	S38351
Surr: Dibromofluoromethane	103		70-130		%Rec	1	10/31/2016 2:40:42 PM	S38351
Surr: 1,2-Dichloroethane-d4	98.9		70-130		%Rec	1	10/31/2016 2:40:42 PM	S38351
Surr: Toluene-d8	95.3		70-130		%Rec	1	10/31/2016 2:40:42 PM	S38351
Surr: 4-Bromofluorobenzene	96.4		70-130		%Rec	1	10/31/2016 2:40:42 PM	S38351
EPA METHOD 8015D MOD: GASOLINE RANGE							Analyst: **DJF**	
Gasoline Range Organics (GRO)	2.1	0.51	3.4	J	mg/Kg	1	10/31/2016 2:40:42 PM	GS3835
Surr: BFB	101	0	70-130		%Rec	1	10/31/2016 2:40:42 PM	GS3835

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Intera, Inc. **Client Sample ID:** SB-4 (10-12)
Project: COA Railyards **Collection Date:** 10/24/2016 4:30:00 PM
Lab ID: 1610E23-004 **Matrix:** MEOH (SOIL) **Received Date:** 10/28/2016 10:11:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: **TOM**	
Diesel Range Organics (DRO)	7.5	1.7	9.1	J	mg/Kg	1	11/1/2016 4:03:23 PM	28372
Motor Oil Range Organics (MRO)	ND	46	46		mg/Kg	1	11/1/2016 4:03:23 PM	28372
Surr: DNOP	91.1	0	70-130		%Rec	1	11/1/2016 4:03:23 PM	28372
EPA METHOD 8310: PAHS							Analyst: **SCC**	
Naphthalene	ND	0.035	0.25		mg/Kg	1	11/6/2016 7:01:27 PM	28374
1-Methylnaphthalene	ND	0.037	0.25		mg/Kg	1	11/6/2016 7:01:27 PM	28374
2-Methylnaphthalene	ND	0.035	0.25		mg/Kg	1	11/6/2016 7:01:27 PM	28374
Acenaphthylene	ND	0.033	0.25		mg/Kg	1	11/6/2016 7:01:27 PM	28374
Acenaphthene	ND	0.031	0.25		mg/Kg	1	11/6/2016 7:01:27 PM	28374
Fluorene	ND	0.0033	0.030		mg/Kg	1	11/6/2016 7:01:27 PM	28374
Phenanthrene	0.0035	0.0016	0.015	J	mg/Kg	1	11/6/2016 7:01:27 PM	28374
Anthracene	ND	0.0024	0.015		mg/Kg	1	11/6/2016 7:01:27 PM	28374
Fluoranthene	ND	0.0033	0.020		mg/Kg	1	11/6/2016 7:01:27 PM	28374
Pyrene	ND	0.0034	0.025		mg/Kg	1	11/6/2016 7:01:27 PM	28374
Benz(a)anthracene	ND	0.00050	0.010		mg/Kg	1	11/6/2016 7:01:27 PM	28374
Chrysene	ND	0.0014	0.010		mg/Kg	1	11/6/2016 7:01:27 PM	28374
Benzo(b)fluoranthene	ND	0.00070	0.010		mg/Kg	1	11/6/2016 7:01:27 PM	28374
Benzo(k)fluoranthene	ND	0.00040	0.010		mg/Kg	1	11/6/2016 7:01:27 PM	28374
Benzo(a)pyrene	ND	0.00040	0.010		mg/Kg	1	11/6/2016 7:01:27 PM	28374
Dibenz(a,h)anthracene	0.00050	0.00050	0.010	J	mg/Kg	1	11/6/2016 7:01:27 PM	28374
Benzo(g,h,i)perylene	ND	0.00060	0.010		mg/Kg	1	11/6/2016 7:01:27 PM	28374
Indeno(1,2,3-cd)pyrene	ND	0.00080	0.010		mg/Kg	1	11/6/2016 7:01:27 PM	28374
Surr: Benzo(e)pyrene	64.9	0	27.4-110		%Rec	1	11/6/2016 7:01:27 PM	28374
EPA METHOD 6010B: SOIL METALS							Analyst: **MED**	
Antimony	ND	0.96	2.4		mg/Kg	1	10/31/2016 11:15:10 AM	28363
Arsenic	2.3	0.85	2.4	J	mg/Kg	1	10/31/2016 11:15:10 AM	28363
Chromium	6.1	0.090	0.29		mg/Kg	1	10/31/2016 11:15:10 AM	28363
Iron	8500	36	120		mg/Kg	50	10/31/2016 1:35:28 PM	28363
Lead	3.3	0.17	0.24		mg/Kg	1	10/31/2016 11:15:10 AM	28363
Manganese	98	0.051	0.096		mg/Kg	1	10/31/2016 11:15:10 AM	28363
Thallium	ND	0.74	2.4		mg/Kg	1	10/31/2016 11:15:10 AM	28363
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Benzene	ND	0.013	0.017		mg/Kg	1	10/31/2016 3:09:20 PM	S38351
Toluene	ND	0.0020	0.033		mg/Kg	1	10/31/2016 3:09:20 PM	S38351
Ethylbenzene	ND	0.0027	0.033		mg/Kg	1	10/31/2016 3:09:20 PM	S38351
Methyl tert-butyl ether (MTBE)	ND	0.010	0.033		mg/Kg	1	10/31/2016 3:09:20 PM	S38351
1,2,4-Trimethylbenzene	ND	0.0025	0.033		mg/Kg	1	10/31/2016 3:09:20 PM	S38351
1,3,5-Trimethylbenzene	ND	0.0024	0.033		mg/Kg	1	10/31/2016 3:09:20 PM	S38351

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Intera, Inc. **Client Sample ID:** SB-4 (10-12)
Project: COA Railyards **Collection Date:** 10/24/2016 4:30:00 PM
Lab ID: 1610E23-004 **Matrix:** MEOH (SOIL) **Received Date:** 10/28/2016 10:11:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
1,2-Dichloroethane (EDC)	ND	0.0087	0.033		mg/Kg	1	10/31/2016 3:09:20 PM	S38351
1,2-Dibromoethane (EDB)	ND	0.0024	0.033		mg/Kg	1	10/31/2016 3:09:20 PM	S38351
Naphthalene	0.0078	0.0052	0.067	J	mg/Kg	1	10/31/2016 3:09:20 PM	S38351
1-Methylnaphthalene	0.011	0.0074	0.13	J	mg/Kg	1	10/31/2016 3:09:20 PM	S38351
2-Methylnaphthalene	0.022	0.0071	0.13	J	mg/Kg	1	10/31/2016 3:09:20 PM	S38351
Acetone	0.088	0.043	0.50	J	mg/Kg	1	10/31/2016 3:09:20 PM	S38351
Bromobenzene	ND	0.0027	0.033		mg/Kg	1	10/31/2016 3:09:20 PM	S38351
Bromodichloromethane	ND	0.0019	0.033		mg/Kg	1	10/31/2016 3:09:20 PM	S38351
Bromoform	ND	0.0041	0.033		mg/Kg	1	10/31/2016 3:09:20 PM	S38351
Bromomethane	0.034	0.012	0.10	J	mg/Kg	1	10/31/2016 3:09:20 PM	S38351
2-Butanone	ND	0.019	0.33		mg/Kg	1	10/31/2016 3:09:20 PM	S38351
Carbon disulfide	ND	0.011	0.33		mg/Kg	1	10/31/2016 3:09:20 PM	S38351
Carbon tetrachloride	ND	0.0022	0.033		mg/Kg	1	10/31/2016 3:09:20 PM	S38351
Chlorobenzene	ND	0.0027	0.033		mg/Kg	1	10/31/2016 3:09:20 PM	S38351
Chloroethane	ND	0.0067	0.067		mg/Kg	1	10/31/2016 3:09:20 PM	S38351
Chloroform	ND	0.0025	0.033		mg/Kg	1	10/31/2016 3:09:20 PM	S38351
Chloromethane	ND	0.0030	0.10		mg/Kg	1	10/31/2016 3:09:20 PM	S38351
2-Chlorotoluene	ND	0.0025	0.033		mg/Kg	1	10/31/2016 3:09:20 PM	S38351
4-Chlorotoluene	ND	0.0029	0.033		mg/Kg	1	10/31/2016 3:09:20 PM	S38351
cis-1,2-DCE	ND	0.0019	0.033		mg/Kg	1	10/31/2016 3:09:20 PM	S38351
cis-1,3-Dichloropropene	ND	0.0031	0.033		mg/Kg	1	10/31/2016 3:09:20 PM	S38351
1,2-Dibromo-3-chloropropane	ND	0.010	0.067		mg/Kg	1	10/31/2016 3:09:20 PM	S38351
Dibromochloromethane	ND	0.0030	0.033		mg/Kg	1	10/31/2016 3:09:20 PM	S38351
Dibromomethane	ND	0.0029	0.033		mg/Kg	1	10/31/2016 3:09:20 PM	S38351
1,2-Dichlorobenzene	ND	0.0029	0.033		mg/Kg	1	10/31/2016 3:09:20 PM	S38351
1,3-Dichlorobenzene	ND	0.0027	0.033		mg/Kg	1	10/31/2016 3:09:20 PM	S38351
1,4-Dichlorobenzene	ND	0.0041	0.033		mg/Kg	1	10/31/2016 3:09:20 PM	S38351
Dichlorodifluoromethane	ND	0.010	0.033		mg/Kg	1	10/31/2016 3:09:20 PM	S38351
1,1-Dichloroethane	ND	0.0018	0.033		mg/Kg	1	10/31/2016 3:09:20 PM	S38351
1,1-Dichloroethene	ND	0.011	0.033		mg/Kg	1	10/31/2016 3:09:20 PM	S38351
1,2-Dichloropropane	ND	0.0028	0.033		mg/Kg	1	10/31/2016 3:09:20 PM	S38351
1,3-Dichloropropane	ND	0.0038	0.033		mg/Kg	1	10/31/2016 3:09:20 PM	S38351
2,2-Dichloropropane	ND	0.0019	0.067		mg/Kg	1	10/31/2016 3:09:20 PM	S38351
1,1-Dichloropropene	ND	0.0026	0.067		mg/Kg	1	10/31/2016 3:09:20 PM	S38351
Hexachlorobutadiene	ND	0.0041	0.067		mg/Kg	1	10/31/2016 3:09:20 PM	S38351
2-Hexanone	ND	0.018	0.33		mg/Kg	1	10/31/2016 3:09:20 PM	S38351
Isopropylbenzene	ND	0.0029	0.033		mg/Kg	1	10/31/2016 3:09:20 PM	S38351
4-Isopropyltoluene	ND	0.0030	0.033		mg/Kg	1	10/31/2016 3:09:20 PM	S38351
4-Methyl-2-pentanone	ND	0.0097	0.33		mg/Kg	1	10/31/2016 3:09:20 PM	S38351

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Intera, Inc. **Client Sample ID:** SB-4 (10-12)
Project: COA Railyards **Collection Date:** 10/24/2016 4:30:00 PM
Lab ID: 1610E23-004 **Matrix:** MEOH (SOIL) **Received Date:** 10/28/2016 10:11:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Methylene chloride	0.017	0.0096	0.10	J	mg/Kg	1	10/31/2016 3:09:20 PM	S38351
n-Butylbenzene	ND	0.0029	0.10		mg/Kg	1	10/31/2016 3:09:20 PM	S38351
n-Propylbenzene	ND	0.0026	0.033		mg/Kg	1	10/31/2016 3:09:20 PM	S38351
sec-Butylbenzene	ND	0.0046	0.033		mg/Kg	1	10/31/2016 3:09:20 PM	S38351
Styrene	ND	0.0030	0.033		mg/Kg	1	10/31/2016 3:09:20 PM	S38351
tert-Butylbenzene	ND	0.0028	0.033		mg/Kg	1	10/31/2016 3:09:20 PM	S38351
1,1,1,2-Tetrachloroethane	ND	0.0032	0.033		mg/Kg	1	10/31/2016 3:09:20 PM	S38351
1,1,2,2-Tetrachloroethane	ND	0.0054	0.033		mg/Kg	1	10/31/2016 3:09:20 PM	S38351
Tetrachloroethene (PCE)	ND	0.0028	0.033		mg/Kg	1	10/31/2016 3:09:20 PM	S38351
trans-1,2-DCE	ND	0.0093	0.033		mg/Kg	1	10/31/2016 3:09:20 PM	S38351
trans-1,3-Dichloropropene	ND	0.0049	0.033		mg/Kg	1	10/31/2016 3:09:20 PM	S38351
1,2,3-Trichlorobenzene	ND	0.0050	0.067		mg/Kg	1	10/31/2016 3:09:20 PM	S38351
1,2,4-Trichlorobenzene	ND	0.0036	0.033		mg/Kg	1	10/31/2016 3:09:20 PM	S38351
1,1,1-Trichloroethane	ND	0.0020	0.033		mg/Kg	1	10/31/2016 3:09:20 PM	S38351
1,1,2-Trichloroethane	ND	0.0039	0.033		mg/Kg	1	10/31/2016 3:09:20 PM	S38351
Trichloroethene (TCE)	ND	0.0036	0.033		mg/Kg	1	10/31/2016 3:09:20 PM	S38351
Trichlorofluoromethane	ND	0.0025	0.033		mg/Kg	1	10/31/2016 3:09:20 PM	S38351
1,2,3-Trichloropropane	ND	0.0058	0.067		mg/Kg	1	10/31/2016 3:09:20 PM	S38351
Vinyl chloride	ND	0.0027	0.033		mg/Kg	1	10/31/2016 3:09:20 PM	S38351
Xylenes, Total	ND	0.0063	0.067		mg/Kg	1	10/31/2016 3:09:20 PM	S38351
Surr: Dibromofluoromethane	103		70-130		%Rec	1	10/31/2016 3:09:20 PM	S38351
Surr: 1,2-Dichloroethane-d4	95.6		70-130		%Rec	1	10/31/2016 3:09:20 PM	S38351
Surr: Toluene-d8	96.2		70-130		%Rec	1	10/31/2016 3:09:20 PM	S38351
Surr: 4-Bromofluorobenzene	100		70-130		%Rec	1	10/31/2016 3:09:20 PM	S38351
EPA METHOD 8015D MOD: GASOLINE RANGE							Analyst: **DJF**	
Gasoline Range Organics (GRO)	0.65	0.50	3.3	J	mg/Kg	1	10/31/2016 3:09:20 PM	GS3835
Surr: BFB	104	0	70-130		%Rec	1	10/31/2016 3:09:20 PM	GS3835

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Intera, Inc. **Client Sample ID:** SB-5 (6-10)
Project: COA Railyards **Collection Date:** 10/25/2016 8:40:00 AM
Lab ID: 1610E23-005 **Matrix:** MEOH (SOIL) **Received Date:** 10/28/2016 10:11:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: **TOM**	
Diesel Range Organics (DRO)	38	1.8	9.6		mg/Kg	1	11/2/2016 10:15:26 PM	28372
Motor Oil Range Organics (MRO)	130	48	48		mg/Kg	1	11/2/2016 10:15:26 PM	28372
Surr: DNOP	99.9	0	70-130		%Rec	1	11/2/2016 10:15:26 PM	28372
EPA METHOD 8310: PAHS							Analyst: **SCC**	
Naphthalene	ND	0.87	6.3	D	mg/Kg	5	11/7/2016 2:02:23 PM	28374
1-Methylnaphthalene	ND	0.93	6.3	D	mg/Kg	5	11/7/2016 2:02:23 PM	28374
2-Methylnaphthalene	ND	0.88	6.3	D	mg/Kg	5	11/7/2016 2:02:23 PM	28374
Acenaphthylene	ND	0.84	6.3	D	mg/Kg	5	11/7/2016 2:02:23 PM	28374
Acenaphthene	ND	0.77	6.3	D	mg/Kg	5	11/7/2016 2:02:23 PM	28374
Fluorene	ND	0.083	0.75	D	mg/Kg	5	11/7/2016 2:02:23 PM	28374
Phenanthrene	ND	0.040	0.38	D	mg/Kg	5	11/7/2016 2:02:23 PM	28374
Anthracene	ND	0.060	0.38	D	mg/Kg	5	11/7/2016 2:02:23 PM	28374
Fluoranthene	ND	0.083	0.50	D	mg/Kg	5	11/7/2016 2:02:23 PM	28374
Pyrene	ND	0.085	0.63	D	mg/Kg	5	11/7/2016 2:02:23 PM	28374
Benz(a)anthracene	ND	0.013	0.25	D	mg/Kg	5	11/7/2016 2:02:23 PM	28374
Chrysene	ND	0.035	0.25	D	mg/Kg	5	11/7/2016 2:02:23 PM	28374
Benzo(b)fluoranthene	ND	0.018	0.25	D	mg/Kg	5	11/7/2016 2:02:23 PM	28374
Benzo(k)fluoranthene	ND	0.010	0.25	D	mg/Kg	5	11/7/2016 2:02:23 PM	28374
Benzo(a)pyrene	ND	0.010	0.25	D	mg/Kg	5	11/7/2016 2:02:23 PM	28374
Dibenz(a,h)anthracene	ND	0.013	0.25	D	mg/Kg	5	11/7/2016 2:02:23 PM	28374
Benzo(g,h,i)perylene	ND	0.015	0.25	D	mg/Kg	5	11/7/2016 2:02:23 PM	28374
Indeno(1,2,3-cd)pyrene	ND	0.020	0.25	D	mg/Kg	5	11/7/2016 2:02:23 PM	28374
Surr: Benzo(e)pyrene	0	0	27.4-110	SD	%Rec	5	11/7/2016 2:02:23 PM	28374
EPA METHOD 6010B: SOIL METALS							Analyst: **MED**	
Antimony	ND	0.96	2.4		mg/Kg	1	10/31/2016 11:19:01 AM	28363
Arsenic	3.4	0.85	2.4		mg/Kg	1	10/31/2016 11:19:01 AM	28363
Chromium	8.1	0.090	0.29		mg/Kg	1	10/31/2016 11:19:01 AM	28363
Iron	11000	36	120		mg/Kg	50	10/31/2016 1:36:58 PM	28363
Lead	4.0	0.17	0.24		mg/Kg	1	10/31/2016 11:19:01 AM	28363
Manganese	350	0.10	0.19		mg/Kg	2	10/31/2016 11:20:50 AM	28363
Thallium	ND	0.74	2.4		mg/Kg	1	10/31/2016 11:19:01 AM	28363
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Benzene	ND	0.012	0.015		mg/Kg	1	10/31/2016 3:38:07 PM	S38351
Toluene	ND	0.0018	0.031		mg/Kg	1	10/31/2016 3:38:07 PM	S38351
Ethylbenzene	ND	0.0025	0.031		mg/Kg	1	10/31/2016 3:38:07 PM	S38351
Methyl tert-butyl ether (MTBE)	ND	0.0097	0.031		mg/Kg	1	10/31/2016 3:38:07 PM	S38351
1,2,4-Trimethylbenzene	ND	0.0023	0.031		mg/Kg	1	10/31/2016 3:38:07 PM	S38351
1,3,5-Trimethylbenzene	ND	0.0022	0.031		mg/Kg	1	10/31/2016 3:38:07 PM	S38351

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Intera, Inc. **Client Sample ID:** SB-5 (6-10)
Project: COA Railyards **Collection Date:** 10/25/2016 8:40:00 AM
Lab ID: 1610E23-005 **Matrix:** MEOH (SOIL) **Received Date:** 10/28/2016 10:11:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
1,2-Dichloroethane (EDC)	ND	0.0080	0.031		mg/Kg	1	10/31/2016 3:38:07 PM	S38351
1,2-Dibromoethane (EDB)	ND	0.0022	0.031		mg/Kg	1	10/31/2016 3:38:07 PM	S38351
Naphthalene	ND	0.0048	0.061		mg/Kg	1	10/31/2016 3:38:07 PM	S38351
1-Methylnaphthalene	ND	0.0068	0.12		mg/Kg	1	10/31/2016 3:38:07 PM	S38351
2-Methylnaphthalene	ND	0.0066	0.12		mg/Kg	1	10/31/2016 3:38:07 PM	S38351
Acetone	0.045	0.040	0.46	J	mg/Kg	1	10/31/2016 3:38:07 PM	S38351
Bromobenzene	ND	0.0025	0.031		mg/Kg	1	10/31/2016 3:38:07 PM	S38351
Bromodichloromethane	ND	0.0018	0.031		mg/Kg	1	10/31/2016 3:38:07 PM	S38351
Bromoform	ND	0.0037	0.031		mg/Kg	1	10/31/2016 3:38:07 PM	S38351
Bromomethane	0.023	0.011	0.092	J	mg/Kg	1	10/31/2016 3:38:07 PM	S38351
2-Butanone	0.055	0.018	0.31	J	mg/Kg	1	10/31/2016 3:38:07 PM	S38351
Carbon disulfide	ND	0.010	0.31		mg/Kg	1	10/31/2016 3:38:07 PM	S38351
Carbon tetrachloride	ND	0.0020	0.031		mg/Kg	1	10/31/2016 3:38:07 PM	S38351
Chlorobenzene	ND	0.0025	0.031		mg/Kg	1	10/31/2016 3:38:07 PM	S38351
Chloroethane	ND	0.0061	0.061		mg/Kg	1	10/31/2016 3:38:07 PM	S38351
Chloroform	ND	0.0023	0.031		mg/Kg	1	10/31/2016 3:38:07 PM	S38351
Chloromethane	0.012	0.0027	0.092	J	mg/Kg	1	10/31/2016 3:38:07 PM	S38351
2-Chlorotoluene	ND	0.0023	0.031		mg/Kg	1	10/31/2016 3:38:07 PM	S38351
4-Chlorotoluene	ND	0.0027	0.031		mg/Kg	1	10/31/2016 3:38:07 PM	S38351
cis-1,2-DCE	ND	0.0018	0.031		mg/Kg	1	10/31/2016 3:38:07 PM	S38351
cis-1,3-Dichloropropene	ND	0.0028	0.031		mg/Kg	1	10/31/2016 3:38:07 PM	S38351
1,2-Dibromo-3-chloropropane	ND	0.0094	0.061		mg/Kg	1	10/31/2016 3:38:07 PM	S38351
Dibromochloromethane	ND	0.0028	0.031		mg/Kg	1	10/31/2016 3:38:07 PM	S38351
Dibromomethane	ND	0.0027	0.031		mg/Kg	1	10/31/2016 3:38:07 PM	S38351
1,2-Dichlorobenzene	ND	0.0027	0.031		mg/Kg	1	10/31/2016 3:38:07 PM	S38351
1,3-Dichlorobenzene	ND	0.0025	0.031		mg/Kg	1	10/31/2016 3:38:07 PM	S38351
1,4-Dichlorobenzene	ND	0.0038	0.031		mg/Kg	1	10/31/2016 3:38:07 PM	S38351
Dichlorodifluoromethane	ND	0.0095	0.031		mg/Kg	1	10/31/2016 3:38:07 PM	S38351
1,1-Dichloroethane	ND	0.0017	0.031		mg/Kg	1	10/31/2016 3:38:07 PM	S38351
1,1-Dichloroethene	ND	0.010	0.031		mg/Kg	1	10/31/2016 3:38:07 PM	S38351
1,2-Dichloropropane	ND	0.0026	0.031		mg/Kg	1	10/31/2016 3:38:07 PM	S38351
1,3-Dichloropropane	ND	0.0035	0.031		mg/Kg	1	10/31/2016 3:38:07 PM	S38351
2,2-Dichloropropane	ND	0.0018	0.061		mg/Kg	1	10/31/2016 3:38:07 PM	S38351
1,1-Dichloropropene	ND	0.0024	0.061		mg/Kg	1	10/31/2016 3:38:07 PM	S38351
Hexachlorobutadiene	ND	0.0038	0.061		mg/Kg	1	10/31/2016 3:38:07 PM	S38351
2-Hexanone	ND	0.017	0.31		mg/Kg	1	10/31/2016 3:38:07 PM	S38351
Isopropylbenzene	ND	0.0026	0.031		mg/Kg	1	10/31/2016 3:38:07 PM	S38351
4-Isopropyltoluene	ND	0.0028	0.031		mg/Kg	1	10/31/2016 3:38:07 PM	S38351
4-Methyl-2-pentanone	ND	0.0089	0.31		mg/Kg	1	10/31/2016 3:38:07 PM	S38351

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Qualifiers:

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H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Intera, Inc. **Client Sample ID:** SB-5 (6-10)
Project: COA Railyards **Collection Date:** 10/25/2016 8:40:00 AM
Lab ID: 1610E23-005 **Matrix:** MEOH (SOIL) **Received Date:** 10/28/2016 10:11:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Methylene chloride	0.015	0.0089	0.092	J	mg/Kg	1	10/31/2016 3:38:07 PM	S38351
n-Butylbenzene	ND	0.0027	0.092		mg/Kg	1	10/31/2016 3:38:07 PM	S38351
n-Propylbenzene	ND	0.0024	0.031		mg/Kg	1	10/31/2016 3:38:07 PM	S38351
sec-Butylbenzene	ND	0.0043	0.031		mg/Kg	1	10/31/2016 3:38:07 PM	S38351
Styrene	ND	0.0027	0.031		mg/Kg	1	10/31/2016 3:38:07 PM	S38351
tert-Butylbenzene	ND	0.0025	0.031		mg/Kg	1	10/31/2016 3:38:07 PM	S38351
1,1,1,2-Tetrachloroethane	ND	0.0029	0.031		mg/Kg	1	10/31/2016 3:38:07 PM	S38351
1,1,2,2-Tetrachloroethane	ND	0.0050	0.031		mg/Kg	1	10/31/2016 3:38:07 PM	S38351
Tetrachloroethene (PCE)	ND	0.0025	0.031		mg/Kg	1	10/31/2016 3:38:07 PM	S38351
trans-1,2-DCE	ND	0.0086	0.031		mg/Kg	1	10/31/2016 3:38:07 PM	S38351
trans-1,3-Dichloropropene	ND	0.0045	0.031		mg/Kg	1	10/31/2016 3:38:07 PM	S38351
1,2,3-Trichlorobenzene	ND	0.0046	0.061		mg/Kg	1	10/31/2016 3:38:07 PM	S38351
1,2,4-Trichlorobenzene	ND	0.0033	0.031		mg/Kg	1	10/31/2016 3:38:07 PM	S38351
1,1,1-Trichloroethane	ND	0.0019	0.031		mg/Kg	1	10/31/2016 3:38:07 PM	S38351
1,1,2-Trichloroethane	ND	0.0036	0.031		mg/Kg	1	10/31/2016 3:38:07 PM	S38351
Trichloroethene (TCE)	ND	0.0033	0.031		mg/Kg	1	10/31/2016 3:38:07 PM	S38351
Trichlorofluoromethane	ND	0.0023	0.031		mg/Kg	1	10/31/2016 3:38:07 PM	S38351
1,2,3-Trichloropropane	ND	0.0053	0.061		mg/Kg	1	10/31/2016 3:38:07 PM	S38351
Vinyl chloride	ND	0.0025	0.031		mg/Kg	1	10/31/2016 3:38:07 PM	S38351
Xylenes, Total	ND	0.0058	0.061		mg/Kg	1	10/31/2016 3:38:07 PM	S38351
Surr: Dibromofluoromethane	101		70-130		%Rec	1	10/31/2016 3:38:07 PM	S38351
Surr: 1,2-Dichloroethane-d4	96.2		70-130		%Rec	1	10/31/2016 3:38:07 PM	S38351
Surr: Toluene-d8	93.9		70-130		%Rec	1	10/31/2016 3:38:07 PM	S38351
Surr: 4-Bromofluorobenzene	99.7		70-130		%Rec	1	10/31/2016 3:38:07 PM	S38351
EPA METHOD 8015D MOD: GASOLINE RANGE							Analyst: **DJF**	
Gasoline Range Organics (GRO)	1.8	0.46	3.1	J	mg/Kg	1	10/31/2016 3:38:07 PM	GS3835
Surr: BFB	95.0	0	70-130		%Rec	1	10/31/2016 3:38:07 PM	GS3835

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Intera, Inc. **Client Sample ID:** SB-6 (5-10)
Project: COA Railyards **Collection Date:** 10/25/2016 11:57:00 AM
Lab ID: 1610E23-006 **Matrix:** MEOH (SOIL) **Received Date:** 10/28/2016 10:11:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	1.8	9.8		mg/Kg	1	11/1/2016 5:09:17 PM	28372
Motor Oil Range Organics (MRO)	ND	49	49		mg/Kg	1	11/1/2016 5:09:17 PM	28372
Surr: DNOP	95.1	0	70-130		%Rec	1	11/1/2016 5:09:17 PM	28372
EPA METHOD 8310: PAHS							Analyst: **SCC**	
Naphthalene	ND	0.035	0.25		mg/Kg	1	11/6/2016 7:59:51 PM	28374
1-Methylnaphthalene	ND	0.037	0.25		mg/Kg	1	11/6/2016 7:59:51 PM	28374
2-Methylnaphthalene	ND	0.035	0.25		mg/Kg	1	11/6/2016 7:59:51 PM	28374
Acenaphthylene	ND	0.033	0.25		mg/Kg	1	11/6/2016 7:59:51 PM	28374
Acenaphthene	ND	0.030	0.25		mg/Kg	1	11/6/2016 7:59:51 PM	28374
Fluorene	ND	0.0033	0.030		mg/Kg	1	11/6/2016 7:59:51 PM	28374
Phenanthrene	ND	0.0016	0.015		mg/Kg	1	11/6/2016 7:59:51 PM	28374
Anthracene	ND	0.0024	0.015		mg/Kg	1	11/6/2016 7:59:51 PM	28374
Fluoranthene	ND	0.0033	0.020		mg/Kg	1	11/6/2016 7:59:51 PM	28374
Pyrene	ND	0.0034	0.025		mg/Kg	1	11/6/2016 7:59:51 PM	28374
Benz(a)anthracene	ND	0.00050	0.0099		mg/Kg	1	11/6/2016 7:59:51 PM	28374
Chrysene	ND	0.0014	0.0099		mg/Kg	1	11/6/2016 7:59:51 PM	28374
Benzo(b)fluoranthene	ND	0.00070	0.0099		mg/Kg	1	11/6/2016 7:59:51 PM	28374
Benzo(k)fluoranthene	ND	0.00040	0.0099		mg/Kg	1	11/6/2016 7:59:51 PM	28374
Benzo(a)pyrene	ND	0.00040	0.0099		mg/Kg	1	11/6/2016 7:59:51 PM	28374
Dibenz(a,h)anthracene	ND	0.00050	0.0099		mg/Kg	1	11/6/2016 7:59:51 PM	28374
Benzo(g,h,i)perylene	ND	0.00060	0.0099		mg/Kg	1	11/6/2016 7:59:51 PM	28374
Indeno(1,2,3-cd)pyrene	ND	0.00079	0.0099		mg/Kg	1	11/6/2016 7:59:51 PM	28374
Surr: Benzo(e)pyrene	39.6	0	27.4-110		%Rec	1	11/6/2016 7:59:51 PM	28374
EPA METHOD 6010B: SOIL METALS							Analyst: **MED**	
Antimony	ND	2.0	4.9		mg/Kg	2	10/31/2016 11:33:38 AM	28363
Arsenic	3.2	1.8	4.9	J	mg/Kg	2	10/31/2016 11:33:38 AM	28363
Chromium	10	0.19	0.59		mg/Kg	2	10/31/2016 11:33:38 AM	28363
Iron	22000	75	250		mg/Kg	100	11/2/2016 10:36:38 AM	28363
Lead	6.6	0.34	0.49		mg/Kg	2	10/31/2016 11:33:38 AM	28363
Manganese	290	0.11	0.20		mg/Kg	2	10/31/2016 11:33:38 AM	28363
Thallium	ND	1.5	4.9		mg/Kg	2	10/31/2016 11:33:38 AM	28363
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Benzene	ND	0.011	0.014		mg/Kg	1	10/31/2016 4:06:39 PM	S38351
Toluene	ND	0.0016	0.028		mg/Kg	1	10/31/2016 4:06:39 PM	S38351
Ethylbenzene	ND	0.0023	0.028		mg/Kg	1	10/31/2016 4:06:39 PM	S38351
Methyl tert-butyl ether (MTBE)	ND	0.0087	0.028		mg/Kg	1	10/31/2016 4:06:39 PM	S38351
1,2,4-Trimethylbenzene	ND	0.0020	0.028		mg/Kg	1	10/31/2016 4:06:39 PM	S38351
1,3,5-Trimethylbenzene	ND	0.0020	0.028		mg/Kg	1	10/31/2016 4:06:39 PM	S38351

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Intera, Inc. **Client Sample ID:** SB-6 (5-10)
Project: COA Railyards **Collection Date:** 10/25/2016 11:57:00 AM
Lab ID: 1610E23-006 **Matrix:** MEOH (SOIL) **Received Date:** 10/28/2016 10:11:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
1,2-Dichloroethane (EDC)	ND	0.0072	0.028		mg/Kg	1	10/31/2016 4:06:39 PM	S38351
1,2-Dibromoethane (EDB)	ND	0.0020	0.028		mg/Kg	1	10/31/2016 4:06:39 PM	S38351
Naphthalene	ND	0.0043	0.056		mg/Kg	1	10/31/2016 4:06:39 PM	S38351
1-Methylnaphthalene	ND	0.0062	0.11		mg/Kg	1	10/31/2016 4:06:39 PM	S38351
2-Methylnaphthalene	ND	0.0059	0.11		mg/Kg	1	10/31/2016 4:06:39 PM	S38351
Acetone	ND	0.036	0.42		mg/Kg	1	10/31/2016 4:06:39 PM	S38351
Bromobenzene	ND	0.0022	0.028		mg/Kg	1	10/31/2016 4:06:39 PM	S38351
Bromodichloromethane	ND	0.0016	0.028		mg/Kg	1	10/31/2016 4:06:39 PM	S38351
Bromoform	ND	0.0034	0.028		mg/Kg	1	10/31/2016 4:06:39 PM	S38351
Bromomethane	0.019	0.010	0.083	J	mg/Kg	1	10/31/2016 4:06:39 PM	S38351
2-Butanone	ND	0.016	0.28		mg/Kg	1	10/31/2016 4:06:39 PM	S38351
Carbon disulfide	ND	0.0092	0.28		mg/Kg	1	10/31/2016 4:06:39 PM	S38351
Carbon tetrachloride	ND	0.0018	0.028		mg/Kg	1	10/31/2016 4:06:39 PM	S38351
Chlorobenzene	ND	0.0023	0.028		mg/Kg	1	10/31/2016 4:06:39 PM	S38351
Chloroethane	ND	0.0055	0.056		mg/Kg	1	10/31/2016 4:06:39 PM	S38351
Chloroform	ND	0.0021	0.028		mg/Kg	1	10/31/2016 4:06:39 PM	S38351
Chloromethane	ND	0.0025	0.083		mg/Kg	1	10/31/2016 4:06:39 PM	S38351
2-Chlorotoluene	ND	0.0020	0.028		mg/Kg	1	10/31/2016 4:06:39 PM	S38351
4-Chlorotoluene	ND	0.0025	0.028		mg/Kg	1	10/31/2016 4:06:39 PM	S38351
cis-1,2-DCE	ND	0.0016	0.028		mg/Kg	1	10/31/2016 4:06:39 PM	S38351
cis-1,3-Dichloropropene	ND	0.0026	0.028		mg/Kg	1	10/31/2016 4:06:39 PM	S38351
1,2-Dibromo-3-chloropropane	ND	0.0085	0.056		mg/Kg	1	10/31/2016 4:06:39 PM	S38351
Dibromochloromethane	ND	0.0025	0.028		mg/Kg	1	10/31/2016 4:06:39 PM	S38351
Dibromomethane	ND	0.0024	0.028		mg/Kg	1	10/31/2016 4:06:39 PM	S38351
1,2-Dichlorobenzene	ND	0.0024	0.028		mg/Kg	1	10/31/2016 4:06:39 PM	S38351
1,3-Dichlorobenzene	ND	0.0023	0.028		mg/Kg	1	10/31/2016 4:06:39 PM	S38351
1,4-Dichlorobenzene	ND	0.0034	0.028		mg/Kg	1	10/31/2016 4:06:39 PM	S38351
Dichlorodifluoromethane	ND	0.0086	0.028		mg/Kg	1	10/31/2016 4:06:39 PM	S38351
1,1-Dichloroethane	ND	0.0015	0.028		mg/Kg	1	10/31/2016 4:06:39 PM	S38351
1,1-Dichloroethene	ND	0.0091	0.028		mg/Kg	1	10/31/2016 4:06:39 PM	S38351
1,2-Dichloropropane	ND	0.0023	0.028		mg/Kg	1	10/31/2016 4:06:39 PM	S38351
1,3-Dichloropropane	ND	0.0031	0.028		mg/Kg	1	10/31/2016 4:06:39 PM	S38351
2,2-Dichloropropane	ND	0.0016	0.056		mg/Kg	1	10/31/2016 4:06:39 PM	S38351
1,1-Dichloropropene	ND	0.0022	0.056		mg/Kg	1	10/31/2016 4:06:39 PM	S38351
Hexachlorobutadiene	ND	0.0034	0.056		mg/Kg	1	10/31/2016 4:06:39 PM	S38351
2-Hexanone	ND	0.015	0.28		mg/Kg	1	10/31/2016 4:06:39 PM	S38351
Isopropylbenzene	ND	0.0024	0.028		mg/Kg	1	10/31/2016 4:06:39 PM	S38351
4-Isopropyltoluene	ND	0.0025	0.028		mg/Kg	1	10/31/2016 4:06:39 PM	S38351
4-Methyl-2-pentanone	ND	0.0081	0.28		mg/Kg	1	10/31/2016 4:06:39 PM	S38351

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Intera, Inc. **Client Sample ID:** SB-6 (5-10)
Project: COA Railyards **Collection Date:** 10/25/2016 11:57:00 AM
Lab ID: 1610E23-006 **Matrix:** MEOH (SOIL) **Received Date:** 10/28/2016 10:11:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Methylene chloride	0.014	0.0080	0.083	J	mg/Kg	1	10/31/2016 4:06:39 PM	S38351
n-Butylbenzene	ND	0.0025	0.083		mg/Kg	1	10/31/2016 4:06:39 PM	S38351
n-Propylbenzene	ND	0.0021	0.028		mg/Kg	1	10/31/2016 4:06:39 PM	S38351
sec-Butylbenzene	ND	0.0038	0.028		mg/Kg	1	10/31/2016 4:06:39 PM	S38351
Styrene	ND	0.0025	0.028		mg/Kg	1	10/31/2016 4:06:39 PM	S38351
tert-Butylbenzene	ND	0.0023	0.028		mg/Kg	1	10/31/2016 4:06:39 PM	S38351
1,1,1,2-Tetrachloroethane	ND	0.0027	0.028		mg/Kg	1	10/31/2016 4:06:39 PM	S38351
1,1,2,2-Tetrachloroethane	ND	0.0045	0.028		mg/Kg	1	10/31/2016 4:06:39 PM	S38351
Tetrachloroethene (PCE)	ND	0.0023	0.028		mg/Kg	1	10/31/2016 4:06:39 PM	S38351
trans-1,2-DCE	ND	0.0078	0.028		mg/Kg	1	10/31/2016 4:06:39 PM	S38351
trans-1,3-Dichloropropene	ND	0.0041	0.028		mg/Kg	1	10/31/2016 4:06:39 PM	S38351
1,2,3-Trichlorobenzene	ND	0.0042	0.056		mg/Kg	1	10/31/2016 4:06:39 PM	S38351
1,2,4-Trichlorobenzene	ND	0.0030	0.028		mg/Kg	1	10/31/2016 4:06:39 PM	S38351
1,1,1-Trichloroethane	ND	0.0017	0.028		mg/Kg	1	10/31/2016 4:06:39 PM	S38351
1,1,2-Trichloroethane	ND	0.0033	0.028		mg/Kg	1	10/31/2016 4:06:39 PM	S38351
Trichloroethene (TCE)	ND	0.0030	0.028		mg/Kg	1	10/31/2016 4:06:39 PM	S38351
Trichlorofluoromethane	ND	0.0021	0.028		mg/Kg	1	10/31/2016 4:06:39 PM	S38351
1,2,3-Trichloropropane	ND	0.0048	0.056		mg/Kg	1	10/31/2016 4:06:39 PM	S38351
Vinyl chloride	ND	0.0023	0.028		mg/Kg	1	10/31/2016 4:06:39 PM	S38351
Xylenes, Total	ND	0.0053	0.056		mg/Kg	1	10/31/2016 4:06:39 PM	S38351
Surr: Dibromofluoromethane	101		70-130		%Rec	1	10/31/2016 4:06:39 PM	S38351
Surr: 1,2-Dichloroethane-d4	95.2		70-130		%Rec	1	10/31/2016 4:06:39 PM	S38351
Surr: Toluene-d8	94.2		70-130		%Rec	1	10/31/2016 4:06:39 PM	S38351
Surr: 4-Bromofluorobenzene	96.1		70-130		%Rec	1	10/31/2016 4:06:39 PM	S38351
EPA METHOD 8015D MOD: GASOLINE RANGE							Analyst: **DJF**	
Gasoline Range Organics (GRO)	ND	0.42	2.8		mg/Kg	1	10/31/2016 4:06:39 PM	GS3835
Surr: BFB	97.7	0	70-130		%Rec	1	10/31/2016 4:06:39 PM	GS3835

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Intera, Inc. **Client Sample ID:** SB-7 (5-10)
Project: COA Railyards **Collection Date:** 10/25/2016 12:20:00 PM
Lab ID: 1610E23-007 **Matrix:** MEOH (SOIL) **Received Date:** 10/28/2016 10:11:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: **TOM**	
Diesel Range Organics (DRO)	140	1.9	10		mg/Kg	1	11/2/2016 10:58:51 PM	28372
Motor Oil Range Organics (MRO)	400	50	50		mg/Kg	1	11/2/2016 10:58:51 PM	28372
Surr: DNOP	110	0	70-130		%Rec	1	11/2/2016 10:58:51 PM	28372
EPA METHOD 8310: PAHS							Analyst: **SCC**	
Naphthalene	0.039	0.034	0.24	J	mg/Kg	1	11/6/2016 8:29:03 PM	28374
1-Methylnaphthalene	ND	0.036	0.24		mg/Kg	1	11/6/2016 8:29:03 PM	28374
2-Methylnaphthalene	0.061	0.034	0.24	J	mg/Kg	1	11/6/2016 8:29:03 PM	28374
Acenaphthylene	ND	0.033	0.24		mg/Kg	1	11/6/2016 8:29:03 PM	28374
Acenaphthene	ND	0.030	0.24		mg/Kg	1	11/6/2016 8:29:03 PM	28374
Fluorene	0.032	0.0032	0.029		mg/Kg	1	11/6/2016 8:29:03 PM	28374
Phenanthrene	0.22	0.016	0.15	D	mg/Kg	10	11/7/2016 2:31:42 PM	28374
Anthracene	0.066	0.0023	0.015		mg/Kg	1	11/6/2016 8:29:03 PM	28374
Fluoranthene	0.18	0.0032	0.019		mg/Kg	1	11/6/2016 8:29:03 PM	28374
Pyrene	0.15	0.0033	0.024		mg/Kg	1	11/6/2016 8:29:03 PM	28374
Benz(a)anthracene	0.050	0.00097	0.019		mg/Kg	2	11/9/2016 9:25:21 AM	28374
Chrysene	0.029	0.0014	0.0097		mg/Kg	1	11/6/2016 8:29:03 PM	28374
Benzo(b)fluoranthene	0.037	0.0014	0.019		mg/Kg	2	11/9/2016 9:25:21 AM	28374
Benzo(k)fluoranthene	0.026	0.00078	0.019		mg/Kg	2	11/9/2016 9:25:21 AM	28374
Benzo(a)pyrene	0.050	0.0019	0.049		mg/Kg	5	11/9/2016 9:54:36 AM	28374
Dibenz(a,h)anthracene	0.0037	0.00049	0.0097	J	mg/Kg	1	11/6/2016 8:29:03 PM	28374
Benzo(g,h,i)perylene	0.035	0.0012	0.019		mg/Kg	2	11/9/2016 9:25:21 AM	28374
Indeno(1,2,3-cd)pyrene	0.055	0.00078	0.0097		mg/Kg	1	11/6/2016 8:29:03 PM	28374
Surr: Benzo(e)pyrene	69.6	0	27.4-110		%Rec	1	11/6/2016 8:29:03 PM	28374
EPA METHOD 6010B: SOIL METALS							Analyst: **MED**	
Antimony	ND	0.96	2.4		mg/Kg	1	10/31/2016 11:35:47 AM	28363
Arsenic	1.6	0.85	2.4	J	mg/Kg	1	10/31/2016 11:35:47 AM	28363
Chromium	5.0	0.090	0.29		mg/Kg	1	10/31/2016 11:35:47 AM	28363
Iron	7900	36	120		mg/Kg	50	10/31/2016 1:40:02 PM	28363
Lead	4.9	0.17	0.24		mg/Kg	1	10/31/2016 11:35:47 AM	28363
Manganese	180	0.051	0.096		mg/Kg	1	10/31/2016 11:35:47 AM	28363
Thallium	ND	0.74	2.4		mg/Kg	1	10/31/2016 11:35:47 AM	28363
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Benzene	ND	0.010	0.013		mg/Kg	1	10/31/2016 4:35:30 PM	S38351
Toluene	ND	0.0015	0.026		mg/Kg	1	10/31/2016 4:35:30 PM	S38351
Ethylbenzene	ND	0.0021	0.026		mg/Kg	1	10/31/2016 4:35:30 PM	S38351
Methyl tert-butyl ether (MTBE)	ND	0.0081	0.026		mg/Kg	1	10/31/2016 4:35:30 PM	S38351
1,2,4-Trimethylbenzene	ND	0.0019	0.026		mg/Kg	1	10/31/2016 4:35:30 PM	S38351
1,3,5-Trimethylbenzene	ND	0.0019	0.026		mg/Kg	1	10/31/2016 4:35:30 PM	S38351

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Intera, Inc. **Client Sample ID:** SB-7 (5-10)
Project: COA Railyards **Collection Date:** 10/25/2016 12:20:00 PM
Lab ID: 1610E23-007 **Matrix:** MEOH (SOIL) **Received Date:** 10/28/2016 10:11:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
1,2-Dichloroethane (EDC)	ND	0.0067	0.026		mg/Kg	1	10/31/2016 4:35:30 PM	S38351
1,2-Dibromoethane (EDB)	ND	0.0018	0.026		mg/Kg	1	10/31/2016 4:35:30 PM	S38351
Naphthalene	0.022	0.0040	0.052	J	mg/Kg	1	10/31/2016 4:35:30 PM	S38351
1-Methylnaphthalene	ND	0.0057	0.10		mg/Kg	1	10/31/2016 4:35:30 PM	S38351
2-Methylnaphthalene	0.0062	0.0055	0.10	J	mg/Kg	1	10/31/2016 4:35:30 PM	S38351
Acetone	0.041	0.033	0.39	J	mg/Kg	1	10/31/2016 4:35:30 PM	S38351
Bromobenzene	ND	0.0021	0.026		mg/Kg	1	10/31/2016 4:35:30 PM	S38351
Bromodichloromethane	ND	0.0015	0.026		mg/Kg	1	10/31/2016 4:35:30 PM	S38351
Bromoform	ND	0.0031	0.026		mg/Kg	1	10/31/2016 4:35:30 PM	S38351
Bromomethane	0.018	0.0095	0.078	J	mg/Kg	1	10/31/2016 4:35:30 PM	S38351
2-Butanone	ND	0.015	0.26		mg/Kg	1	10/31/2016 4:35:30 PM	S38351
Carbon disulfide	ND	0.0085	0.26		mg/Kg	1	10/31/2016 4:35:30 PM	S38351
Carbon tetrachloride	ND	0.0017	0.026		mg/Kg	1	10/31/2016 4:35:30 PM	S38351
Chlorobenzene	ND	0.0021	0.026		mg/Kg	1	10/31/2016 4:35:30 PM	S38351
Chloroethane	ND	0.0052	0.052		mg/Kg	1	10/31/2016 4:35:30 PM	S38351
Chloroform	ND	0.0020	0.026		mg/Kg	1	10/31/2016 4:35:30 PM	S38351
Chloromethane	ND	0.0023	0.078		mg/Kg	1	10/31/2016 4:35:30 PM	S38351
2-Chlorotoluene	ND	0.0019	0.026		mg/Kg	1	10/31/2016 4:35:30 PM	S38351
4-Chlorotoluene	ND	0.0023	0.026		mg/Kg	1	10/31/2016 4:35:30 PM	S38351
cis-1,2-DCE	ND	0.0015	0.026		mg/Kg	1	10/31/2016 4:35:30 PM	S38351
cis-1,3-Dichloropropene	ND	0.0024	0.026		mg/Kg	1	10/31/2016 4:35:30 PM	S38351
1,2-Dibromo-3-chloropropane	ND	0.0079	0.052		mg/Kg	1	10/31/2016 4:35:30 PM	S38351
Dibromochloromethane	ND	0.0023	0.026		mg/Kg	1	10/31/2016 4:35:30 PM	S38351
Dibromomethane	ND	0.0022	0.026		mg/Kg	1	10/31/2016 4:35:30 PM	S38351
1,2-Dichlorobenzene	ND	0.0023	0.026		mg/Kg	1	10/31/2016 4:35:30 PM	S38351
1,3-Dichlorobenzene	ND	0.0021	0.026		mg/Kg	1	10/31/2016 4:35:30 PM	S38351
1,4-Dichlorobenzene	ND	0.0032	0.026		mg/Kg	1	10/31/2016 4:35:30 PM	S38351
Dichlorodifluoromethane	ND	0.0080	0.026		mg/Kg	1	10/31/2016 4:35:30 PM	S38351
1,1-Dichloroethane	ND	0.0014	0.026		mg/Kg	1	10/31/2016 4:35:30 PM	S38351
1,1-Dichloroethene	ND	0.0085	0.026		mg/Kg	1	10/31/2016 4:35:30 PM	S38351
1,2-Dichloropropane	ND	0.0022	0.026		mg/Kg	1	10/31/2016 4:35:30 PM	S38351
1,3-Dichloropropane	ND	0.0029	0.026		mg/Kg	1	10/31/2016 4:35:30 PM	S38351
2,2-Dichloropropane	ND	0.0015	0.052		mg/Kg	1	10/31/2016 4:35:30 PM	S38351
1,1-Dichloropropene	ND	0.0021	0.052		mg/Kg	1	10/31/2016 4:35:30 PM	S38351
Hexachlorobutadiene	ND	0.0032	0.052		mg/Kg	1	10/31/2016 4:35:30 PM	S38351
2-Hexanone	ND	0.014	0.26		mg/Kg	1	10/31/2016 4:35:30 PM	S38351
Isopropylbenzene	ND	0.0022	0.026		mg/Kg	1	10/31/2016 4:35:30 PM	S38351
4-Isopropyltoluene	ND	0.0023	0.026		mg/Kg	1	10/31/2016 4:35:30 PM	S38351
4-Methyl-2-pentanone	ND	0.0075	0.26		mg/Kg	1	10/31/2016 4:35:30 PM	S38351

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Intera, Inc. **Client Sample ID:** SB-7 (5-10)
Project: COA Railyards **Collection Date:** 10/25/2016 12:20:00 PM
Lab ID: 1610E23-007 **Matrix:** MEOH (SOIL) **Received Date:** 10/28/2016 10:11:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Methylene chloride	0.014	0.0075	0.078	J	mg/Kg	1	10/31/2016 4:35:30 PM	S38351
n-Butylbenzene	ND	0.0023	0.078		mg/Kg	1	10/31/2016 4:35:30 PM	S38351
n-Propylbenzene	ND	0.0020	0.026		mg/Kg	1	10/31/2016 4:35:30 PM	S38351
sec-Butylbenzene	ND	0.0036	0.026		mg/Kg	1	10/31/2016 4:35:30 PM	S38351
Styrene	ND	0.0023	0.026		mg/Kg	1	10/31/2016 4:35:30 PM	S38351
tert-Butylbenzene	ND	0.0021	0.026		mg/Kg	1	10/31/2016 4:35:30 PM	S38351
1,1,1,2-Tetrachloroethane	ND	0.0025	0.026		mg/Kg	1	10/31/2016 4:35:30 PM	S38351
1,1,2,2-Tetrachloroethane	ND	0.0042	0.026		mg/Kg	1	10/31/2016 4:35:30 PM	S38351
Tetrachloroethene (PCE)	ND	0.0021	0.026		mg/Kg	1	10/31/2016 4:35:30 PM	S38351
trans-1,2-DCE	ND	0.0072	0.026		mg/Kg	1	10/31/2016 4:35:30 PM	S38351
trans-1,3-Dichloropropene	ND	0.0038	0.026		mg/Kg	1	10/31/2016 4:35:30 PM	S38351
1,2,3-Trichlorobenzene	ND	0.0039	0.052		mg/Kg	1	10/31/2016 4:35:30 PM	S38351
1,2,4-Trichlorobenzene	ND	0.0028	0.026		mg/Kg	1	10/31/2016 4:35:30 PM	S38351
1,1,1-Trichloroethane	ND	0.0016	0.026		mg/Kg	1	10/31/2016 4:35:30 PM	S38351
1,1,2-Trichloroethane	ND	0.0030	0.026		mg/Kg	1	10/31/2016 4:35:30 PM	S38351
Trichloroethene (TCE)	ND	0.0028	0.026		mg/Kg	1	10/31/2016 4:35:30 PM	S38351
Trichlorofluoromethane	ND	0.0019	0.026		mg/Kg	1	10/31/2016 4:35:30 PM	S38351
1,2,3-Trichloropropane	ND	0.0045	0.052		mg/Kg	1	10/31/2016 4:35:30 PM	S38351
Vinyl chloride	ND	0.0021	0.026		mg/Kg	1	10/31/2016 4:35:30 PM	S38351
Xylenes, Total	ND	0.0049	0.052		mg/Kg	1	10/31/2016 4:35:30 PM	S38351
Surr: Dibromofluoromethane	105		70-130		%Rec	1	10/31/2016 4:35:30 PM	S38351
Surr: 1,2-Dichloroethane-d4	96.9		70-130		%Rec	1	10/31/2016 4:35:30 PM	S38351
Surr: Toluene-d8	96.7		70-130		%Rec	1	10/31/2016 4:35:30 PM	S38351
Surr: 4-Bromofluorobenzene	96.1		70-130		%Rec	1	10/31/2016 4:35:30 PM	S38351
EPA METHOD 8015D MOD: GASOLINE RANGE							Analyst: **DJF**	
Gasoline Range Organics (GRO)	ND	0.39	2.6		mg/Kg	1	10/31/2016 4:35:30 PM	GS3835
Surr: BFB	102	0	70-130		%Rec	1	10/31/2016 4:35:30 PM	GS3835

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Intera, Inc. **Client Sample ID:** SB-8 (5-10)
Project: COA Railyards **Collection Date:** 10/25/2016 1:56:00 PM
Lab ID: 1610E23-008 **Matrix:** MEOH (SOIL) **Received Date:** 10/28/2016 10:11:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	1.8	9.5		mg/Kg	1	11/1/2016 6:15:18 PM	28372
Motor Oil Range Organics (MRO)	ND	48	48		mg/Kg	1	11/1/2016 6:15:18 PM	28372
Surr: DNOP	98.2	0	70-130		%Rec	1	11/1/2016 6:15:18 PM	28372
EPA METHOD 8310: PAHS							Analyst: **SCC**	
Naphthalene	ND	0.034	0.25		mg/Kg	1	11/6/2016 8:58:19 PM	28374
1-Methylnaphthalene	ND	0.037	0.25		mg/Kg	1	11/6/2016 8:58:19 PM	28374
2-Methylnaphthalene	ND	0.035	0.25		mg/Kg	1	11/6/2016 8:58:19 PM	28374
Acenaphthylene	ND	0.033	0.25		mg/Kg	1	11/6/2016 8:58:19 PM	28374
Acenaphthene	ND	0.030	0.25		mg/Kg	1	11/6/2016 8:58:19 PM	28374
Fluorene	ND	0.0033	0.030		mg/Kg	1	11/6/2016 8:58:19 PM	28374
Phenanthrene	0.0037	0.0016	0.015	J	mg/Kg	1	11/6/2016 8:58:19 PM	28374
Anthracene	ND	0.0024	0.015		mg/Kg	1	11/6/2016 8:58:19 PM	28374
Fluoranthene	0.0040	0.0033	0.020	J	mg/Kg	1	11/6/2016 8:58:19 PM	28374
Pyrene	0.0037	0.0034	0.025	J	mg/Kg	1	11/6/2016 8:58:19 PM	28374
Benz(a)anthracene	0.00074	0.00049	0.0099	J	mg/Kg	1	11/6/2016 8:58:19 PM	28374
Chrysene	ND	0.0014	0.0099		mg/Kg	1	11/6/2016 8:58:19 PM	28374
Benzo(b)fluoranthene	ND	0.00070	0.0099		mg/Kg	1	11/6/2016 8:58:19 PM	28374
Benzo(k)fluoranthene	0.00049	0.00040	0.0099	J	mg/Kg	1	11/6/2016 8:58:19 PM	28374
Benzo(a)pyrene	0.00074	0.00040	0.0099	J	mg/Kg	1	11/6/2016 8:58:19 PM	28374
Dibenz(a,h)anthracene	ND	0.00049	0.0099		mg/Kg	1	11/6/2016 8:58:19 PM	28374
Benzo(g,h,i)perylene	ND	0.00059	0.0099		mg/Kg	1	11/6/2016 8:58:19 PM	28374
Indeno(1,2,3-cd)pyrene	ND	0.00079	0.0099		mg/Kg	1	11/6/2016 8:58:19 PM	28374
Surr: Benzo(e)pyrene	57.6	0	27.4-110		%Rec	1	11/6/2016 8:58:19 PM	28374
EPA METHOD 6010B: SOIL METALS							Analyst: **MED**	
Antimony	ND	0.98	2.4		mg/Kg	1	10/31/2016 12:13:50 PM	28363
Arsenic	1.7	0.87	2.4	J	mg/Kg	1	10/31/2016 12:13:50 PM	28363
Chromium	8.1	0.092	0.29		mg/Kg	1	10/31/2016 12:13:50 PM	28363
Iron	16000	74	240		mg/Kg	100	11/2/2016 10:38:09 AM	28363
Lead	3.6	0.17	0.24		mg/Kg	1	10/31/2016 12:13:50 PM	28363
Manganese	210	0.052	0.098		mg/Kg	1	10/31/2016 12:13:50 PM	28363
Thallium	ND	0.75	2.4		mg/Kg	1	10/31/2016 12:13:50 PM	28363
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Benzene	ND	0.011	0.014		mg/Kg	1	10/31/2016 5:04:19 PM	S38351
Toluene	ND	0.0017	0.029		mg/Kg	1	10/31/2016 5:04:19 PM	S38351
Ethylbenzene	ND	0.0023	0.029		mg/Kg	1	10/31/2016 5:04:19 PM	S38351
Methyl tert-butyl ether (MTBE)	ND	0.0090	0.029		mg/Kg	1	10/31/2016 5:04:19 PM	S38351
1,2,4-Trimethylbenzene	ND	0.0021	0.029		mg/Kg	1	10/31/2016 5:04:19 PM	S38351
1,3,5-Trimethylbenzene	ND	0.0021	0.029		mg/Kg	1	10/31/2016 5:04:19 PM	S38351

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Intera, Inc. **Client Sample ID:** SB-8 (5-10)
Project: COA Railyards **Collection Date:** 10/25/2016 1:56:00 PM
Lab ID: 1610E23-008 **Matrix:** MEOH (SOIL) **Received Date:** 10/28/2016 10:11:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
1,2-Dichloroethane (EDC)	ND	0.0074	0.029		mg/Kg	1	10/31/2016 5:04:19 PM	S38351
1,2-Dibromoethane (EDB)	ND	0.0020	0.029		mg/Kg	1	10/31/2016 5:04:19 PM	S38351
Naphthalene	ND	0.0045	0.057		mg/Kg	1	10/31/2016 5:04:19 PM	S38351
1-Methylnaphthalene	ND	0.0063	0.11		mg/Kg	1	10/31/2016 5:04:19 PM	S38351
2-Methylnaphthalene	ND	0.0061	0.11		mg/Kg	1	10/31/2016 5:04:19 PM	S38351
Acetone	ND	0.037	0.43		mg/Kg	1	10/31/2016 5:04:19 PM	S38351
Bromobenzene	ND	0.0023	0.029		mg/Kg	1	10/31/2016 5:04:19 PM	S38351
Bromodichloromethane	ND	0.0017	0.029		mg/Kg	1	10/31/2016 5:04:19 PM	S38351
Bromoform	ND	0.0035	0.029		mg/Kg	1	10/31/2016 5:04:19 PM	S38351
Bromomethane	0.011	0.010	0.086	J	mg/Kg	1	10/31/2016 5:04:19 PM	S38351
2-Butanone	ND	0.016	0.29		mg/Kg	1	10/31/2016 5:04:19 PM	S38351
Carbon disulfide	ND	0.0094	0.29		mg/Kg	1	10/31/2016 5:04:19 PM	S38351
Carbon tetrachloride	ND	0.0019	0.029		mg/Kg	1	10/31/2016 5:04:19 PM	S38351
Chlorobenzene	ND	0.0023	0.029		mg/Kg	1	10/31/2016 5:04:19 PM	S38351
Chloroethane	ND	0.0057	0.057		mg/Kg	1	10/31/2016 5:04:19 PM	S38351
Chloroform	ND	0.0022	0.029		mg/Kg	1	10/31/2016 5:04:19 PM	S38351
Chloromethane	ND	0.0025	0.086		mg/Kg	1	10/31/2016 5:04:19 PM	S38351
2-Chlorotoluene	ND	0.0021	0.029		mg/Kg	1	10/31/2016 5:04:19 PM	S38351
4-Chlorotoluene	ND	0.0025	0.029		mg/Kg	1	10/31/2016 5:04:19 PM	S38351
cis-1,2-DCE	ND	0.0017	0.029		mg/Kg	1	10/31/2016 5:04:19 PM	S38351
cis-1,3-Dichloropropene	ND	0.0026	0.029		mg/Kg	1	10/31/2016 5:04:19 PM	S38351
1,2-Dibromo-3-chloropropane	ND	0.0087	0.057		mg/Kg	1	10/31/2016 5:04:19 PM	S38351
Dibromochloromethane	ND	0.0026	0.029		mg/Kg	1	10/31/2016 5:04:19 PM	S38351
Dibromomethane	ND	0.0025	0.029		mg/Kg	1	10/31/2016 5:04:19 PM	S38351
1,2-Dichlorobenzene	ND	0.0025	0.029		mg/Kg	1	10/31/2016 5:04:19 PM	S38351
1,3-Dichlorobenzene	ND	0.0023	0.029		mg/Kg	1	10/31/2016 5:04:19 PM	S38351
1,4-Dichlorobenzene	ND	0.0035	0.029		mg/Kg	1	10/31/2016 5:04:19 PM	S38351
Dichlorodifluoromethane	ND	0.0088	0.029		mg/Kg	1	10/31/2016 5:04:19 PM	S38351
1,1-Dichloroethane	ND	0.0015	0.029		mg/Kg	1	10/31/2016 5:04:19 PM	S38351
1,1-Dichloroethene	ND	0.0093	0.029		mg/Kg	1	10/31/2016 5:04:19 PM	S38351
1,2-Dichloropropane	ND	0.0024	0.029		mg/Kg	1	10/31/2016 5:04:19 PM	S38351
1,3-Dichloropropane	ND	0.0032	0.029		mg/Kg	1	10/31/2016 5:04:19 PM	S38351
2,2-Dichloropropane	ND	0.0016	0.057		mg/Kg	1	10/31/2016 5:04:19 PM	S38351
1,1-Dichloropropene	ND	0.0023	0.057		mg/Kg	1	10/31/2016 5:04:19 PM	S38351
Hexachlorobutadiene	ND	0.0035	0.057		mg/Kg	1	10/31/2016 5:04:19 PM	S38351
2-Hexanone	ND	0.016	0.29		mg/Kg	1	10/31/2016 5:04:19 PM	S38351
Isopropylbenzene	ND	0.0024	0.029		mg/Kg	1	10/31/2016 5:04:19 PM	S38351
4-Isopropyltoluene	ND	0.0026	0.029		mg/Kg	1	10/31/2016 5:04:19 PM	S38351
4-Methyl-2-pentanone	ND	0.0083	0.29		mg/Kg	1	10/31/2016 5:04:19 PM	S38351

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Intera, Inc. **Client Sample ID:** SB-8 (5-10)
Project: COA Railyards **Collection Date:** 10/25/2016 1:56:00 PM
Lab ID: 1610E23-008 **Matrix:** MEOH (SOIL) **Received Date:** 10/28/2016 10:11:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Methylene chloride	0.021	0.0082	0.086	J	mg/Kg	1	10/31/2016 5:04:19 PM	S38351
n-Butylbenzene	ND	0.0025	0.086		mg/Kg	1	10/31/2016 5:04:19 PM	S38351
n-Propylbenzene	ND	0.0022	0.029		mg/Kg	1	10/31/2016 5:04:19 PM	S38351
sec-Butylbenzene	ND	0.0039	0.029		mg/Kg	1	10/31/2016 5:04:19 PM	S38351
Styrene	ND	0.0025	0.029		mg/Kg	1	10/31/2016 5:04:19 PM	S38351
tert-Butylbenzene	ND	0.0024	0.029		mg/Kg	1	10/31/2016 5:04:19 PM	S38351
1,1,1,2-Tetrachloroethane	ND	0.0027	0.029		mg/Kg	1	10/31/2016 5:04:19 PM	S38351
1,1,2,2-Tetrachloroethane	ND	0.0046	0.029		mg/Kg	1	10/31/2016 5:04:19 PM	S38351
Tetrachloroethene (PCE)	ND	0.0024	0.029		mg/Kg	1	10/31/2016 5:04:19 PM	S38351
trans-1,2-DCE	ND	0.0080	0.029		mg/Kg	1	10/31/2016 5:04:19 PM	S38351
trans-1,3-Dichloropropene	ND	0.0042	0.029		mg/Kg	1	10/31/2016 5:04:19 PM	S38351
1,2,3-Trichlorobenzene	ND	0.0043	0.057		mg/Kg	1	10/31/2016 5:04:19 PM	S38351
1,2,4-Trichlorobenzene	ND	0.0030	0.029		mg/Kg	1	10/31/2016 5:04:19 PM	S38351
1,1,1-Trichloroethane	ND	0.0017	0.029		mg/Kg	1	10/31/2016 5:04:19 PM	S38351
1,1,2-Trichloroethane	ND	0.0034	0.029		mg/Kg	1	10/31/2016 5:04:19 PM	S38351
Trichloroethene (TCE)	ND	0.0031	0.029		mg/Kg	1	10/31/2016 5:04:19 PM	S38351
Trichlorofluoromethane	ND	0.0021	0.029		mg/Kg	1	10/31/2016 5:04:19 PM	S38351
1,2,3-Trichloropropane	ND	0.0049	0.057		mg/Kg	1	10/31/2016 5:04:19 PM	S38351
Vinyl chloride	ND	0.0023	0.029		mg/Kg	1	10/31/2016 5:04:19 PM	S38351
Xylenes, Total	ND	0.0054	0.057		mg/Kg	1	10/31/2016 5:04:19 PM	S38351
Surr: Dibromofluoromethane	103		70-130		%Rec	1	10/31/2016 5:04:19 PM	S38351
Surr: 1,2-Dichloroethane-d4	93.6		70-130		%Rec	1	10/31/2016 5:04:19 PM	S38351
Surr: Toluene-d8	96.2		70-130		%Rec	1	10/31/2016 5:04:19 PM	S38351
Surr: 4-Bromofluorobenzene	93.7		70-130		%Rec	1	10/31/2016 5:04:19 PM	S38351
EPA METHOD 8015D MOD: GASOLINE RANGE							Analyst: **DJF**	
Gasoline Range Organics (GRO)	ND	0.43	2.9		mg/Kg	1	10/31/2016 5:04:19 PM	GS3835
Surr: BFB	99.7	0	70-130		%Rec	1	10/31/2016 5:04:19 PM	GS3835

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Intera, Inc. **Client Sample ID:** SB-9 (5-10)
Project: COA Railyards **Collection Date:** 10/25/2016 4:13:00 PM
Lab ID: 1610E23-009 **Matrix:** MEOH (SOIL) **Received Date:** 10/28/2016 10:11:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	1.7	9.4		mg/Kg	1	11/1/2016 6:37:25 PM	28372
Motor Oil Range Organics (MRO)	ND	47	47		mg/Kg	1	11/1/2016 6:37:25 PM	28372
Surr: DNOP	98.0	0	70-130		%Rec	1	11/1/2016 6:37:25 PM	28372
EPA METHOD 8310: PAHS							Analyst: **SCC**	
Naphthalene	ND	0.035	0.25		mg/Kg	1	11/6/2016 9:27:30 PM	28374
1-Methylnaphthalene	ND	0.037	0.25		mg/Kg	1	11/6/2016 9:27:30 PM	28374
2-Methylnaphthalene	ND	0.035	0.25		mg/Kg	1	11/6/2016 9:27:30 PM	28374
Acenaphthylene	ND	0.033	0.25		mg/Kg	1	11/6/2016 9:27:30 PM	28374
Acenaphthene	ND	0.031	0.25		mg/Kg	1	11/6/2016 9:27:30 PM	28374
Fluorene	ND	0.0033	0.030		mg/Kg	1	11/6/2016 9:27:30 PM	28374
Phenanthrene	0.0017	0.0016	0.015	J	mg/Kg	1	11/6/2016 9:27:30 PM	28374
Anthracene	ND	0.0024	0.015		mg/Kg	1	11/6/2016 9:27:30 PM	28374
Fluoranthene	ND	0.0033	0.020		mg/Kg	1	11/6/2016 9:27:30 PM	28374
Pyrene	ND	0.0034	0.025		mg/Kg	1	11/6/2016 9:27:30 PM	28374
Benz(a)anthracene	0.00050	0.00050	0.010	J	mg/Kg	1	11/6/2016 9:27:30 PM	28374
Chrysene	ND	0.0014	0.010		mg/Kg	1	11/6/2016 9:27:30 PM	28374
Benzo(b)fluoranthene	ND	0.00071	0.010		mg/Kg	1	11/6/2016 9:27:30 PM	28374
Benzo(k)fluoranthene	0.00050	0.00040	0.010	J	mg/Kg	1	11/6/2016 9:27:30 PM	28374
Benzo(a)pyrene	0.00050	0.00040	0.010	J	mg/Kg	1	11/6/2016 9:27:30 PM	28374
Dibenz(a,h)anthracene	ND	0.00050	0.010		mg/Kg	1	11/6/2016 9:27:30 PM	28374
Benzo(g,h,i)perylene	ND	0.00060	0.010		mg/Kg	1	11/6/2016 9:27:30 PM	28374
Indeno(1,2,3-cd)pyrene	ND	0.00080	0.010		mg/Kg	1	11/6/2016 9:27:30 PM	28374
Surr: Benzo(e)pyrene	48.0	0	27.4-110		%Rec	1	11/6/2016 9:27:30 PM	28374
EPA METHOD 6010B: SOIL METALS							Analyst: **MED**	
Antimony	ND	0.98	2.4		mg/Kg	1	10/31/2016 12:17:36 PM	28363
Arsenic	4.1	0.87	2.4		mg/Kg	1	10/31/2016 12:17:36 PM	28363
Chromium	7.3	0.092	0.29		mg/Kg	1	10/31/2016 12:17:36 PM	28363
Iron	11000	37	120		mg/Kg	50	10/31/2016 1:48:52 PM	28363
Lead	2.5	0.17	0.24		mg/Kg	1	10/31/2016 12:17:36 PM	28363
Manganese	240	0.052	0.098		mg/Kg	1	10/31/2016 12:17:36 PM	28363
Thallium	ND	0.75	2.4		mg/Kg	1	10/31/2016 12:17:36 PM	28363
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Benzene	ND	0.010	0.013		mg/Kg	1	10/31/2016 5:33:05 PM	S38351
Toluene	0.0022	0.0015	0.026	J	mg/Kg	1	10/31/2016 5:33:05 PM	S38351
Ethylbenzene	ND	0.0021	0.026		mg/Kg	1	10/31/2016 5:33:05 PM	S38351
Methyl tert-butyl ether (MTBE)	ND	0.0081	0.026		mg/Kg	1	10/31/2016 5:33:05 PM	S38351
1,2,4-Trimethylbenzene	ND	0.0019	0.026		mg/Kg	1	10/31/2016 5:33:05 PM	S38351
1,3,5-Trimethylbenzene	ND	0.0019	0.026		mg/Kg	1	10/31/2016 5:33:05 PM	S38351

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Intera, Inc. **Client Sample ID:** SB-9 (5-10)
Project: COA Railyards **Collection Date:** 10/25/2016 4:13:00 PM
Lab ID: 1610E23-009 **Matrix:** MEOH (SOIL) **Received Date:** 10/28/2016 10:11:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
1,2-Dichloroethane (EDC)	ND	0.0067	0.026		mg/Kg	1	10/31/2016 5:33:05 PM	S38351
1,2-Dibromoethane (EDB)	ND	0.0018	0.026		mg/Kg	1	10/31/2016 5:33:05 PM	S38351
Naphthalene	ND	0.0040	0.052		mg/Kg	1	10/31/2016 5:33:05 PM	S38351
1-Methylnaphthalene	ND	0.0057	0.10		mg/Kg	1	10/31/2016 5:33:05 PM	S38351
2-Methylnaphthalene	ND	0.0055	0.10		mg/Kg	1	10/31/2016 5:33:05 PM	S38351
Acetone	0.034	0.033	0.39	J	mg/Kg	1	10/31/2016 5:33:05 PM	S38351
Bromobenzene	ND	0.0021	0.026		mg/Kg	1	10/31/2016 5:33:05 PM	S38351
Bromodichloromethane	ND	0.0015	0.026		mg/Kg	1	10/31/2016 5:33:05 PM	S38351
Bromoform	ND	0.0031	0.026		mg/Kg	1	10/31/2016 5:33:05 PM	S38351
Bromomethane	0.021	0.0095	0.077	J	mg/Kg	1	10/31/2016 5:33:05 PM	S38351
2-Butanone	0.026	0.015	0.26	J	mg/Kg	1	10/31/2016 5:33:05 PM	S38351
Carbon disulfide	ND	0.0085	0.26		mg/Kg	1	10/31/2016 5:33:05 PM	S38351
Carbon tetrachloride	ND	0.0017	0.026		mg/Kg	1	10/31/2016 5:33:05 PM	S38351
Chlorobenzene	ND	0.0021	0.026		mg/Kg	1	10/31/2016 5:33:05 PM	S38351
Chloroethane	ND	0.0052	0.052		mg/Kg	1	10/31/2016 5:33:05 PM	S38351
Chloroform	ND	0.0019	0.026		mg/Kg	1	10/31/2016 5:33:05 PM	S38351
Chloromethane	ND	0.0023	0.077		mg/Kg	1	10/31/2016 5:33:05 PM	S38351
2-Chlorotoluene	ND	0.0019	0.026		mg/Kg	1	10/31/2016 5:33:05 PM	S38351
4-Chlorotoluene	ND	0.0023	0.026		mg/Kg	1	10/31/2016 5:33:05 PM	S38351
cis-1,2-DCE	ND	0.0015	0.026		mg/Kg	1	10/31/2016 5:33:05 PM	S38351
cis-1,3-Dichloropropene	ND	0.0024	0.026		mg/Kg	1	10/31/2016 5:33:05 PM	S38351
1,2-Dibromo-3-chloropropane	ND	0.0079	0.052		mg/Kg	1	10/31/2016 5:33:05 PM	S38351
Dibromochloromethane	ND	0.0023	0.026		mg/Kg	1	10/31/2016 5:33:05 PM	S38351
Dibromomethane	ND	0.0022	0.026		mg/Kg	1	10/31/2016 5:33:05 PM	S38351
1,2-Dichlorobenzene	ND	0.0023	0.026		mg/Kg	1	10/31/2016 5:33:05 PM	S38351
1,3-Dichlorobenzene	ND	0.0021	0.026		mg/Kg	1	10/31/2016 5:33:05 PM	S38351
1,4-Dichlorobenzene	ND	0.0032	0.026		mg/Kg	1	10/31/2016 5:33:05 PM	S38351
Dichlorodifluoromethane	ND	0.0080	0.026		mg/Kg	1	10/31/2016 5:33:05 PM	S38351
1,1-Dichloroethane	ND	0.0014	0.026		mg/Kg	1	10/31/2016 5:33:05 PM	S38351
1,1-Dichloroethene	ND	0.0085	0.026		mg/Kg	1	10/31/2016 5:33:05 PM	S38351
1,2-Dichloropropane	ND	0.0022	0.026		mg/Kg	1	10/31/2016 5:33:05 PM	S38351
1,3-Dichloropropane	ND	0.0029	0.026		mg/Kg	1	10/31/2016 5:33:05 PM	S38351
2,2-Dichloropropane	ND	0.0015	0.052		mg/Kg	1	10/31/2016 5:33:05 PM	S38351
1,1-Dichloropropene	ND	0.0020	0.052		mg/Kg	1	10/31/2016 5:33:05 PM	S38351
Hexachlorobutadiene	ND	0.0032	0.052		mg/Kg	1	10/31/2016 5:33:05 PM	S38351
2-Hexanone	ND	0.014	0.26		mg/Kg	1	10/31/2016 5:33:05 PM	S38351
Isopropylbenzene	ND	0.0022	0.026		mg/Kg	1	10/31/2016 5:33:05 PM	S38351
4-Isopropyltoluene	ND	0.0023	0.026		mg/Kg	1	10/31/2016 5:33:05 PM	S38351
4-Methyl-2-pentanone	ND	0.0075	0.26		mg/Kg	1	10/31/2016 5:33:05 PM	S38351

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Intera, Inc. **Client Sample ID:** SB-9 (5-10)
Project: COA Railyards **Collection Date:** 10/25/2016 4:13:00 PM
Lab ID: 1610E23-009 **Matrix:** MEOH (SOIL) **Received Date:** 10/28/2016 10:11:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Methylene chloride	0.022	0.0074	0.077	J	mg/Kg	1	10/31/2016 5:33:05 PM	S38351
n-Butylbenzene	ND	0.0023	0.077		mg/Kg	1	10/31/2016 5:33:05 PM	S38351
n-Propylbenzene	ND	0.0020	0.026		mg/Kg	1	10/31/2016 5:33:05 PM	S38351
sec-Butylbenzene	ND	0.0036	0.026		mg/Kg	1	10/31/2016 5:33:05 PM	S38351
Styrene	ND	0.0023	0.026		mg/Kg	1	10/31/2016 5:33:05 PM	S38351
tert-Butylbenzene	ND	0.0021	0.026		mg/Kg	1	10/31/2016 5:33:05 PM	S38351
1,1,1,2-Tetrachloroethane	ND	0.0025	0.026		mg/Kg	1	10/31/2016 5:33:05 PM	S38351
1,1,2,2-Tetrachloroethane	ND	0.0042	0.026		mg/Kg	1	10/31/2016 5:33:05 PM	S38351
Tetrachloroethene (PCE)	ND	0.0021	0.026		mg/Kg	1	10/31/2016 5:33:05 PM	S38351
trans-1,2-DCE	ND	0.0072	0.026		mg/Kg	1	10/31/2016 5:33:05 PM	S38351
trans-1,3-Dichloropropene	ND	0.0038	0.026		mg/Kg	1	10/31/2016 5:33:05 PM	S38351
1,2,3-Trichlorobenzene	ND	0.0039	0.052		mg/Kg	1	10/31/2016 5:33:05 PM	S38351
1,2,4-Trichlorobenzene	ND	0.0028	0.026		mg/Kg	1	10/31/2016 5:33:05 PM	S38351
1,1,1-Trichloroethane	ND	0.0016	0.026		mg/Kg	1	10/31/2016 5:33:05 PM	S38351
1,1,2-Trichloroethane	ND	0.0030	0.026		mg/Kg	1	10/31/2016 5:33:05 PM	S38351
Trichloroethene (TCE)	ND	0.0028	0.026		mg/Kg	1	10/31/2016 5:33:05 PM	S38351
Trichlorofluoromethane	ND	0.0019	0.026		mg/Kg	1	10/31/2016 5:33:05 PM	S38351
1,2,3-Trichloropropane	ND	0.0045	0.052		mg/Kg	1	10/31/2016 5:33:05 PM	S38351
Vinyl chloride	ND	0.0021	0.026		mg/Kg	1	10/31/2016 5:33:05 PM	S38351
Xylenes, Total	ND	0.0049	0.052		mg/Kg	1	10/31/2016 5:33:05 PM	S38351
Surr: Dibromofluoromethane	101		70-130		%Rec	1	10/31/2016 5:33:05 PM	S38351
Surr: 1,2-Dichloroethane-d4	96.4		70-130		%Rec	1	10/31/2016 5:33:05 PM	S38351
Surr: Toluene-d8	92.2		70-130		%Rec	1	10/31/2016 5:33:05 PM	S38351
Surr: 4-Bromofluorobenzene	96.2		70-130		%Rec	1	10/31/2016 5:33:05 PM	S38351
EPA METHOD 8015D MOD: GASOLINE RANGE							Analyst: **DJF**	
Gasoline Range Organics (GRO)	ND	0.39	2.6		mg/Kg	1	10/31/2016 5:33:05 PM	GS3835
Surr: BFB	97.3	0	70-130		%Rec	1	10/31/2016 5:33:05 PM	GS3835

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Intera, Inc. **Client Sample ID:** SB-10 (5-10)
Project: COA Railyards **Collection Date:** 10/25/2016 5:55:00 PM
Lab ID: 1610E23-010 **Matrix:** MEOH (SOIL) **Received Date:** 10/28/2016 10:11:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	1.7	9.4		mg/Kg	1	11/1/2016 6:59:27 PM	28372
Motor Oil Range Organics (MRO)	ND	47	47		mg/Kg	1	11/1/2016 6:59:27 PM	28372
Surr: DNOP	98.1	0	70-130		%Rec	1	11/1/2016 6:59:27 PM	28372
EPA METHOD 8310: PAHS							Analyst: **SCC**	
Naphthalene	ND	0.035	0.25		mg/Kg	1	11/6/2016 9:56:44 PM	28398
1-Methylnaphthalene	ND	0.037	0.25		mg/Kg	1	11/6/2016 9:56:44 PM	28398
2-Methylnaphthalene	ND	0.035	0.25		mg/Kg	1	11/6/2016 9:56:44 PM	28398
Acenaphthylene	ND	0.033	0.25		mg/Kg	1	11/6/2016 9:56:44 PM	28398
Acenaphthene	ND	0.031	0.25		mg/Kg	1	11/6/2016 9:56:44 PM	28398
Fluorene	ND	0.0033	0.030		mg/Kg	1	11/6/2016 9:56:44 PM	28398
Phenanthrene	ND	0.0016	0.015		mg/Kg	1	11/6/2016 9:56:44 PM	28398
Anthracene	ND	0.0024	0.015		mg/Kg	1	11/6/2016 9:56:44 PM	28398
Fluoranthene	ND	0.0033	0.020		mg/Kg	1	11/6/2016 9:56:44 PM	28398
Pyrene	ND	0.0034	0.025		mg/Kg	1	11/6/2016 9:56:44 PM	28398
Benz(a)anthracene	ND	0.00050	0.010		mg/Kg	1	11/6/2016 9:56:44 PM	28398
Chrysene	ND	0.0014	0.010		mg/Kg	1	11/6/2016 9:56:44 PM	28398
Benzo(b)fluoranthene	ND	0.00071	0.010		mg/Kg	1	11/6/2016 9:56:44 PM	28398
Benzo(k)fluoranthene	ND	0.00040	0.010		mg/Kg	1	11/6/2016 9:56:44 PM	28398
Benzo(a)pyrene	ND	0.00040	0.010		mg/Kg	1	11/6/2016 9:56:44 PM	28398
Dibenz(a,h)anthracene	ND	0.00050	0.010		mg/Kg	1	11/6/2016 9:56:44 PM	28398
Benzo(g,h,i)perylene	ND	0.00060	0.010		mg/Kg	1	11/6/2016 9:56:44 PM	28398
Indeno(1,2,3-cd)pyrene	ND	0.00080	0.010		mg/Kg	1	11/6/2016 9:56:44 PM	28398
Surr: Benzo(e)pyrene	56.7	0	27.4-110		%Rec	1	11/6/2016 9:56:44 PM	28398
EPA METHOD 6010B: SOIL METALS							Analyst: **MED**	
Antimony	ND	0.99	2.5		mg/Kg	1	10/31/2016 12:21:18 PM	28363
Arsenic	2.3	0.88	2.5	J	mg/Kg	1	10/31/2016 12:21:18 PM	28363
Chromium	7.5	0.093	0.30		mg/Kg	1	10/31/2016 12:21:18 PM	28363
Iron	16000	74	250		mg/Kg	100	11/2/2016 10:39:40 AM	28363
Lead	3.4	0.17	0.25		mg/Kg	1	10/31/2016 12:21:18 PM	28363
Manganese	150	0.053	0.099		mg/Kg	1	10/31/2016 12:21:18 PM	28363
Thallium	ND	0.76	2.5		mg/Kg	1	10/31/2016 12:21:18 PM	28363
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Benzene	ND	0.012	0.015		mg/Kg	1	10/31/2016 6:01:47 PM	S38351
Toluene	ND	0.0018	0.031		mg/Kg	1	10/31/2016 6:01:47 PM	S38351
Ethylbenzene	ND	0.0025	0.031		mg/Kg	1	10/31/2016 6:01:47 PM	S38351
Methyl tert-butyl ether (MTBE)	ND	0.0097	0.031		mg/Kg	1	10/31/2016 6:01:47 PM	S38351
1,2,4-Trimethylbenzene	ND	0.0023	0.031		mg/Kg	1	10/31/2016 6:01:47 PM	S38351
1,3,5-Trimethylbenzene	ND	0.0022	0.031		mg/Kg	1	10/31/2016 6:01:47 PM	S38351

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Intera, Inc. **Client Sample ID:** SB-10 (5-10)
Project: COA Railyards **Collection Date:** 10/25/2016 5:55:00 PM
Lab ID: 1610E23-010 **Matrix:** MEOH (SOIL) **Received Date:** 10/28/2016 10:11:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
1,2-Dichloroethane (EDC)	ND	0.0081	0.031		mg/Kg	1	10/31/2016 6:01:47 PM	S38351
1,2-Dibromoethane (EDB)	ND	0.0022	0.031		mg/Kg	1	10/31/2016 6:01:47 PM	S38351
Naphthalene	ND	0.0048	0.062		mg/Kg	1	10/31/2016 6:01:47 PM	S38351
1-Methylnaphthalene	ND	0.0069	0.12		mg/Kg	1	10/31/2016 6:01:47 PM	S38351
2-Methylnaphthalene	ND	0.0066	0.12		mg/Kg	1	10/31/2016 6:01:47 PM	S38351
Acetone	ND	0.040	0.46		mg/Kg	1	10/31/2016 6:01:47 PM	S38351
Bromobenzene	ND	0.0025	0.031		mg/Kg	1	10/31/2016 6:01:47 PM	S38351
Bromodichloromethane	ND	0.0018	0.031		mg/Kg	1	10/31/2016 6:01:47 PM	S38351
Bromoform	ND	0.0038	0.031		mg/Kg	1	10/31/2016 6:01:47 PM	S38351
Bromomethane	0.022	0.011	0.093	J	mg/Kg	1	10/31/2016 6:01:47 PM	S38351
2-Butanone	0.042	0.018	0.31	J	mg/Kg	1	10/31/2016 6:01:47 PM	S38351
Carbon disulfide	ND	0.010	0.31		mg/Kg	1	10/31/2016 6:01:47 PM	S38351
Carbon tetrachloride	ND	0.0020	0.031		mg/Kg	1	10/31/2016 6:01:47 PM	S38351
Chlorobenzene	ND	0.0025	0.031		mg/Kg	1	10/31/2016 6:01:47 PM	S38351
Chloroethane	ND	0.0062	0.062		mg/Kg	1	10/31/2016 6:01:47 PM	S38351
Chloroform	ND	0.0023	0.031		mg/Kg	1	10/31/2016 6:01:47 PM	S38351
Chloromethane	ND	0.0028	0.093		mg/Kg	1	10/31/2016 6:01:47 PM	S38351
2-Chlorotoluene	ND	0.0023	0.031		mg/Kg	1	10/31/2016 6:01:47 PM	S38351
4-Chlorotoluene	ND	0.0027	0.031		mg/Kg	1	10/31/2016 6:01:47 PM	S38351
cis-1,2-DCE	ND	0.0018	0.031		mg/Kg	1	10/31/2016 6:01:47 PM	S38351
cis-1,3-Dichloropropene	ND	0.0029	0.031		mg/Kg	1	10/31/2016 6:01:47 PM	S38351
1,2-Dibromo-3-chloropropane	ND	0.0095	0.062		mg/Kg	1	10/31/2016 6:01:47 PM	S38351
Dibromochloromethane	ND	0.0028	0.031		mg/Kg	1	10/31/2016 6:01:47 PM	S38351
Dibromomethane	ND	0.0027	0.031		mg/Kg	1	10/31/2016 6:01:47 PM	S38351
1,2-Dichlorobenzene	ND	0.0027	0.031		mg/Kg	1	10/31/2016 6:01:47 PM	S38351
1,3-Dichlorobenzene	ND	0.0025	0.031		mg/Kg	1	10/31/2016 6:01:47 PM	S38351
1,4-Dichlorobenzene	ND	0.0038	0.031		mg/Kg	1	10/31/2016 6:01:47 PM	S38351
Dichlorodifluoromethane	ND	0.0096	0.031		mg/Kg	1	10/31/2016 6:01:47 PM	S38351
1,1-Dichloroethane	ND	0.0017	0.031		mg/Kg	1	10/31/2016 6:01:47 PM	S38351
1,1-Dichloroethene	ND	0.010	0.031		mg/Kg	1	10/31/2016 6:01:47 PM	S38351
1,2-Dichloropropane	ND	0.0026	0.031		mg/Kg	1	10/31/2016 6:01:47 PM	S38351
1,3-Dichloropropane	ND	0.0035	0.031		mg/Kg	1	10/31/2016 6:01:47 PM	S38351
2,2-Dichloropropane	ND	0.0018	0.062		mg/Kg	1	10/31/2016 6:01:47 PM	S38351
1,1-Dichloropropene	ND	0.0025	0.062		mg/Kg	1	10/31/2016 6:01:47 PM	S38351
Hexachlorobutadiene	ND	0.0038	0.062		mg/Kg	1	10/31/2016 6:01:47 PM	S38351
2-Hexanone	ND	0.017	0.31		mg/Kg	1	10/31/2016 6:01:47 PM	S38351
Isopropylbenzene	ND	0.0027	0.031		mg/Kg	1	10/31/2016 6:01:47 PM	S38351
4-Isopropyltoluene	ND	0.0028	0.031		mg/Kg	1	10/31/2016 6:01:47 PM	S38351
4-Methyl-2-pentanone	ND	0.0090	0.31		mg/Kg	1	10/31/2016 6:01:47 PM	S38351

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Intera, Inc. **Client Sample ID:** SB-10 (5-10)
Project: COA Railyards **Collection Date:** 10/25/2016 5:55:00 PM
Lab ID: 1610E23-010 **Matrix:** MEOH (SOIL) **Received Date:** 10/28/2016 10:11:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Methylene chloride	0.019	0.0089	0.093	J	mg/Kg	1	10/31/2016 6:01:47 PM	S38351
n-Butylbenzene	ND	0.0027	0.093		mg/Kg	1	10/31/2016 6:01:47 PM	S38351
n-Propylbenzene	ND	0.0024	0.031		mg/Kg	1	10/31/2016 6:01:47 PM	S38351
sec-Butylbenzene	ND	0.0043	0.031		mg/Kg	1	10/31/2016 6:01:47 PM	S38351
Styrene	ND	0.0028	0.031		mg/Kg	1	10/31/2016 6:01:47 PM	S38351
tert-Butylbenzene	ND	0.0026	0.031		mg/Kg	1	10/31/2016 6:01:47 PM	S38351
1,1,1,2-Tetrachloroethane	ND	0.0030	0.031		mg/Kg	1	10/31/2016 6:01:47 PM	S38351
1,1,2,2-Tetrachloroethane	ND	0.0050	0.031		mg/Kg	1	10/31/2016 6:01:47 PM	S38351
Tetrachloroethene (PCE)	ND	0.0026	0.031		mg/Kg	1	10/31/2016 6:01:47 PM	S38351
trans-1,2-DCE	ND	0.0087	0.031		mg/Kg	1	10/31/2016 6:01:47 PM	S38351
trans-1,3-Dichloropropene	ND	0.0045	0.031		mg/Kg	1	10/31/2016 6:01:47 PM	S38351
1,2,3-Trichlorobenzene	ND	0.0046	0.062		mg/Kg	1	10/31/2016 6:01:47 PM	S38351
1,2,4-Trichlorobenzene	ND	0.0033	0.031		mg/Kg	1	10/31/2016 6:01:47 PM	S38351
1,1,1-Trichloroethane	ND	0.0019	0.031		mg/Kg	1	10/31/2016 6:01:47 PM	S38351
1,1,2-Trichloroethane	ND	0.0036	0.031		mg/Kg	1	10/31/2016 6:01:47 PM	S38351
Trichloroethene (TCE)	ND	0.0033	0.031		mg/Kg	1	10/31/2016 6:01:47 PM	S38351
Trichlorofluoromethane	ND	0.0023	0.031		mg/Kg	1	10/31/2016 6:01:47 PM	S38351
1,2,3-Trichloropropane	ND	0.0054	0.062		mg/Kg	1	10/31/2016 6:01:47 PM	S38351
Vinyl chloride	ND	0.0025	0.031		mg/Kg	1	10/31/2016 6:01:47 PM	S38351
Xylenes, Total	ND	0.0059	0.062		mg/Kg	1	10/31/2016 6:01:47 PM	S38351
Surr: Dibromofluoromethane	103		70-130		%Rec	1	10/31/2016 6:01:47 PM	S38351
Surr: 1,2-Dichloroethane-d4	97.1		70-130		%Rec	1	10/31/2016 6:01:47 PM	S38351
Surr: Toluene-d8	93.8		70-130		%Rec	1	10/31/2016 6:01:47 PM	S38351
Surr: 4-Bromofluorobenzene	91.5		70-130		%Rec	1	10/31/2016 6:01:47 PM	S38351
EPA METHOD 8015D MOD: GASOLINE RANGE							Analyst: **DJF**	
Gasoline Range Organics (GRO)	ND	0.47	3.1		mg/Kg	1	10/31/2016 6:01:47 PM	GS3835
Surr: BFB	98.8	0	70-130		%Rec	1	10/31/2016 6:01:47 PM	GS3835

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Intera, Inc. **Client Sample ID:** SB-11 (0-5)
Project: COA Railyards **Collection Date:** 10/26/2016 8:02:00 AM
Lab ID: 1610E23-011 **Matrix:** MEOH (SOIL) **Received Date:** 10/28/2016 10:11:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	1.8	9.7		mg/Kg	1	11/1/2016 7:21:26 PM	28372
Motor Oil Range Organics (MRO)	ND	48	48		mg/Kg	1	11/1/2016 7:21:26 PM	28372
Surr: DNOP	101	0	70-130		%Rec	1	11/1/2016 7:21:26 PM	28372
EPA METHOD 8310: PAHS							Analyst: **SCC**	
Naphthalene	ND	0.033	0.24		mg/Kg	1	11/6/2016 11:24:33 PM	28398
1-Methylnaphthalene	ND	0.036	0.24		mg/Kg	1	11/6/2016 11:24:33 PM	28398
2-Methylnaphthalene	ND	0.034	0.24		mg/Kg	1	11/6/2016 11:24:33 PM	28398
Acenaphthylene	ND	0.032	0.24		mg/Kg	1	11/6/2016 11:24:33 PM	28398
Acenaphthene	ND	0.029	0.24		mg/Kg	1	11/6/2016 11:24:33 PM	28398
Fluorene	ND	0.0032	0.029		mg/Kg	1	11/6/2016 11:24:33 PM	28398
Phenanthrene	0.021	0.0015	0.014		mg/Kg	1	11/6/2016 11:24:33 PM	28398
Anthracene	0.0074	0.0023	0.014	J	mg/Kg	1	11/6/2016 11:24:33 PM	28398
Fluoranthene	0.031	0.0032	0.019		mg/Kg	1	11/6/2016 11:24:33 PM	28398
Pyrene	0.031	0.0033	0.024		mg/Kg	1	11/6/2016 11:24:33 PM	28398
Benz(a)anthracene	0.012	0.00048	0.0096		mg/Kg	1	11/6/2016 11:24:33 PM	28398
Chrysene	0.0074	0.0013	0.0096	J	mg/Kg	1	11/6/2016 11:24:33 PM	28398
Benzo(b)fluoranthene	0.0077	0.00068	0.0096	J	mg/Kg	1	11/6/2016 11:24:33 PM	28398
Benzo(k)fluoranthene	0.0086	0.00038	0.0096	J	mg/Kg	1	11/6/2016 11:24:33 PM	28398
Benzo(a)pyrene	0.015	0.00038	0.0096		mg/Kg	1	11/6/2016 11:24:33 PM	28398
Dibenz(a,h)anthracene	0.0043	0.00048	0.0096	J	mg/Kg	1	11/6/2016 11:24:33 PM	28398
Benzo(g,h,i)perylene	0.010	0.00058	0.0096		mg/Kg	1	11/6/2016 11:24:33 PM	28398
Indeno(1,2,3-cd)pyrene	0.023	0.00077	0.0096		mg/Kg	1	11/6/2016 11:24:33 PM	28398
Surr: Benzo(e)pyrene	48.4	0	27.4-110		%Rec	1	11/6/2016 11:24:33 PM	28398
EPA METHOD 6010B: SOIL METALS							Analyst: **MED**	
Antimony	ND	0.97	2.4		mg/Kg	1	10/31/2016 12:36:10 PM	28363
Arsenic	3.6	0.86	2.4		mg/Kg	1	10/31/2016 12:36:10 PM	28363
Chromium	5.5	0.091	0.29		mg/Kg	1	10/31/2016 12:36:10 PM	28363
Iron	8400	37	120		mg/Kg	50	10/31/2016 1:52:02 PM	28363
Lead	2.0	0.17	0.24		mg/Kg	1	10/31/2016 12:36:10 PM	28363
Manganese	230	0.052	0.097		mg/Kg	1	10/31/2016 12:36:10 PM	28363
Thallium	ND	0.75	2.4		mg/Kg	1	10/31/2016 12:36:10 PM	28363
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Benzene	ND	0.015	0.019		mg/Kg	1	10/31/2016 6:30:21 PM	S38351
Toluene	ND	0.0023	0.038		mg/Kg	1	10/31/2016 6:30:21 PM	S38351
Ethylbenzene	ND	0.0031	0.038		mg/Kg	1	10/31/2016 6:30:21 PM	S38351
Methyl tert-butyl ether (MTBE)	ND	0.012	0.038		mg/Kg	1	10/31/2016 6:30:21 PM	S38351
1,2,4-Trimethylbenzene	ND	0.0028	0.038		mg/Kg	1	10/31/2016 6:30:21 PM	S38351
1,3,5-Trimethylbenzene	ND	0.0028	0.038		mg/Kg	1	10/31/2016 6:30:21 PM	S38351

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Intera, Inc. **Client Sample ID:** SB-11 (0-5)
Project: COA Railyards **Collection Date:** 10/26/2016 8:02:00 AM
Lab ID: 1610E23-011 **Matrix:** MEOH (SOIL) **Received Date:** 10/28/2016 10:11:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
1,2-Dichloroethane (EDC)	ND	0.010	0.038		mg/Kg	1	10/31/2016 6:30:21 PM	S38351
1,2-Dibromoethane (EDB)	ND	0.0027	0.038		mg/Kg	1	10/31/2016 6:30:21 PM	S38351
Naphthalene	ND	0.0060	0.077		mg/Kg	1	10/31/2016 6:30:21 PM	S38351
1-Methylnaphthalene	ND	0.0085	0.15		mg/Kg	1	10/31/2016 6:30:21 PM	S38351
2-Methylnaphthalene	ND	0.0082	0.15		mg/Kg	1	10/31/2016 6:30:21 PM	S38351
Acetone	ND	0.050	0.58		mg/Kg	1	10/31/2016 6:30:21 PM	S38351
Bromobenzene	ND	0.0031	0.038		mg/Kg	1	10/31/2016 6:30:21 PM	S38351
Bromodichloromethane	ND	0.0022	0.038		mg/Kg	1	10/31/2016 6:30:21 PM	S38351
Bromoform	ND	0.0047	0.038		mg/Kg	1	10/31/2016 6:30:21 PM	S38351
Bromomethane	0.026	0.014	0.12	J	mg/Kg	1	10/31/2016 6:30:21 PM	S38351
2-Butanone	0.040	0.022	0.38	J	mg/Kg	1	10/31/2016 6:30:21 PM	S38351
Carbon disulfide	ND	0.013	0.38		mg/Kg	1	10/31/2016 6:30:21 PM	S38351
Carbon tetrachloride	ND	0.0025	0.038		mg/Kg	1	10/31/2016 6:30:21 PM	S38351
Chlorobenzene	ND	0.0031	0.038		mg/Kg	1	10/31/2016 6:30:21 PM	S38351
Chloroethane	ND	0.0077	0.077		mg/Kg	1	10/31/2016 6:30:21 PM	S38351
Chloroform	ND	0.0029	0.038		mg/Kg	1	10/31/2016 6:30:21 PM	S38351
Chloromethane	0.013	0.0034	0.12	J	mg/Kg	1	10/31/2016 6:30:21 PM	S38351
2-Chlorotoluene	ND	0.0028	0.038		mg/Kg	1	10/31/2016 6:30:21 PM	S38351
4-Chlorotoluene	ND	0.0034	0.038		mg/Kg	1	10/31/2016 6:30:21 PM	S38351
cis-1,2-DCE	ND	0.0022	0.038		mg/Kg	1	10/31/2016 6:30:21 PM	S38351
cis-1,3-Dichloropropene	ND	0.0035	0.038		mg/Kg	1	10/31/2016 6:30:21 PM	S38351
1,2-Dibromo-3-chloropropane	ND	0.012	0.077		mg/Kg	1	10/31/2016 6:30:21 PM	S38351
Dibromochloromethane	ND	0.0035	0.038		mg/Kg	1	10/31/2016 6:30:21 PM	S38351
Dibromomethane	ND	0.0033	0.038		mg/Kg	1	10/31/2016 6:30:21 PM	S38351
1,2-Dichlorobenzene	ND	0.0033	0.038		mg/Kg	1	10/31/2016 6:30:21 PM	S38351
1,3-Dichlorobenzene	ND	0.0031	0.038		mg/Kg	1	10/31/2016 6:30:21 PM	S38351
1,4-Dichlorobenzene	ND	0.0048	0.038		mg/Kg	1	10/31/2016 6:30:21 PM	S38351
Dichlorodifluoromethane	ND	0.012	0.038		mg/Kg	1	10/31/2016 6:30:21 PM	S38351
1,1-Dichloroethane	ND	0.0021	0.038		mg/Kg	1	10/31/2016 6:30:21 PM	S38351
1,1-Dichloroethene	ND	0.013	0.038		mg/Kg	1	10/31/2016 6:30:21 PM	S38351
1,2-Dichloropropane	ND	0.0032	0.038		mg/Kg	1	10/31/2016 6:30:21 PM	S38351
1,3-Dichloropropane	ND	0.0043	0.038		mg/Kg	1	10/31/2016 6:30:21 PM	S38351
2,2-Dichloropropane	ND	0.0022	0.077		mg/Kg	1	10/31/2016 6:30:21 PM	S38351
1,1-Dichloropropene	ND	0.0030	0.077		mg/Kg	1	10/31/2016 6:30:21 PM	S38351
Hexachlorobutadiene	ND	0.0047	0.077		mg/Kg	1	10/31/2016 6:30:21 PM	S38351
2-Hexanone	ND	0.021	0.38		mg/Kg	1	10/31/2016 6:30:21 PM	S38351
Isopropylbenzene	ND	0.0033	0.038		mg/Kg	1	10/31/2016 6:30:21 PM	S38351
4-Isopropyltoluene	ND	0.0034	0.038		mg/Kg	1	10/31/2016 6:30:21 PM	S38351
4-Methyl-2-pentanone	ND	0.011	0.38		mg/Kg	1	10/31/2016 6:30:21 PM	S38351

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Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Intera, Inc. **Client Sample ID:** SB-11 (0-5)
Project: COA Railyards **Collection Date:** 10/26/2016 8:02:00 AM
Lab ID: 1610E23-011 **Matrix:** MEOH (SOIL) **Received Date:** 10/28/2016 10:11:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Methylene chloride	0.026	0.011	0.12	J	mg/Kg	1	10/31/2016 6:30:21 PM	S38351
n-Butylbenzene	ND	0.0034	0.12		mg/Kg	1	10/31/2016 6:30:21 PM	S38351
n-Propylbenzene	ND	0.0030	0.038		mg/Kg	1	10/31/2016 6:30:21 PM	S38351
sec-Butylbenzene	ND	0.0053	0.038		mg/Kg	1	10/31/2016 6:30:21 PM	S38351
Styrene	ND	0.0034	0.038		mg/Kg	1	10/31/2016 6:30:21 PM	S38351
tert-Butylbenzene	ND	0.0032	0.038		mg/Kg	1	10/31/2016 6:30:21 PM	S38351
1,1,1,2-Tetrachloroethane	ND	0.0037	0.038		mg/Kg	1	10/31/2016 6:30:21 PM	S38351
1,1,2,2-Tetrachloroethane	ND	0.0062	0.038		mg/Kg	1	10/31/2016 6:30:21 PM	S38351
Tetrachloroethene (PCE)	ND	0.0032	0.038		mg/Kg	1	10/31/2016 6:30:21 PM	S38351
trans-1,2-DCE	ND	0.011	0.038		mg/Kg	1	10/31/2016 6:30:21 PM	S38351
trans-1,3-Dichloropropene	ND	0.0056	0.038		mg/Kg	1	10/31/2016 6:30:21 PM	S38351
1,2,3-Trichlorobenzene	ND	0.0057	0.077		mg/Kg	1	10/31/2016 6:30:21 PM	S38351
1,2,4-Trichlorobenzene	ND	0.0041	0.038		mg/Kg	1	10/31/2016 6:30:21 PM	S38351
1,1,1-Trichloroethane	ND	0.0023	0.038		mg/Kg	1	10/31/2016 6:30:21 PM	S38351
1,1,2-Trichloroethane	ND	0.0045	0.038		mg/Kg	1	10/31/2016 6:30:21 PM	S38351
Trichloroethene (TCE)	ND	0.0041	0.038		mg/Kg	1	10/31/2016 6:30:21 PM	S38351
Trichlorofluoromethane	ND	0.0029	0.038		mg/Kg	1	10/31/2016 6:30:21 PM	S38351
1,2,3-Trichloropropane	ND	0.0066	0.077		mg/Kg	1	10/31/2016 6:30:21 PM	S38351
Vinyl chloride	ND	0.0031	0.038		mg/Kg	1	10/31/2016 6:30:21 PM	S38351
Xylenes, Total	ND	0.0073	0.077		mg/Kg	1	10/31/2016 6:30:21 PM	S38351
Surr: Dibromofluoromethane	101		70-130		%Rec	1	10/31/2016 6:30:21 PM	S38351
Surr: 1,2-Dichloroethane-d4	95.1		70-130		%Rec	1	10/31/2016 6:30:21 PM	S38351
Surr: Toluene-d8	97.9		70-130		%Rec	1	10/31/2016 6:30:21 PM	S38351
Surr: 4-Bromofluorobenzene	95.0		70-130		%Rec	1	10/31/2016 6:30:21 PM	S38351
EPA METHOD 8015D MOD: GASOLINE RANGE							Analyst: **DJF**	
Gasoline Range Organics (GRO)	ND	0.58	3.8		mg/Kg	1	10/31/2016 6:30:21 PM	GS3835
Surr: BFB	100	0	70-130		%Rec	1	10/31/2016 6:30:21 PM	GS3835

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R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Intera, Inc. **Client Sample ID:** SB-12 (0-5)
Project: COA Railyards **Collection Date:** 10/26/2016 8:52:00 AM
Lab ID: 1610E23-012 **Matrix:** MEOH (SOIL) **Received Date:** 10/28/2016 10:11:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: **TOM**	
Diesel Range Organics (DRO)	44	1.8	9.6		mg/Kg	1	11/2/2016 11:42:16 PM	28372
Motor Oil Range Organics (MRO)	110	48	48		mg/Kg	1	11/2/2016 11:42:16 PM	28372
Surr: DNOP	102	0	70-130		%Rec	1	11/2/2016 11:42:16 PM	28372
EPA METHOD 8310: PAHS							Analyst: **SCC**	
Naphthalene	ND	1.8	13	D	mg/Kg	10	11/7/2016 12:22:59 AM	28398
1-Methylnaphthalene	ND	1.9	13	D	mg/Kg	10	11/7/2016 12:22:59 AM	28398
2-Methylnaphthalene	ND	1.8	13	D	mg/Kg	10	11/7/2016 12:22:59 AM	28398
Acenaphthylene	ND	1.7	13	D	mg/Kg	10	11/7/2016 12:22:59 AM	28398
Acenaphthene	ND	1.5	13	D	mg/Kg	10	11/7/2016 12:22:59 AM	28398
Fluorene	ND	0.17	1.5	D	mg/Kg	10	11/7/2016 12:22:59 AM	28398
Phenanthrene	0.48	0.081	0.76	JD	mg/Kg	10	11/7/2016 12:22:59 AM	28398
Anthracene	ND	0.12	0.76	D	mg/Kg	10	11/7/2016 12:22:59 AM	28398
Fluoranthene	0.54	0.17	1.0	JD	mg/Kg	10	11/7/2016 12:22:59 AM	28398
Pyrene	1.0	0.17	1.3	JD	mg/Kg	10	11/7/2016 12:22:59 AM	28398
Benz(a)anthracene	0.39	0.025	0.51	JD	mg/Kg	10	11/7/2016 12:22:59 AM	28398
Chrysene	0.41	0.071	0.51	JD	mg/Kg	10	11/7/2016 12:22:59 AM	28398
Benzo(b)fluoranthene	0.29	0.036	0.51	JD	mg/Kg	10	11/7/2016 12:22:59 AM	28398
Benzo(k)fluoranthene	0.27	0.020	0.51	JD	mg/Kg	10	11/7/2016 12:22:59 AM	28398
Benzo(a)pyrene	0.72	0.020	0.51	D	mg/Kg	10	11/7/2016 12:22:59 AM	28398
Dibenz(a,h)anthracene	0.15	0.025	0.51	JD	mg/Kg	10	11/7/2016 12:22:59 AM	28398
Benzo(g,h,i)perylene	0.63	0.030	0.51	D	mg/Kg	10	11/7/2016 12:22:59 AM	28398
Indeno(1,2,3-cd)pyrene	0.97	0.041	0.51	D	mg/Kg	10	11/7/2016 12:22:59 AM	28398
Surr: Benzo(e)pyrene	0	0	27.4-110	SD	%Rec	10	11/7/2016 12:22:59 AM	28398
EPA METHOD 6010B: SOIL METALS							Analyst: **MED**	
Antimony	ND	0.99	2.5		mg/Kg	1	10/31/2016 12:39:59 PM	28363
Arsenic	2.6	0.87	2.5		mg/Kg	1	10/31/2016 12:39:59 PM	28363
Chromium	3.3	0.093	0.29		mg/Kg	1	10/31/2016 12:39:59 PM	28363
Iron	7800	37	120		mg/Kg	50	10/31/2016 1:53:34 PM	28363
Lead	490	8.5	12		mg/Kg	50	10/31/2016 1:53:34 PM	28363
Manganese	110	0.053	0.098		mg/Kg	1	10/31/2016 12:39:59 PM	28363
Thallium	ND	0.76	2.5		mg/Kg	1	10/31/2016 12:39:59 PM	28363
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Benzene	ND	0.014	0.017		mg/Kg	1	10/31/2016 6:58:56 PM	S38351
Toluene	0.0020	0.0020	0.034	J	mg/Kg	1	10/31/2016 6:58:56 PM	S38351
Ethylbenzene	ND	0.0028	0.034		mg/Kg	1	10/31/2016 6:58:56 PM	S38351
Methyl tert-butyl ether (MTBE)	ND	0.011	0.034		mg/Kg	1	10/31/2016 6:58:56 PM	S38351
1,2,4-Trimethylbenzene	ND	0.0025	0.034		mg/Kg	1	10/31/2016 6:58:56 PM	S38351
1,3,5-Trimethylbenzene	ND	0.0025	0.034		mg/Kg	1	10/31/2016 6:58:56 PM	S38351

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Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Intera, Inc. **Client Sample ID:** SB-12 (0-5)
Project: COA Railyards **Collection Date:** 10/26/2016 8:52:00 AM
Lab ID: 1610E23-012 **Matrix:** MEOH (SOIL) **Received Date:** 10/28/2016 10:11:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
1,2-Dichloroethane (EDC)	ND	0.0090	0.034		mg/Kg	1	10/31/2016 6:58:56 PM	S38351
1,2-Dibromoethane (EDB)	ND	0.0025	0.034		mg/Kg	1	10/31/2016 6:58:56 PM	S38351
Naphthalene	0.023	0.0054	0.069	J	mg/Kg	1	10/31/2016 6:58:56 PM	S38351
1-Methylnaphthalene	0.0079	0.0077	0.14	J	mg/Kg	1	10/31/2016 6:58:56 PM	S38351
2-Methylnaphthalene	0.014	0.0074	0.14	J	mg/Kg	1	10/31/2016 6:58:56 PM	S38351
Acetone	0.10	0.045	0.52	J	mg/Kg	1	10/31/2016 6:58:56 PM	S38351
Bromobenzene	ND	0.0028	0.034		mg/Kg	1	10/31/2016 6:58:56 PM	S38351
Bromodichloromethane	ND	0.0020	0.034		mg/Kg	1	10/31/2016 6:58:56 PM	S38351
Bromoform	ND	0.0042	0.034		mg/Kg	1	10/31/2016 6:58:56 PM	S38351
Bromomethane	0.032	0.013	0.10	J	mg/Kg	1	10/31/2016 6:58:56 PM	S38351
2-Butanone	0.032	0.020	0.34	J	mg/Kg	1	10/31/2016 6:58:56 PM	S38351
Carbon disulfide	ND	0.011	0.34		mg/Kg	1	10/31/2016 6:58:56 PM	S38351
Carbon tetrachloride	ND	0.0023	0.034		mg/Kg	1	10/31/2016 6:58:56 PM	S38351
Chlorobenzene	ND	0.0028	0.034		mg/Kg	1	10/31/2016 6:58:56 PM	S38351
Chloroethane	ND	0.0069	0.069		mg/Kg	1	10/31/2016 6:58:56 PM	S38351
Chloroform	0.017	0.0026	0.034	J	mg/Kg	1	10/31/2016 6:58:56 PM	S38351
Chloromethane	ND	0.0031	0.10		mg/Kg	1	10/31/2016 6:58:56 PM	S38351
2-Chlorotoluene	ND	0.0025	0.034		mg/Kg	1	10/31/2016 6:58:56 PM	S38351
4-Chlorotoluene	ND	0.0030	0.034		mg/Kg	1	10/31/2016 6:58:56 PM	S38351
cis-1,2-DCE	ND	0.0020	0.034		mg/Kg	1	10/31/2016 6:58:56 PM	S38351
cis-1,3-Dichloropropene	ND	0.0032	0.034		mg/Kg	1	10/31/2016 6:58:56 PM	S38351
1,2-Dibromo-3-chloropropane	ND	0.011	0.069		mg/Kg	1	10/31/2016 6:58:56 PM	S38351
Dibromochloromethane	ND	0.0031	0.034		mg/Kg	1	10/31/2016 6:58:56 PM	S38351
Dibromomethane	ND	0.0030	0.034		mg/Kg	1	10/31/2016 6:58:56 PM	S38351
1,2-Dichlorobenzene	ND	0.0030	0.034		mg/Kg	1	10/31/2016 6:58:56 PM	S38351
1,3-Dichlorobenzene	ND	0.0028	0.034		mg/Kg	1	10/31/2016 6:58:56 PM	S38351
1,4-Dichlorobenzene	ND	0.0043	0.034		mg/Kg	1	10/31/2016 6:58:56 PM	S38351
Dichlorodifluoromethane	ND	0.011	0.034		mg/Kg	1	10/31/2016 6:58:56 PM	S38351
1,1-Dichloroethane	ND	0.0019	0.034		mg/Kg	1	10/31/2016 6:58:56 PM	S38351
1,1-Dichloroethene	ND	0.011	0.034		mg/Kg	1	10/31/2016 6:58:56 PM	S38351
1,2-Dichloropropane	ND	0.0029	0.034		mg/Kg	1	10/31/2016 6:58:56 PM	S38351
1,3-Dichloropropane	ND	0.0039	0.034		mg/Kg	1	10/31/2016 6:58:56 PM	S38351
2,2-Dichloropropane	ND	0.0020	0.069		mg/Kg	1	10/31/2016 6:58:56 PM	S38351
1,1-Dichloropropene	ND	0.0027	0.069		mg/Kg	1	10/31/2016 6:58:56 PM	S38351
Hexachlorobutadiene	ND	0.0042	0.069		mg/Kg	1	10/31/2016 6:58:56 PM	S38351
2-Hexanone	ND	0.019	0.34		mg/Kg	1	10/31/2016 6:58:56 PM	S38351
Isopropylbenzene	ND	0.0030	0.034		mg/Kg	1	10/31/2016 6:58:56 PM	S38351
4-Isopropyltoluene	ND	0.0031	0.034		mg/Kg	1	10/31/2016 6:58:56 PM	S38351
4-Methyl-2-pentanone	ND	0.010	0.34		mg/Kg	1	10/31/2016 6:58:56 PM	S38351

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Intera, Inc. **Client Sample ID:** SB-12 (0-5)
Project: COA Railyards **Collection Date:** 10/26/2016 8:52:00 AM
Lab ID: 1610E23-012 **Matrix:** MEOH (SOIL) **Received Date:** 10/28/2016 10:11:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Methylene chloride	0.028	0.0099	0.10	J	mg/Kg	1	10/31/2016 6:58:56 PM	S38351
n-Butylbenzene	ND	0.0031	0.10		mg/Kg	1	10/31/2016 6:58:56 PM	S38351
n-Propylbenzene	ND	0.0027	0.034		mg/Kg	1	10/31/2016 6:58:56 PM	S38351
sec-Butylbenzene	ND	0.0048	0.034		mg/Kg	1	10/31/2016 6:58:56 PM	S38351
Styrene	ND	0.0031	0.034		mg/Kg	1	10/31/2016 6:58:56 PM	S38351
tert-Butylbenzene	ND	0.0029	0.034		mg/Kg	1	10/31/2016 6:58:56 PM	S38351
1,1,1,2-Tetrachloroethane	ND	0.0033	0.034		mg/Kg	1	10/31/2016 6:58:56 PM	S38351
1,1,2,2-Tetrachloroethane	ND	0.0056	0.034		mg/Kg	1	10/31/2016 6:58:56 PM	S38351
Tetrachloroethene (PCE)	ND	0.0029	0.034		mg/Kg	1	10/31/2016 6:58:56 PM	S38351
trans-1,2-DCE	ND	0.0097	0.034		mg/Kg	1	10/31/2016 6:58:56 PM	S38351
trans-1,3-Dichloropropene	ND	0.0050	0.034		mg/Kg	1	10/31/2016 6:58:56 PM	S38351
1,2,3-Trichlorobenzene	ND	0.0052	0.069		mg/Kg	1	10/31/2016 6:58:56 PM	S38351
1,2,4-Trichlorobenzene	ND	0.0037	0.034		mg/Kg	1	10/31/2016 6:58:56 PM	S38351
1,1,1-Trichloroethane	ND	0.0021	0.034		mg/Kg	1	10/31/2016 6:58:56 PM	S38351
1,1,2-Trichloroethane	ND	0.0041	0.034		mg/Kg	1	10/31/2016 6:58:56 PM	S38351
Trichloroethene (TCE)	ND	0.0037	0.034		mg/Kg	1	10/31/2016 6:58:56 PM	S38351
Trichlorofluoromethane	ND	0.0026	0.034		mg/Kg	1	10/31/2016 6:58:56 PM	S38351
1,2,3-Trichloropropane	ND	0.0060	0.069		mg/Kg	1	10/31/2016 6:58:56 PM	S38351
Vinyl chloride	ND	0.0028	0.034		mg/Kg	1	10/31/2016 6:58:56 PM	S38351
Xylenes, Total	ND	0.0065	0.069		mg/Kg	1	10/31/2016 6:58:56 PM	S38351
Surr: Dibromofluoromethane	100		70-130		%Rec	1	10/31/2016 6:58:56 PM	S38351
Surr: 1,2-Dichloroethane-d4	97.4		70-130		%Rec	1	10/31/2016 6:58:56 PM	S38351
Surr: Toluene-d8	94.7		70-130		%Rec	1	10/31/2016 6:58:56 PM	S38351
Surr: 4-Bromofluorobenzene	94.1		70-130		%Rec	1	10/31/2016 6:58:56 PM	S38351
EPA METHOD 8015D MOD: GASOLINE RANGE							Analyst: **DJF**	
Gasoline Range Organics (GRO)	0.54	0.52	3.4	J	mg/Kg	1	10/31/2016 6:58:56 PM	GS3835
Surr: BFB	99.2	0	70-130		%Rec	1	10/31/2016 6:58:56 PM	GS3835

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Intera, Inc. **Client Sample ID:** SB-13 (10-15)
Project: COA Railyards **Collection Date:** 10/26/2016 9:30:00 AM
Lab ID: 1610E23-013 **Matrix:** MEOH (SOIL) **Received Date:** 10/28/2016 10:11:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	1.7	9.3		mg/Kg	1	11/1/2016 8:27:10 PM	28372
Motor Oil Range Organics (MRO)	ND	47	47		mg/Kg	1	11/1/2016 8:27:10 PM	28372
Surr: DNOP	96.7	0	70-130		%Rec	1	11/1/2016 8:27:10 PM	28372
EPA METHOD 8310: PAHS							Analyst: **SCC**	
Naphthalene	ND	0.034	0.25		mg/Kg	1	11/7/2016 12:52:12 AM	28398
1-Methylnaphthalene	ND	0.037	0.25		mg/Kg	1	11/7/2016 12:52:12 AM	28398
2-Methylnaphthalene	ND	0.035	0.25		mg/Kg	1	11/7/2016 12:52:12 AM	28398
Acenaphthylene	ND	0.033	0.25		mg/Kg	1	11/7/2016 12:52:12 AM	28398
Acenaphthene	ND	0.030	0.25		mg/Kg	1	11/7/2016 12:52:12 AM	28398
Fluorene	ND	0.0033	0.030		mg/Kg	1	11/7/2016 12:52:12 AM	28398
Phenanthrene	0.0035	0.0016	0.015	J	mg/Kg	1	11/7/2016 12:52:12 AM	28398
Anthracene	ND	0.0024	0.015		mg/Kg	1	11/7/2016 12:52:12 AM	28398
Fluoranthene	ND	0.0033	0.020		mg/Kg	1	11/7/2016 12:52:12 AM	28398
Pyrene	ND	0.0034	0.025		mg/Kg	1	11/7/2016 12:52:12 AM	28398
Benz(a)anthracene	ND	0.00050	0.0099		mg/Kg	1	11/7/2016 12:52:12 AM	28398
Chrysene	ND	0.0014	0.0099		mg/Kg	1	11/7/2016 12:52:12 AM	28398
Benzo(b)fluoranthene	ND	0.00070	0.0099		mg/Kg	1	11/7/2016 12:52:12 AM	28398
Benzo(k)fluoranthene	ND	0.00040	0.0099		mg/Kg	1	11/7/2016 12:52:12 AM	28398
Benzo(a)pyrene	ND	0.00040	0.0099		mg/Kg	1	11/7/2016 12:52:12 AM	28398
Dibenz(a,h)anthracene	ND	0.00050	0.0099		mg/Kg	1	11/7/2016 12:52:12 AM	28398
Benzo(g,h,i)perylene	ND	0.00059	0.0099		mg/Kg	1	11/7/2016 12:52:12 AM	28398
Indeno(1,2,3-cd)pyrene	ND	0.00079	0.0099		mg/Kg	1	11/7/2016 12:52:12 AM	28398
Surr: Benzo(e)pyrene	56.0	0	27.4-110		%Rec	1	11/7/2016 12:52:12 AM	28398
EPA METHOD 6010B: SOIL METALS							Analyst: **MED**	
Antimony	ND	1.0	2.5		mg/Kg	1	10/31/2016 12:43:31 PM	28363
Arsenic	1.2	0.89	2.5	J	mg/Kg	1	10/31/2016 12:43:31 PM	28363
Chromium	3.7	0.094	0.30		mg/Kg	1	10/31/2016 12:43:31 PM	28363
Iron	5300	38	120		mg/Kg	50	10/31/2016 1:55:05 PM	28363
Lead	2.1	0.17	0.25		mg/Kg	1	10/31/2016 12:43:31 PM	28363
Manganese	35	0.053	0.10		mg/Kg	1	10/31/2016 12:43:31 PM	28363
Thallium	ND	0.77	2.5		mg/Kg	1	10/31/2016 12:43:31 PM	28363
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Benzene	ND	0.013	0.016		mg/Kg	1	10/31/2016 7:27:34 PM	S38351
Toluene	ND	0.0019	0.032		mg/Kg	1	10/31/2016 7:27:34 PM	S38351
Ethylbenzene	ND	0.0026	0.032		mg/Kg	1	10/31/2016 7:27:34 PM	S38351
Methyl tert-butyl ether (MTBE)	ND	0.010	0.032		mg/Kg	1	10/31/2016 7:27:34 PM	S38351
1,2,4-Trimethylbenzene	ND	0.0024	0.032		mg/Kg	1	10/31/2016 7:27:34 PM	S38351
1,3,5-Trimethylbenzene	ND	0.0023	0.032		mg/Kg	1	10/31/2016 7:27:34 PM	S38351

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Intera, Inc. **Client Sample ID:** SB-13 (10-15)
Project: COA Railyards **Collection Date:** 10/26/2016 9:30:00 AM
Lab ID: 1610E23-013 **Matrix:** MEOH (SOIL) **Received Date:** 10/28/2016 10:11:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
1,2-Dichloroethane (EDC)	ND	0.0084	0.032		mg/Kg	1	10/31/2016 7:27:34 PM	S38351
1,2-Dibromoethane (EDB)	ND	0.0023	0.032		mg/Kg	1	10/31/2016 7:27:34 PM	S38351
Naphthalene	ND	0.0050	0.064		mg/Kg	1	10/31/2016 7:27:34 PM	S38351
1-Methylnaphthalene	ND	0.0072	0.13		mg/Kg	1	10/31/2016 7:27:34 PM	S38351
2-Methylnaphthalene	ND	0.0069	0.13		mg/Kg	1	10/31/2016 7:27:34 PM	S38351
Acetone	0.043	0.042	0.48	J	mg/Kg	1	10/31/2016 7:27:34 PM	S38351
Bromobenzene	ND	0.0026	0.032		mg/Kg	1	10/31/2016 7:27:34 PM	S38351
Bromodichloromethane	ND	0.0019	0.032		mg/Kg	1	10/31/2016 7:27:34 PM	S38351
Bromoform	ND	0.0039	0.032		mg/Kg	1	10/31/2016 7:27:34 PM	S38351
Bromomethane	0.019	0.012	0.097	J	mg/Kg	1	10/31/2016 7:27:34 PM	S38351
2-Butanone	ND	0.018	0.32		mg/Kg	1	10/31/2016 7:27:34 PM	S38351
Carbon disulfide	ND	0.011	0.32		mg/Kg	1	10/31/2016 7:27:34 PM	S38351
Carbon tetrachloride	ND	0.0021	0.032		mg/Kg	1	10/31/2016 7:27:34 PM	S38351
Chlorobenzene	ND	0.0026	0.032		mg/Kg	1	10/31/2016 7:27:34 PM	S38351
Chloroethane	ND	0.0064	0.064		mg/Kg	1	10/31/2016 7:27:34 PM	S38351
Chloroform	ND	0.0024	0.032		mg/Kg	1	10/31/2016 7:27:34 PM	S38351
Chloromethane	ND	0.0029	0.097		mg/Kg	1	10/31/2016 7:27:34 PM	S38351
2-Chlorotoluene	ND	0.0024	0.032		mg/Kg	1	10/31/2016 7:27:34 PM	S38351
4-Chlorotoluene	ND	0.0028	0.032		mg/Kg	1	10/31/2016 7:27:34 PM	S38351
cis-1,2-DCE	ND	0.0019	0.032		mg/Kg	1	10/31/2016 7:27:34 PM	S38351
cis-1,3-Dichloropropene	ND	0.0030	0.032		mg/Kg	1	10/31/2016 7:27:34 PM	S38351
1,2-Dibromo-3-chloropropane	ND	0.0099	0.064		mg/Kg	1	10/31/2016 7:27:34 PM	S38351
Dibromochloromethane	ND	0.0029	0.032		mg/Kg	1	10/31/2016 7:27:34 PM	S38351
Dibromomethane	ND	0.0028	0.032		mg/Kg	1	10/31/2016 7:27:34 PM	S38351
1,2-Dichlorobenzene	ND	0.0028	0.032		mg/Kg	1	10/31/2016 7:27:34 PM	S38351
1,3-Dichlorobenzene	ND	0.0026	0.032		mg/Kg	1	10/31/2016 7:27:34 PM	S38351
1,4-Dichlorobenzene	ND	0.0040	0.032		mg/Kg	1	10/31/2016 7:27:34 PM	S38351
Dichlorodifluoromethane	ND	0.010	0.032		mg/Kg	1	10/31/2016 7:27:34 PM	S38351
1,1-Dichloroethane	ND	0.0017	0.032		mg/Kg	1	10/31/2016 7:27:34 PM	S38351
1,1-Dichloroethene	ND	0.011	0.032		mg/Kg	1	10/31/2016 7:27:34 PM	S38351
1,2-Dichloropropane	ND	0.0027	0.032		mg/Kg	1	10/31/2016 7:27:34 PM	S38351
1,3-Dichloropropane	ND	0.0037	0.032		mg/Kg	1	10/31/2016 7:27:34 PM	S38351
2,2-Dichloropropane	ND	0.0018	0.064		mg/Kg	1	10/31/2016 7:27:34 PM	S38351
1,1-Dichloropropene	ND	0.0026	0.064		mg/Kg	1	10/31/2016 7:27:34 PM	S38351
Hexachlorobutadiene	ND	0.0039	0.064		mg/Kg	1	10/31/2016 7:27:34 PM	S38351
2-Hexanone	ND	0.018	0.32		mg/Kg	1	10/31/2016 7:27:34 PM	S38351
Isopropylbenzene	ND	0.0028	0.032		mg/Kg	1	10/31/2016 7:27:34 PM	S38351
4-Isopropyltoluene	ND	0.0029	0.032		mg/Kg	1	10/31/2016 7:27:34 PM	S38351
4-Methyl-2-pentanone	ND	0.0094	0.32		mg/Kg	1	10/31/2016 7:27:34 PM	S38351

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Intera, Inc. **Client Sample ID:** SB-13 (10-15)
Project: COA Railyards **Collection Date:** 10/26/2016 9:30:00 AM
Lab ID: 1610E23-013 **Matrix:** MEOH (SOIL) **Received Date:** 10/28/2016 10:11:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Methylene chloride	0.025	0.0093	0.097	J	mg/Kg	1	10/31/2016 7:27:34 PM	S38351
n-Butylbenzene	ND	0.0028	0.097		mg/Kg	1	10/31/2016 7:27:34 PM	S38351
n-Propylbenzene	ND	0.0025	0.032		mg/Kg	1	10/31/2016 7:27:34 PM	S38351
sec-Butylbenzene	ND	0.0045	0.032		mg/Kg	1	10/31/2016 7:27:34 PM	S38351
Styrene	ND	0.0029	0.032		mg/Kg	1	10/31/2016 7:27:34 PM	S38351
tert-Butylbenzene	ND	0.0027	0.032		mg/Kg	1	10/31/2016 7:27:34 PM	S38351
1,1,1,2-Tetrachloroethane	ND	0.0031	0.032		mg/Kg	1	10/31/2016 7:27:34 PM	S38351
1,1,2,2-Tetrachloroethane	ND	0.0052	0.032		mg/Kg	1	10/31/2016 7:27:34 PM	S38351
Tetrachloroethene (PCE)	ND	0.0027	0.032		mg/Kg	1	10/31/2016 7:27:34 PM	S38351
trans-1,2-DCE	ND	0.0090	0.032		mg/Kg	1	10/31/2016 7:27:34 PM	S38351
trans-1,3-Dichloropropene	ND	0.0047	0.032		mg/Kg	1	10/31/2016 7:27:34 PM	S38351
1,2,3-Trichlorobenzene	ND	0.0048	0.064		mg/Kg	1	10/31/2016 7:27:34 PM	S38351
1,2,4-Trichlorobenzene	ND	0.0034	0.032		mg/Kg	1	10/31/2016 7:27:34 PM	S38351
1,1,1-Trichloroethane	ND	0.0020	0.032		mg/Kg	1	10/31/2016 7:27:34 PM	S38351
1,1,2-Trichloroethane	ND	0.0038	0.032		mg/Kg	1	10/31/2016 7:27:34 PM	S38351
Trichloroethene (TCE)	ND	0.0035	0.032		mg/Kg	1	10/31/2016 7:27:34 PM	S38351
Trichlorofluoromethane	ND	0.0024	0.032		mg/Kg	1	10/31/2016 7:27:34 PM	S38351
1,2,3-Trichloropropane	ND	0.0056	0.064		mg/Kg	1	10/31/2016 7:27:34 PM	S38351
Vinyl chloride	ND	0.0026	0.032		mg/Kg	1	10/31/2016 7:27:34 PM	S38351
Xylenes, Total	ND	0.0061	0.064		mg/Kg	1	10/31/2016 7:27:34 PM	S38351
Surr: Dibromofluoromethane	101		70-130		%Rec	1	10/31/2016 7:27:34 PM	S38351
Surr: 1,2-Dichloroethane-d4	95.0		70-130		%Rec	1	10/31/2016 7:27:34 PM	S38351
Surr: Toluene-d8	98.0		70-130		%Rec	1	10/31/2016 7:27:34 PM	S38351
Surr: 4-Bromofluorobenzene	98.4		70-130		%Rec	1	10/31/2016 7:27:34 PM	S38351
EPA METHOD 8015D MOD: GASOLINE RANGE							Analyst: **DJF**	
Gasoline Range Organics (GRO)	ND	0.48	3.2		mg/Kg	1	10/31/2016 7:27:34 PM	GS3835
Surr: BFB	105	0	70-130		%Rec	1	10/31/2016 7:27:34 PM	GS3835

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Intera, Inc. **Client Sample ID:** SB-14 (5-10)
Project: COA Railyards **Collection Date:** 10/26/2016 10:03:00 AM
Lab ID: 1610E23-014 **Matrix:** MEOH (SOIL) **Received Date:** 10/28/2016 10:11:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: **TOM**	
Diesel Range Organics (DRO)	1.8	1.8	9.5	J	mg/Kg	1	11/1/2016 8:49:07 PM	28372
Motor Oil Range Organics (MRO)	ND	47	47		mg/Kg	1	11/1/2016 8:49:07 PM	28372
Surr: DNOP	94.3	0	70-130		%Rec	1	11/1/2016 8:49:07 PM	28372
EPA METHOD 8310: PAHS							Analyst: **SCC**	
Naphthalene	0.036	0.034	0.24	J	mg/Kg	1	11/7/2016 1:21:26 AM	28398
1-Methylnaphthalene	ND	0.036	0.24		mg/Kg	1	11/7/2016 1:21:26 AM	28398
2-Methylnaphthalene	ND	0.034	0.24		mg/Kg	1	11/7/2016 1:21:26 AM	28398
Acenaphthylene	ND	0.033	0.24		mg/Kg	1	11/7/2016 1:21:26 AM	28398
Acenaphthene	ND	0.030	0.24		mg/Kg	1	11/7/2016 1:21:26 AM	28398
Fluorene	0.0068	0.0032	0.029	J	mg/Kg	1	11/7/2016 1:21:26 AM	28398
Phenanthrene	0.045	0.0016	0.015		mg/Kg	1	11/7/2016 1:21:26 AM	28398
Anthracene	0.0078	0.0023	0.015	J	mg/Kg	1	11/7/2016 1:21:26 AM	28398
Fluoranthene	0.034	0.0032	0.019		mg/Kg	1	11/7/2016 1:21:26 AM	28398
Pyrene	0.030	0.0033	0.024		mg/Kg	1	11/7/2016 1:21:26 AM	28398
Benz(a)anthracene	0.012	0.00049	0.0097		mg/Kg	1	11/7/2016 1:21:26 AM	28398
Chrysene	0.0054	0.0014	0.0097	J	mg/Kg	1	11/7/2016 1:21:26 AM	28398
Benzo(b)fluoranthene	0.0046	0.00069	0.0097	J	mg/Kg	1	11/7/2016 1:21:26 AM	28398
Benzo(k)fluoranthene	0.0056	0.00039	0.0097	J	mg/Kg	1	11/7/2016 1:21:26 AM	28398
Benzo(a)pyrene	0.011	0.00039	0.0097		mg/Kg	1	11/7/2016 1:21:26 AM	28398
Dibenz(a,h)anthracene	0.0012	0.00049	0.0097	J	mg/Kg	1	11/7/2016 1:21:26 AM	28398
Benzo(g,h,i)perylene	0.0063	0.00058	0.0097	J	mg/Kg	1	11/7/2016 1:21:26 AM	28398
Indeno(1,2,3-cd)pyrene	ND	0.00078	0.0097		mg/Kg	1	11/7/2016 1:21:26 AM	28398
Surr: Benzo(e)pyrene	52.8	0	27.4-110		%Rec	1	11/7/2016 1:21:26 AM	28398
EPA METHOD 6010B: SOIL METALS							Analyst: **MED**	
Antimony	ND	1.0	2.5		mg/Kg	1	10/31/2016 12:46:54 PM	28363
Arsenic	1.5	0.89	2.5	J	mg/Kg	1	10/31/2016 12:46:54 PM	28363
Chromium	5.5	0.094	0.30		mg/Kg	1	10/31/2016 12:46:54 PM	28363
Iron	9800	38	120		mg/Kg	50	10/31/2016 1:56:35 PM	28363
Lead	2.9	0.17	0.25		mg/Kg	1	10/31/2016 12:46:54 PM	28363
Manganese	93	0.053	0.10		mg/Kg	1	10/31/2016 12:46:54 PM	28363
Thallium	ND	0.77	2.5		mg/Kg	1	10/31/2016 12:46:54 PM	28363
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Benzene	ND	0.011	0.013		mg/Kg	1	10/31/2016 7:56:16 PM	S38351
Toluene	ND	0.0016	0.027		mg/Kg	1	10/31/2016 7:56:16 PM	S38351
Ethylbenzene	ND	0.0022	0.027		mg/Kg	1	10/31/2016 7:56:16 PM	S38351
Methyl tert-butyl ether (MTBE)	ND	0.0084	0.027		mg/Kg	1	10/31/2016 7:56:16 PM	S38351
1,2,4-Trimethylbenzene	ND	0.0020	0.027		mg/Kg	1	10/31/2016 7:56:16 PM	S38351
1,3,5-Trimethylbenzene	ND	0.0019	0.027		mg/Kg	1	10/31/2016 7:56:16 PM	S38351

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Intera, Inc. **Client Sample ID:** SB-14 (5-10)
Project: COA Railyards **Collection Date:** 10/26/2016 10:03:00 AM
Lab ID: 1610E23-014 **Matrix:** MEOH (SOIL) **Received Date:** 10/28/2016 10:11:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
1,2-Dichloroethane (EDC)	ND	0.0070	0.027		mg/Kg	1	10/31/2016 7:56:16 PM	S38351
1,2-Dibromoethane (EDB)	ND	0.0019	0.027		mg/Kg	1	10/31/2016 7:56:16 PM	S38351
Naphthalene	0.021	0.0042	0.053	J	mg/Kg	1	10/31/2016 7:56:16 PM	S38351
1-Methylnaphthalene	0.0068	0.0059	0.11	J	mg/Kg	1	10/31/2016 7:56:16 PM	S38351
2-Methylnaphthalene	0.0099	0.0057	0.11	J	mg/Kg	1	10/31/2016 7:56:16 PM	S38351
Acetone	ND	0.035	0.40		mg/Kg	1	10/31/2016 7:56:16 PM	S38351
Bromobenzene	ND	0.0022	0.027		mg/Kg	1	10/31/2016 7:56:16 PM	S38351
Bromodichloromethane	ND	0.0016	0.027		mg/Kg	1	10/31/2016 7:56:16 PM	S38351
Bromoform	ND	0.0032	0.027		mg/Kg	1	10/31/2016 7:56:16 PM	S38351
Bromomethane	0.012	0.0098	0.080	J	mg/Kg	1	10/31/2016 7:56:16 PM	S38351
2-Butanone	ND	0.015	0.27		mg/Kg	1	10/31/2016 7:56:16 PM	S38351
Carbon disulfide	ND	0.0088	0.27		mg/Kg	1	10/31/2016 7:56:16 PM	S38351
Carbon tetrachloride	ND	0.0018	0.027		mg/Kg	1	10/31/2016 7:56:16 PM	S38351
Chlorobenzene	ND	0.0022	0.027		mg/Kg	1	10/31/2016 7:56:16 PM	S38351
Chloroethane	ND	0.0053	0.053		mg/Kg	1	10/31/2016 7:56:16 PM	S38351
Chloroform	ND	0.0020	0.027		mg/Kg	1	10/31/2016 7:56:16 PM	S38351
Chloromethane	ND	0.0024	0.080		mg/Kg	1	10/31/2016 7:56:16 PM	S38351
2-Chlorotoluene	ND	0.0020	0.027		mg/Kg	1	10/31/2016 7:56:16 PM	S38351
4-Chlorotoluene	ND	0.0024	0.027		mg/Kg	1	10/31/2016 7:56:16 PM	S38351
cis-1,2-DCE	ND	0.0016	0.027		mg/Kg	1	10/31/2016 7:56:16 PM	S38351
cis-1,3-Dichloropropene	ND	0.0025	0.027		mg/Kg	1	10/31/2016 7:56:16 PM	S38351
1,2-Dibromo-3-chloropropane	ND	0.0082	0.053		mg/Kg	1	10/31/2016 7:56:16 PM	S38351
Dibromochloromethane	ND	0.0024	0.027		mg/Kg	1	10/31/2016 7:56:16 PM	S38351
Dibromomethane	ND	0.0023	0.027		mg/Kg	1	10/31/2016 7:56:16 PM	S38351
1,2-Dichlorobenzene	ND	0.0023	0.027		mg/Kg	1	10/31/2016 7:56:16 PM	S38351
1,3-Dichlorobenzene	ND	0.0022	0.027		mg/Kg	1	10/31/2016 7:56:16 PM	S38351
1,4-Dichlorobenzene	ND	0.0033	0.027		mg/Kg	1	10/31/2016 7:56:16 PM	S38351
Dichlorodifluoromethane	ND	0.0083	0.027		mg/Kg	1	10/31/2016 7:56:16 PM	S38351
1,1-Dichloroethane	ND	0.0014	0.027		mg/Kg	1	10/31/2016 7:56:16 PM	S38351
1,1-Dichloroethene	ND	0.0087	0.027		mg/Kg	1	10/31/2016 7:56:16 PM	S38351
1,2-Dichloropropane	ND	0.0022	0.027		mg/Kg	1	10/31/2016 7:56:16 PM	S38351
1,3-Dichloropropane	ND	0.0030	0.027		mg/Kg	1	10/31/2016 7:56:16 PM	S38351
2,2-Dichloropropane	ND	0.0015	0.053		mg/Kg	1	10/31/2016 7:56:16 PM	S38351
1,1-Dichloropropene	ND	0.0021	0.053		mg/Kg	1	10/31/2016 7:56:16 PM	S38351
Hexachlorobutadiene	ND	0.0033	0.053		mg/Kg	1	10/31/2016 7:56:16 PM	S38351
2-Hexanone	ND	0.015	0.27		mg/Kg	1	10/31/2016 7:56:16 PM	S38351
Isopropylbenzene	ND	0.0023	0.027		mg/Kg	1	10/31/2016 7:56:16 PM	S38351
4-Isopropyltoluene	ND	0.0024	0.027		mg/Kg	1	10/31/2016 7:56:16 PM	S38351
4-Methyl-2-pentanone	ND	0.0078	0.27		mg/Kg	1	10/31/2016 7:56:16 PM	S38351

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Intera, Inc. **Client Sample ID:** SB-14 (5-10)
Project: COA Railyards **Collection Date:** 10/26/2016 10:03:00 AM
Lab ID: 1610E23-014 **Matrix:** MEOH (SOIL) **Received Date:** 10/28/2016 10:11:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Methylene chloride	0.018	0.0077	0.080	J	mg/Kg	1	10/31/2016 7:56:16 PM	S38351
n-Butylbenzene	ND	0.0024	0.080		mg/Kg	1	10/31/2016 7:56:16 PM	S38351
n-Propylbenzene	0.0042	0.0021	0.027	J	mg/Kg	1	10/31/2016 7:56:16 PM	S38351
sec-Butylbenzene	0.0046	0.0037	0.027	J	mg/Kg	1	10/31/2016 7:56:16 PM	S38351
Styrene	ND	0.0024	0.027		mg/Kg	1	10/31/2016 7:56:16 PM	S38351
tert-Butylbenzene	ND	0.0022	0.027		mg/Kg	1	10/31/2016 7:56:16 PM	S38351
1,1,1,2-Tetrachloroethane	ND	0.0026	0.027		mg/Kg	1	10/31/2016 7:56:16 PM	S38351
1,1,2,2-Tetrachloroethane	ND	0.0043	0.027		mg/Kg	1	10/31/2016 7:56:16 PM	S38351
Tetrachloroethene (PCE)	ND	0.0022	0.027		mg/Kg	1	10/31/2016 7:56:16 PM	S38351
trans-1,2-DCE	ND	0.0075	0.027		mg/Kg	1	10/31/2016 7:56:16 PM	S38351
trans-1,3-Dichloropropene	ND	0.0039	0.027		mg/Kg	1	10/31/2016 7:56:16 PM	S38351
1,2,3-Trichlorobenzene	ND	0.0040	0.053		mg/Kg	1	10/31/2016 7:56:16 PM	S38351
1,2,4-Trichlorobenzene	ND	0.0029	0.027		mg/Kg	1	10/31/2016 7:56:16 PM	S38351
1,1,1-Trichloroethane	ND	0.0016	0.027		mg/Kg	1	10/31/2016 7:56:16 PM	S38351
1,1,2-Trichloroethane	ND	0.0031	0.027		mg/Kg	1	10/31/2016 7:56:16 PM	S38351
Trichloroethene (TCE)	ND	0.0029	0.027		mg/Kg	1	10/31/2016 7:56:16 PM	S38351
Trichlorofluoromethane	ND	0.0020	0.027		mg/Kg	1	10/31/2016 7:56:16 PM	S38351
1,2,3-Trichloropropane	ND	0.0046	0.053		mg/Kg	1	10/31/2016 7:56:16 PM	S38351
Vinyl chloride	ND	0.0022	0.027		mg/Kg	1	10/31/2016 7:56:16 PM	S38351
Xylenes, Total	ND	0.0051	0.053		mg/Kg	1	10/31/2016 7:56:16 PM	S38351
Surr: Dibromofluoromethane	101		70-130		%Rec	1	10/31/2016 7:56:16 PM	S38351
Surr: 1,2-Dichloroethane-d4	91.9		70-130		%Rec	1	10/31/2016 7:56:16 PM	S38351
Surr: Toluene-d8	93.3		70-130		%Rec	1	10/31/2016 7:56:16 PM	S38351
Surr: 4-Bromofluorobenzene	94.7		70-130		%Rec	1	10/31/2016 7:56:16 PM	S38351
EPA METHOD 8015D MOD: GASOLINE RANGE							Analyst: **DJF**	
Gasoline Range Organics (GRO)	ND	0.40	2.7		mg/Kg	1	10/31/2016 7:56:16 PM	GS3835
Surr: BFB	99.7	0	70-130		%Rec	1	10/31/2016 7:56:16 PM	GS3835

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Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Intera, Inc. **Client Sample ID:** SB-15 (3-6)
Project: COA Railyards **Collection Date:** 10/26/2016 10:35:00 AM
Lab ID: 1610E23-015 **Matrix:** MEOH (SOIL) **Received Date:** 10/28/2016 10:11:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: **TOM**	
Diesel Range Organics (DRO)	2.2	1.7	9.2	J	mg/Kg	1	11/1/2016 9:11:00 PM	28372
Motor Oil Range Organics (MRO)	ND	46	46		mg/Kg	1	11/1/2016 9:11:00 PM	28372
Surr: DNOP	93.6	0	70-130		%Rec	1	11/1/2016 9:11:00 PM	28372
EPA METHOD 8310: PAHS							Analyst: **SCC**	
Naphthalene	ND	0.035	0.25		mg/Kg	1	11/7/2016 1:50:38 AM	28398
1-Methylnaphthalene	ND	0.037	0.25		mg/Kg	1	11/7/2016 1:50:38 AM	28398
2-Methylnaphthalene	0.039	0.035	0.25	J	mg/Kg	1	11/7/2016 1:50:38 AM	28398
Acenaphthylene	ND	0.034	0.25		mg/Kg	1	11/7/2016 1:50:38 AM	28398
Acenaphthene	ND	0.031	0.25		mg/Kg	1	11/7/2016 1:50:38 AM	28398
Fluorene	ND	0.0033	0.030		mg/Kg	1	11/7/2016 1:50:38 AM	28398
Phenanthrene	0.0040	0.0016	0.015	J	mg/Kg	1	11/7/2016 1:50:38 AM	28398
Anthracene	ND	0.0024	0.015		mg/Kg	1	11/7/2016 1:50:38 AM	28398
Fluoranthene	ND	0.0033	0.020		mg/Kg	1	11/7/2016 1:50:38 AM	28398
Pyrene	ND	0.0034	0.025		mg/Kg	1	11/7/2016 1:50:38 AM	28398
Benz(a)anthracene	ND	0.00050	0.010		mg/Kg	1	11/7/2016 1:50:38 AM	28398
Chrysene	ND	0.0014	0.010		mg/Kg	1	11/7/2016 1:50:38 AM	28398
Benzo(b)fluoranthene	ND	0.00071	0.010		mg/Kg	1	11/7/2016 1:50:38 AM	28398
Benzo(k)fluoranthene	0.00050	0.00040	0.010	J	mg/Kg	1	11/7/2016 1:50:38 AM	28398
Benzo(a)pyrene	0.00075	0.00040	0.010	J	mg/Kg	1	11/7/2016 1:50:38 AM	28398
Dibenz(a,h)anthracene	ND	0.00050	0.010		mg/Kg	1	11/7/2016 1:50:38 AM	28398
Benzo(g,h,i)perylene	0.0010	0.00060	0.010	J	mg/Kg	1	11/7/2016 1:50:38 AM	28398
Indeno(1,2,3-cd)pyrene	0.0020	0.00080	0.010	J	mg/Kg	1	11/7/2016 1:50:38 AM	28398
Surr: Benzo(e)pyrene	55.7	0	27.4-110		%Rec	1	11/7/2016 1:50:38 AM	28398
EPA METHOD 6010B: SOIL METALS							Analyst: **MED**	
Antimony	ND	1.0	2.5		mg/Kg	1	10/31/2016 12:50:28 PM	28363
Arsenic	2.9	0.88	2.5		mg/Kg	1	10/31/2016 12:50:28 PM	28363
Chromium	7.2	0.094	0.30		mg/Kg	1	10/31/2016 12:50:28 PM	28363
Iron	12000	37	120		mg/Kg	50	10/31/2016 1:58:08 PM	28363
Lead	3.4	0.17	0.25		mg/Kg	1	10/31/2016 12:50:28 PM	28363
Manganese	330	0.11	0.20		mg/Kg	2	10/31/2016 12:52:15 PM	28363
Thallium	ND	0.77	2.5		mg/Kg	1	10/31/2016 12:50:28 PM	28363
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Benzene	ND	0.014	0.018		mg/Kg	1	11/1/2016 1:12:17 AM	S38351
Toluene	ND	0.0021	0.036		mg/Kg	1	11/1/2016 1:12:17 AM	S38351
Ethylbenzene	ND	0.0029	0.036		mg/Kg	1	11/1/2016 1:12:17 AM	S38351
Methyl tert-butyl ether (MTBE)	ND	0.011	0.036		mg/Kg	1	11/1/2016 1:12:17 AM	S38351
1,2,4-Trimethylbenzene	0.0029	0.0026	0.036	J	mg/Kg	1	11/1/2016 1:12:17 AM	S38351
1,3,5-Trimethylbenzene	ND	0.0026	0.036		mg/Kg	1	11/1/2016 1:12:17 AM	S38351

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Intera, Inc. **Client Sample ID:** SB-15 (3-6)
Project: COA Railyards **Collection Date:** 10/26/2016 10:35:00 AM
Lab ID: 1610E23-015 **Matrix:** MEOH (SOIL) **Received Date:** 10/28/2016 10:11:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
1,2-Dichloroethane (EDC)	ND	0.0093	0.036		mg/Kg	1	11/1/2016 1:12:17 AM	S38351
1,2-Dibromoethane (EDB)	ND	0.0025	0.036		mg/Kg	1	11/1/2016 1:12:17 AM	S38351
Naphthalene	0.0094	0.0056	0.071	J	mg/Kg	1	11/1/2016 1:12:17 AM	S38351
1-Methylnaphthalene	0.012	0.0079	0.14	J	mg/Kg	1	11/1/2016 1:12:17 AM	S38351
2-Methylnaphthalene	0.022	0.0076	0.14	J	mg/Kg	1	11/1/2016 1:12:17 AM	S38351
Acetone	0.074	0.046	0.53	J	mg/Kg	1	11/1/2016 1:12:17 AM	S38351
Bromobenzene	ND	0.0029	0.036		mg/Kg	1	11/1/2016 1:12:17 AM	S38351
Bromodichloromethane	ND	0.0021	0.036		mg/Kg	1	11/1/2016 1:12:17 AM	S38351
Bromoform	ND	0.0043	0.036		mg/Kg	1	11/1/2016 1:12:17 AM	S38351
Bromomethane	0.019	0.013	0.11	J	mg/Kg	1	11/1/2016 1:12:17 AM	S38351
2-Butanone	0.051	0.020	0.36	J	mg/Kg	1	11/1/2016 1:12:17 AM	S38351
Carbon disulfide	ND	0.012	0.36		mg/Kg	1	11/1/2016 1:12:17 AM	S38351
Carbon tetrachloride	ND	0.0023	0.036		mg/Kg	1	11/1/2016 1:12:17 AM	S38351
Chlorobenzene	ND	0.0029	0.036		mg/Kg	1	11/1/2016 1:12:17 AM	S38351
Chloroethane	ND	0.0071	0.071		mg/Kg	1	11/1/2016 1:12:17 AM	S38351
Chloroform	ND	0.0027	0.036		mg/Kg	1	11/1/2016 1:12:17 AM	S38351
Chloromethane	ND	0.0032	0.11		mg/Kg	1	11/1/2016 1:12:17 AM	S38351
2-Chlorotoluene	ND	0.0026	0.036		mg/Kg	1	11/1/2016 1:12:17 AM	S38351
4-Chlorotoluene	ND	0.0032	0.036		mg/Kg	1	11/1/2016 1:12:17 AM	S38351
cis-1,2-DCE	ND	0.0021	0.036		mg/Kg	1	11/1/2016 1:12:17 AM	S38351
cis-1,3-Dichloropropene	ND	0.0033	0.036		mg/Kg	1	11/1/2016 1:12:17 AM	S38351
1,2-Dibromo-3-chloropropane	ND	0.011	0.071		mg/Kg	1	11/1/2016 1:12:17 AM	S38351
Dibromochloromethane	ND	0.0032	0.036		mg/Kg	1	11/1/2016 1:12:17 AM	S38351
Dibromomethane	ND	0.0031	0.036		mg/Kg	1	11/1/2016 1:12:17 AM	S38351
1,2-Dichlorobenzene	ND	0.0031	0.036		mg/Kg	1	11/1/2016 1:12:17 AM	S38351
1,3-Dichlorobenzene	ND	0.0029	0.036		mg/Kg	1	11/1/2016 1:12:17 AM	S38351
1,4-Dichlorobenzene	ND	0.0044	0.036		mg/Kg	1	11/1/2016 1:12:17 AM	S38351
Dichlorodifluoromethane	ND	0.011	0.036		mg/Kg	1	11/1/2016 1:12:17 AM	S38351
1,1-Dichloroethane	ND	0.0019	0.036		mg/Kg	1	11/1/2016 1:12:17 AM	S38351
1,1-Dichloroethene	ND	0.012	0.036		mg/Kg	1	11/1/2016 1:12:17 AM	S38351
1,2-Dichloropropane	ND	0.0030	0.036		mg/Kg	1	11/1/2016 1:12:17 AM	S38351
1,3-Dichloropropane	ND	0.0040	0.036		mg/Kg	1	11/1/2016 1:12:17 AM	S38351
2,2-Dichloropropane	ND	0.0020	0.071		mg/Kg	1	11/1/2016 1:12:17 AM	S38351
1,1-Dichloropropene	ND	0.0028	0.071		mg/Kg	1	11/1/2016 1:12:17 AM	S38351
Hexachlorobutadiene	ND	0.0044	0.071		mg/Kg	1	11/1/2016 1:12:17 AM	S38351
2-Hexanone	ND	0.019	0.36		mg/Kg	1	11/1/2016 1:12:17 AM	S38351
Isopropylbenzene	ND	0.0031	0.036		mg/Kg	1	11/1/2016 1:12:17 AM	S38351
4-Isopropyltoluene	ND	0.0032	0.036		mg/Kg	1	11/1/2016 1:12:17 AM	S38351
4-Methyl-2-pentanone	ND	0.010	0.36		mg/Kg	1	11/1/2016 1:12:17 AM	S38351

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Intera, Inc. **Client Sample ID:** SB-15 (3-6)
Project: COA Railyards **Collection Date:** 10/26/2016 10:35:00 AM
Lab ID: 1610E23-015 **Matrix:** MEOH (SOIL) **Received Date:** 10/28/2016 10:11:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Methylene chloride	0.023	0.010	0.11	J	mg/Kg	1	11/1/2016 1:12:17 AM	S38351
n-Butylbenzene	ND	0.0032	0.11		mg/Kg	1	11/1/2016 1:12:17 AM	S38351
n-Propylbenzene	0.0072	0.0027	0.036	J	mg/Kg	1	11/1/2016 1:12:17 AM	S38351
sec-Butylbenzene	0.0070	0.0049	0.036	J	mg/Kg	1	11/1/2016 1:12:17 AM	S38351
Styrene	ND	0.0032	0.036		mg/Kg	1	11/1/2016 1:12:17 AM	S38351
tert-Butylbenzene	ND	0.0030	0.036		mg/Kg	1	11/1/2016 1:12:17 AM	S38351
1,1,1,2-Tetrachloroethane	ND	0.0034	0.036		mg/Kg	1	11/1/2016 1:12:17 AM	S38351
1,1,2,2-Tetrachloroethane	ND	0.0058	0.036		mg/Kg	1	11/1/2016 1:12:17 AM	S38351
Tetrachloroethene (PCE)	ND	0.0030	0.036		mg/Kg	1	11/1/2016 1:12:17 AM	S38351
trans-1,2-DCE	ND	0.010	0.036		mg/Kg	1	11/1/2016 1:12:17 AM	S38351
trans-1,3-Dichloropropene	ND	0.0052	0.036		mg/Kg	1	11/1/2016 1:12:17 AM	S38351
1,2,3-Trichlorobenzene	ND	0.0053	0.071		mg/Kg	1	11/1/2016 1:12:17 AM	S38351
1,2,4-Trichlorobenzene	ND	0.0038	0.036		mg/Kg	1	11/1/2016 1:12:17 AM	S38351
1,1,1-Trichloroethane	ND	0.0022	0.036		mg/Kg	1	11/1/2016 1:12:17 AM	S38351
1,1,2-Trichloroethane	ND	0.0042	0.036		mg/Kg	1	11/1/2016 1:12:17 AM	S38351
Trichloroethene (TCE)	ND	0.0038	0.036		mg/Kg	1	11/1/2016 1:12:17 AM	S38351
Trichlorofluoromethane	ND	0.0027	0.036		mg/Kg	1	11/1/2016 1:12:17 AM	S38351
1,2,3-Trichloropropane	ND	0.0062	0.071		mg/Kg	1	11/1/2016 1:12:17 AM	S38351
Vinyl chloride	ND	0.0029	0.036		mg/Kg	1	11/1/2016 1:12:17 AM	S38351
Xylenes, Total	ND	0.0067	0.071		mg/Kg	1	11/1/2016 1:12:17 AM	S38351
Surr: Dibromofluoromethane	100		70-130		%Rec	1	11/1/2016 1:12:17 AM	S38351
Surr: 1,2-Dichloroethane-d4	92.3		70-130		%Rec	1	11/1/2016 1:12:17 AM	S38351
Surr: Toluene-d8	94.6		70-130		%Rec	1	11/1/2016 1:12:17 AM	S38351
Surr: 4-Bromofluorobenzene	96.2		70-130		%Rec	1	11/1/2016 1:12:17 AM	S38351
EPA METHOD 8015D MOD: GASOLINE RANGE							Analyst: **DJF**	
Gasoline Range Organics (GRO)	0.76	0.54	3.6	J	mg/Kg	1	11/1/2016 1:12:17 AM	GS3835
Surr: BFB	100	0	70-130		%Rec	1	11/1/2016 1:12:17 AM	GS3835

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Intera, Inc. **Client Sample ID:** SB-16 (5-10)
Project: COA Railyards **Collection Date:** 10/26/2016 11:06:00 AM
Lab ID: 1610E23-016 **Matrix:** MEOH (SOIL) **Received Date:** 10/28/2016 10:11:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: **TOM**	
Diesel Range Organics (DRO)	120	1.8	9.9		mg/Kg	1	11/1/2016 9:32:58 PM	28372
Motor Oil Range Organics (MRO)	ND	50	50		mg/Kg	1	11/1/2016 9:32:58 PM	28372
Surr: DNOP	94.2	0	70-130		%Rec	1	11/1/2016 9:32:58 PM	28372
EPA METHOD 8310: PAHS							Analyst: **SCC**	
Naphthalene	ND	0.035	0.25		mg/Kg	1	11/7/2016 2:19:53 AM	28398
1-Methylnaphthalene	0.46	0.037	0.25		mg/Kg	1	11/7/2016 2:19:53 AM	28398
2-Methylnaphthalene	ND	0.035	0.25		mg/Kg	1	11/7/2016 2:19:53 AM	28398
Acenaphthylene	ND	0.034	0.25		mg/Kg	1	11/7/2016 2:19:53 AM	28398
Acenaphthene	ND	0.031	0.25		mg/Kg	1	11/7/2016 2:19:53 AM	28398
Fluorene	ND	0.0033	0.030		mg/Kg	1	11/7/2016 2:19:53 AM	28398
Phenanthrene	0.030	0.0016	0.015		mg/Kg	1	11/7/2016 2:19:53 AM	28398
Anthracene	ND	0.0024	0.015		mg/Kg	1	11/7/2016 2:19:53 AM	28398
Fluoranthene	0.0035	0.0033	0.020	J	mg/Kg	1	11/7/2016 2:19:53 AM	28398
Pyrene	0.0053	0.0034	0.025	J	mg/Kg	1	11/7/2016 2:19:53 AM	28398
Benz(a)anthracene	0.00076	0.00050	0.010	J	mg/Kg	1	11/7/2016 2:19:53 AM	28398
Chrysene	0.0035	0.0014	0.010	J	mg/Kg	1	11/7/2016 2:19:53 AM	28398
Benzo(b)fluoranthene	ND	0.00071	0.010		mg/Kg	1	11/7/2016 2:19:53 AM	28398
Benzo(k)fluoranthene	0.00050	0.00040	0.010	J	mg/Kg	1	11/7/2016 2:19:53 AM	28398
Benzo(a)pyrene	0.00076	0.00040	0.010	J	mg/Kg	1	11/7/2016 2:19:53 AM	28398
Dibenz(a,h)anthracene	ND	0.00050	0.010		mg/Kg	1	11/7/2016 2:19:53 AM	28398
Benzo(g,h,i)perylene	0.00076	0.00061	0.010	J	mg/Kg	1	11/7/2016 2:19:53 AM	28398
Indeno(1,2,3-cd)pyrene	ND	0.00081	0.010		mg/Kg	1	11/7/2016 2:19:53 AM	28398
Surr: Benzo(e)pyrene	57.4	0	27.4-110		%Rec	1	11/7/2016 2:19:53 AM	28398
EPA METHOD 6010B: SOIL METALS							Analyst: **MED**	
Antimony	ND	2.0	4.9		mg/Kg	2	10/31/2016 1:02:13 PM	28363
Arsenic	4.2	1.7	4.9	J	mg/Kg	2	10/31/2016 1:02:13 PM	28363
Chromium	8.8	0.18	0.58		mg/Kg	2	10/31/2016 1:02:13 PM	28363
Iron	11000	37	120		mg/Kg	50	10/31/2016 1:59:40 PM	28363
Lead	12	0.34	0.49		mg/Kg	2	10/31/2016 1:02:13 PM	28363
Manganese	120	0.10	0.19		mg/Kg	2	10/31/2016 1:02:13 PM	28363
Thallium	ND	1.5	4.9		mg/Kg	2	10/31/2016 1:02:13 PM	28363
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Benzene	ND	0.013	0.016		mg/Kg	1	11/1/2016 1:40:55 AM	S38351
Toluene	0.0034	0.0019	0.031	J	mg/Kg	1	11/1/2016 1:40:55 AM	S38351
Ethylbenzene	0.086	0.0026	0.031		mg/Kg	1	11/1/2016 1:40:55 AM	S38351
Methyl tert-butyl ether (MTBE)	ND	0.0099	0.031		mg/Kg	1	11/1/2016 1:40:55 AM	S38351
1,2,4-Trimethylbenzene	0.0028	0.0023	0.031	J	mg/Kg	1	11/1/2016 1:40:55 AM	S38351
1,3,5-Trimethylbenzene	ND	0.0023	0.031		mg/Kg	1	11/1/2016 1:40:55 AM	S38351

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Intera, Inc. **Client Sample ID:** SB-16 (5-10)
Project: COA Railyards **Collection Date:** 10/26/2016 11:06:00 AM
Lab ID: 1610E23-016 **Matrix:** MEOH (SOIL) **Received Date:** 10/28/2016 10:11:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
1,2-Dichloroethane (EDC)	ND	0.0082	0.031		mg/Kg	1	11/1/2016 1:40:55 AM	S38351
1,2-Dibromoethane (EDB)	ND	0.0022	0.031		mg/Kg	1	11/1/2016 1:40:55 AM	S38351
Naphthalene	0.013	0.0049	0.063	J	mg/Kg	1	11/1/2016 1:40:55 AM	S38351
1-Methylnaphthalene	0.66	0.0070	0.13		mg/Kg	1	11/1/2016 1:40:55 AM	S38351
2-Methylnaphthalene	0.0072	0.0067	0.13	J	mg/Kg	1	11/1/2016 1:40:55 AM	S38351
Acetone	0.053	0.041	0.47	J	mg/Kg	1	11/1/2016 1:40:55 AM	S38351
Bromobenzene	ND	0.0025	0.031		mg/Kg	1	11/1/2016 1:40:55 AM	S38351
Bromodichloromethane	ND	0.0018	0.031		mg/Kg	1	11/1/2016 1:40:55 AM	S38351
Bromoform	ND	0.0038	0.031		mg/Kg	1	11/1/2016 1:40:55 AM	S38351
Bromomethane	0.016	0.012	0.094	J	mg/Kg	1	11/1/2016 1:40:55 AM	S38351
2-Butanone	0.083	0.018	0.31	J	mg/Kg	1	11/1/2016 1:40:55 AM	S38351
Carbon disulfide	0.012	0.010	0.31	J	mg/Kg	1	11/1/2016 1:40:55 AM	S38351
Carbon tetrachloride	ND	0.0021	0.031		mg/Kg	1	11/1/2016 1:40:55 AM	S38351
Chlorobenzene	ND	0.0026	0.031		mg/Kg	1	11/1/2016 1:40:55 AM	S38351
Chloroethane	ND	0.0063	0.063		mg/Kg	1	11/1/2016 1:40:55 AM	S38351
Chloroform	ND	0.0024	0.031		mg/Kg	1	11/1/2016 1:40:55 AM	S38351
Chloromethane	0.011	0.0028	0.094	J	mg/Kg	1	11/1/2016 1:40:55 AM	S38351
2-Chlorotoluene	ND	0.0023	0.031		mg/Kg	1	11/1/2016 1:40:55 AM	S38351
4-Chlorotoluene	ND	0.0028	0.031		mg/Kg	1	11/1/2016 1:40:55 AM	S38351
cis-1,2-DCE	ND	0.0018	0.031		mg/Kg	1	11/1/2016 1:40:55 AM	S38351
cis-1,3-Dichloropropene	ND	0.0029	0.031		mg/Kg	1	11/1/2016 1:40:55 AM	S38351
1,2-Dibromo-3-chloropropane	ND	0.0096	0.063		mg/Kg	1	11/1/2016 1:40:55 AM	S38351
Dibromochloromethane	ND	0.0028	0.031		mg/Kg	1	11/1/2016 1:40:55 AM	S38351
Dibromomethane	ND	0.0027	0.031		mg/Kg	1	11/1/2016 1:40:55 AM	S38351
1,2-Dichlorobenzene	ND	0.0027	0.031		mg/Kg	1	11/1/2016 1:40:55 AM	S38351
1,3-Dichlorobenzene	ND	0.0026	0.031		mg/Kg	1	11/1/2016 1:40:55 AM	S38351
1,4-Dichlorobenzene	ND	0.0039	0.031		mg/Kg	1	11/1/2016 1:40:55 AM	S38351
Dichlorodifluoromethane	ND	0.0097	0.031		mg/Kg	1	11/1/2016 1:40:55 AM	S38351
1,1-Dichloroethane	ND	0.0017	0.031		mg/Kg	1	11/1/2016 1:40:55 AM	S38351
1,1-Dichloroethene	ND	0.010	0.031		mg/Kg	1	11/1/2016 1:40:55 AM	S38351
1,2-Dichloropropane	ND	0.0026	0.031		mg/Kg	1	11/1/2016 1:40:55 AM	S38351
1,3-Dichloropropane	ND	0.0036	0.031		mg/Kg	1	11/1/2016 1:40:55 AM	S38351
2,2-Dichloropropane	ND	0.0018	0.063		mg/Kg	1	11/1/2016 1:40:55 AM	S38351
1,1-Dichloropropene	ND	0.0025	0.063		mg/Kg	1	11/1/2016 1:40:55 AM	S38351
Hexachlorobutadiene	ND	0.0038	0.063		mg/Kg	1	11/1/2016 1:40:55 AM	S38351
2-Hexanone	ND	0.017	0.31		mg/Kg	1	11/1/2016 1:40:55 AM	S38351
Isopropylbenzene	0.14	0.0027	0.031		mg/Kg	1	11/1/2016 1:40:55 AM	S38351
4-Isopropyltoluene	0.054	0.0028	0.031		mg/Kg	1	11/1/2016 1:40:55 AM	S38351
4-Methyl-2-pentanone	ND	0.0092	0.31		mg/Kg	1	11/1/2016 1:40:55 AM	S38351

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Intera, Inc. **Client Sample ID:** SB-16 (5-10)
Project: COA Railyards **Collection Date:** 10/26/2016 11:06:00 AM
Lab ID: 1610E23-016 **Matrix:** MEOH (SOIL) **Received Date:** 10/28/2016 10:11:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Methylene chloride	0.021	0.0091	0.094	J	mg/Kg	1	11/1/2016 1:40:55 AM	S38351
n-Butylbenzene	0.19	0.0028	0.094		mg/Kg	1	11/1/2016 1:40:55 AM	S38351
n-Propylbenzene	0.38	0.0024	0.031		mg/Kg	1	11/1/2016 1:40:55 AM	S38351
sec-Butylbenzene	0.10	0.0044	0.031		mg/Kg	1	11/1/2016 1:40:55 AM	S38351
Styrene	ND	0.0028	0.031		mg/Kg	1	11/1/2016 1:40:55 AM	S38351
tert-Butylbenzene	0.015	0.0026	0.031	J	mg/Kg	1	11/1/2016 1:40:55 AM	S38351
1,1,1,2-Tetrachloroethane	ND	0.0030	0.031		mg/Kg	1	11/1/2016 1:40:55 AM	S38351
1,1,2,2-Tetrachloroethane	ND	0.0051	0.031		mg/Kg	1	11/1/2016 1:40:55 AM	S38351
Tetrachloroethene (PCE)	ND	0.0026	0.031		mg/Kg	1	11/1/2016 1:40:55 AM	S38351
trans-1,2-DCE	ND	0.0088	0.031		mg/Kg	1	11/1/2016 1:40:55 AM	S38351
trans-1,3-Dichloropropene	ND	0.0046	0.031		mg/Kg	1	11/1/2016 1:40:55 AM	S38351
1,2,3-Trichlorobenzene	ND	0.0047	0.063		mg/Kg	1	11/1/2016 1:40:55 AM	S38351
1,2,4-Trichlorobenzene	ND	0.0034	0.031		mg/Kg	1	11/1/2016 1:40:55 AM	S38351
1,1,1-Trichloroethane	ND	0.0019	0.031		mg/Kg	1	11/1/2016 1:40:55 AM	S38351
1,1,2-Trichloroethane	ND	0.0037	0.031		mg/Kg	1	11/1/2016 1:40:55 AM	S38351
Trichloroethene (TCE)	ND	0.0034	0.031		mg/Kg	1	11/1/2016 1:40:55 AM	S38351
Trichlorofluoromethane	ND	0.0024	0.031		mg/Kg	1	11/1/2016 1:40:55 AM	S38351
1,2,3-Trichloropropane	ND	0.0054	0.063		mg/Kg	1	11/1/2016 1:40:55 AM	S38351
Vinyl chloride	ND	0.0026	0.031		mg/Kg	1	11/1/2016 1:40:55 AM	S38351
Xylenes, Total	ND	0.0060	0.063		mg/Kg	1	11/1/2016 1:40:55 AM	S38351
Surr: Dibromofluoromethane	96.6		70-130		%Rec	1	11/1/2016 1:40:55 AM	S38351
Surr: 1,2-Dichloroethane-d4	94.1		70-130		%Rec	1	11/1/2016 1:40:55 AM	S38351
Surr: Toluene-d8	92.5		70-130		%Rec	1	11/1/2016 1:40:55 AM	S38351
Surr: 4-Bromofluorobenzene	129		70-130		%Rec	1	11/1/2016 1:40:55 AM	S38351
EPA METHOD 8015D MOD: GASOLINE RANGE							Analyst: **DJF**	
Gasoline Range Organics (GRO)	92	0.47	3.1		mg/Kg	1	11/1/2016 1:40:55 AM	GS3835
Surr: BFB	150	0	70-130	S	%Rec	1	11/1/2016 1:40:55 AM	GS3835

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Intera, Inc. **Client Sample ID:** SB-17 (3-6)
Project: COA Railyards **Collection Date:** 10/26/2016 11:40:00 AM
Lab ID: 1610E23-017 **Matrix:** MEOH (SOIL) **Received Date:** 10/28/2016 10:11:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	1.9	10		mg/Kg	1	11/1/2016 9:54:52 PM	28372
Motor Oil Range Organics (MRO)	ND	50	50		mg/Kg	1	11/1/2016 9:54:52 PM	28372
Surr: DNOP	92.1	0	70-130		%Rec	1	11/1/2016 9:54:52 PM	28372
EPA METHOD 8310: PAHS							Analyst: **SCC**	
Naphthalene	ND	0.035	0.25		mg/Kg	1	11/7/2016 2:49:07 AM	28398
1-Methylnaphthalene	ND	0.037	0.25		mg/Kg	1	11/7/2016 2:49:07 AM	28398
2-Methylnaphthalene	ND	0.035	0.25		mg/Kg	1	11/7/2016 2:49:07 AM	28398
Acenaphthylene	ND	0.033	0.25		mg/Kg	1	11/7/2016 2:49:07 AM	28398
Acenaphthene	ND	0.031	0.25		mg/Kg	1	11/7/2016 2:49:07 AM	28398
Fluorene	ND	0.0033	0.030		mg/Kg	1	11/7/2016 2:49:07 AM	28398
Phenanthrene	0.0070	0.0016	0.015	J	mg/Kg	1	11/7/2016 2:49:07 AM	28398
Anthracene	ND	0.0024	0.015		mg/Kg	1	11/7/2016 2:49:07 AM	28398
Fluoranthene	0.0075	0.0033	0.020	J	mg/Kg	1	11/7/2016 2:49:07 AM	28398
Pyrene	0.0075	0.0034	0.025	J	mg/Kg	1	11/7/2016 2:49:07 AM	28398
Benz(a)anthracene	0.0020	0.00050	0.010	J	mg/Kg	1	11/7/2016 2:49:07 AM	28398
Chrysene	0.0025	0.0014	0.010	J	mg/Kg	1	11/7/2016 2:49:07 AM	28398
Benzo(b)fluoranthene	ND	0.00071	0.010		mg/Kg	1	11/7/2016 2:49:07 AM	28398
Benzo(k)fluoranthene	0.0015	0.00040	0.010	J	mg/Kg	1	11/7/2016 2:49:07 AM	28398
Benzo(a)pyrene	0.0025	0.00040	0.010	J	mg/Kg	1	11/7/2016 2:49:07 AM	28398
Dibenz(a,h)anthracene	ND	0.00050	0.010		mg/Kg	1	11/7/2016 2:49:07 AM	28398
Benzo(g,h,i)perylene	0.0020	0.00060	0.010	J	mg/Kg	1	11/7/2016 2:49:07 AM	28398
Indeno(1,2,3-cd)pyrene	0.0010	0.00080	0.010	J	mg/Kg	1	11/7/2016 2:49:07 AM	28398
Surr: Benzo(e)pyrene	56.2	0	27.4-110		%Rec	1	11/7/2016 2:49:07 AM	28398
EPA METHOD 6010B: SOIL METALS							Analyst: **MED**	
Antimony	ND	1.0	2.5		mg/Kg	1	10/31/2016 1:04:02 PM	28363
Arsenic	3.6	0.88	2.5		mg/Kg	1	10/31/2016 1:04:02 PM	28363
Chromium	8.2	0.094	0.30		mg/Kg	1	10/31/2016 1:04:02 PM	28363
Iron	15000	75	250		mg/Kg	100	11/2/2016 10:41:09 AM	28363
Lead	4.9	0.17	0.25		mg/Kg	1	10/31/2016 1:04:02 PM	28363
Manganese	1100	0.27	0.50		mg/Kg	5	11/4/2016 10:28:42 AM	28363
Thallium	ND	0.77	2.5		mg/Kg	1	10/31/2016 1:04:02 PM	28363
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Benzene	ND	0.010	0.013		mg/Kg	1	11/1/2016 2:09:33 AM	S38351
Toluene	ND	0.0015	0.026		mg/Kg	1	11/1/2016 2:09:33 AM	S38351
Ethylbenzene	ND	0.0021	0.026		mg/Kg	1	11/1/2016 2:09:33 AM	S38351
Methyl tert-butyl ether (MTBE)	ND	0.0080	0.026		mg/Kg	1	11/1/2016 2:09:33 AM	S38351
1,2,4-Trimethylbenzene	ND	0.0019	0.026		mg/Kg	1	11/1/2016 2:09:33 AM	S38351
1,3,5-Trimethylbenzene	ND	0.0019	0.026		mg/Kg	1	11/1/2016 2:09:33 AM	S38351

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Intera, Inc. **Client Sample ID:** SB-17 (3-6)
Project: COA Railyards **Collection Date:** 10/26/2016 11:40:00 AM
Lab ID: 1610E23-017 **Matrix:** MEOH (SOIL) **Received Date:** 10/28/2016 10:11:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
1,2-Dichloroethane (EDC)	ND	0.0067	0.026		mg/Kg	1	11/1/2016 2:09:33 AM	S38351
1,2-Dibromoethane (EDB)	ND	0.0018	0.026		mg/Kg	1	11/1/2016 2:09:33 AM	S38351
Naphthalene	ND	0.0040	0.051		mg/Kg	1	11/1/2016 2:09:33 AM	S38351
1-Methylnaphthalene	0.031	0.0057	0.10	J	mg/Kg	1	11/1/2016 2:09:33 AM	S38351
2-Methylnaphthalene	ND	0.0055	0.10		mg/Kg	1	11/1/2016 2:09:33 AM	S38351
Acetone	ND	0.033	0.38		mg/Kg	1	11/1/2016 2:09:33 AM	S38351
Bromobenzene	ND	0.0021	0.026		mg/Kg	1	11/1/2016 2:09:33 AM	S38351
Bromodichloromethane	ND	0.0015	0.026		mg/Kg	1	11/1/2016 2:09:33 AM	S38351
Bromoform	ND	0.0031	0.026		mg/Kg	1	11/1/2016 2:09:33 AM	S38351
Bromomethane	ND	0.0094	0.077		mg/Kg	1	11/1/2016 2:09:33 AM	S38351
2-Butanone	0.027	0.015	0.26	J	mg/Kg	1	11/1/2016 2:09:33 AM	S38351
Carbon disulfide	ND	0.0084	0.26		mg/Kg	1	11/1/2016 2:09:33 AM	S38351
Carbon tetrachloride	ND	0.0017	0.026		mg/Kg	1	11/1/2016 2:09:33 AM	S38351
Chlorobenzene	ND	0.0021	0.026		mg/Kg	1	11/1/2016 2:09:33 AM	S38351
Chloroethane	ND	0.0051	0.051		mg/Kg	1	11/1/2016 2:09:33 AM	S38351
Chloroform	ND	0.0019	0.026		mg/Kg	1	11/1/2016 2:09:33 AM	S38351
Chloromethane	ND	0.0023	0.077		mg/Kg	1	11/1/2016 2:09:33 AM	S38351
2-Chlorotoluene	ND	0.0019	0.026		mg/Kg	1	11/1/2016 2:09:33 AM	S38351
4-Chlorotoluene	ND	0.0023	0.026		mg/Kg	1	11/1/2016 2:09:33 AM	S38351
cis-1,2-DCE	ND	0.0015	0.026		mg/Kg	1	11/1/2016 2:09:33 AM	S38351
cis-1,3-Dichloropropene	ND	0.0024	0.026		mg/Kg	1	11/1/2016 2:09:33 AM	S38351
1,2-Dibromo-3-chloropropane	ND	0.0078	0.051		mg/Kg	1	11/1/2016 2:09:33 AM	S38351
Dibromochloromethane	ND	0.0023	0.026		mg/Kg	1	11/1/2016 2:09:33 AM	S38351
Dibromomethane	ND	0.0022	0.026		mg/Kg	1	11/1/2016 2:09:33 AM	S38351
1,2-Dichlorobenzene	ND	0.0022	0.026		mg/Kg	1	11/1/2016 2:09:33 AM	S38351
1,3-Dichlorobenzene	ND	0.0021	0.026		mg/Kg	1	11/1/2016 2:09:33 AM	S38351
1,4-Dichlorobenzene	ND	0.0032	0.026		mg/Kg	1	11/1/2016 2:09:33 AM	S38351
Dichlorodifluoromethane	ND	0.0079	0.026		mg/Kg	1	11/1/2016 2:09:33 AM	S38351
1,1-Dichloroethane	ND	0.0014	0.026		mg/Kg	1	11/1/2016 2:09:33 AM	S38351
1,1-Dichloroethene	ND	0.0084	0.026		mg/Kg	1	11/1/2016 2:09:33 AM	S38351
1,2-Dichloropropane	ND	0.0021	0.026		mg/Kg	1	11/1/2016 2:09:33 AM	S38351
1,3-Dichloropropane	ND	0.0029	0.026		mg/Kg	1	11/1/2016 2:09:33 AM	S38351
2,2-Dichloropropane	ND	0.0015	0.051		mg/Kg	1	11/1/2016 2:09:33 AM	S38351
1,1-Dichloropropene	ND	0.0020	0.051		mg/Kg	1	11/1/2016 2:09:33 AM	S38351
Hexachlorobutadiene	ND	0.0031	0.051		mg/Kg	1	11/1/2016 2:09:33 AM	S38351
2-Hexanone	ND	0.014	0.26		mg/Kg	1	11/1/2016 2:09:33 AM	S38351
Isopropylbenzene	ND	0.0022	0.026		mg/Kg	1	11/1/2016 2:09:33 AM	S38351
4-Isopropyltoluene	ND	0.0023	0.026		mg/Kg	1	11/1/2016 2:09:33 AM	S38351
4-Methyl-2-pentanone	ND	0.0075	0.26		mg/Kg	1	11/1/2016 2:09:33 AM	S38351

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Qualifiers:

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H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
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S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Intera, Inc. **Client Sample ID:** SB-17 (3-6)
Project: COA Railyards **Collection Date:** 10/26/2016 11:40:00 AM
Lab ID: 1610E23-017 **Matrix:** MEOH (SOIL) **Received Date:** 10/28/2016 10:11:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Methylene chloride	0.016	0.0074	0.077	J	mg/Kg	1	11/1/2016 2:09:33 AM	S38351
n-Butylbenzene	ND	0.0023	0.077		mg/Kg	1	11/1/2016 2:09:33 AM	S38351
n-Propylbenzene	ND	0.0020	0.026		mg/Kg	1	11/1/2016 2:09:33 AM	S38351
sec-Butylbenzene	ND	0.0035	0.026		mg/Kg	1	11/1/2016 2:09:33 AM	S38351
Styrene	ND	0.0023	0.026		mg/Kg	1	11/1/2016 2:09:33 AM	S38351
tert-Butylbenzene	ND	0.0021	0.026		mg/Kg	1	11/1/2016 2:09:33 AM	S38351
1,1,1,2-Tetrachloroethane	ND	0.0024	0.026		mg/Kg	1	11/1/2016 2:09:33 AM	S38351
1,1,2,2-Tetrachloroethane	ND	0.0041	0.026		mg/Kg	1	11/1/2016 2:09:33 AM	S38351
Tetrachloroethene (PCE)	ND	0.0021	0.026		mg/Kg	1	11/1/2016 2:09:33 AM	S38351
trans-1,2-DCE	ND	0.0072	0.026		mg/Kg	1	11/1/2016 2:09:33 AM	S38351
trans-1,3-Dichloropropene	ND	0.0037	0.026		mg/Kg	1	11/1/2016 2:09:33 AM	S38351
1,2,3-Trichlorobenzene	ND	0.0038	0.051		mg/Kg	1	11/1/2016 2:09:33 AM	S38351
1,2,4-Trichlorobenzene	ND	0.0027	0.026		mg/Kg	1	11/1/2016 2:09:33 AM	S38351
1,1,1-Trichloroethane	ND	0.0016	0.026		mg/Kg	1	11/1/2016 2:09:33 AM	S38351
1,1,2-Trichloroethane	ND	0.0030	0.026		mg/Kg	1	11/1/2016 2:09:33 AM	S38351
Trichloroethene (TCE)	ND	0.0027	0.026		mg/Kg	1	11/1/2016 2:09:33 AM	S38351
Trichlorofluoromethane	ND	0.0019	0.026		mg/Kg	1	11/1/2016 2:09:33 AM	S38351
1,2,3-Trichloropropane	ND	0.0044	0.051		mg/Kg	1	11/1/2016 2:09:33 AM	S38351
Vinyl chloride	ND	0.0021	0.026		mg/Kg	1	11/1/2016 2:09:33 AM	S38351
Xylenes, Total	ND	0.0048	0.051		mg/Kg	1	11/1/2016 2:09:33 AM	S38351
Surr: Dibromofluoromethane	99.4		70-130		%Rec	1	11/1/2016 2:09:33 AM	S38351
Surr: 1,2-Dichloroethane-d4	96.2		70-130		%Rec	1	11/1/2016 2:09:33 AM	S38351
Surr: Toluene-d8	95.4		70-130		%Rec	1	11/1/2016 2:09:33 AM	S38351
Surr: 4-Bromofluorobenzene	96.2		70-130		%Rec	1	11/1/2016 2:09:33 AM	S38351
EPA METHOD 8015D MOD: GASOLINE RANGE							Analyst: **DJF**	
Gasoline Range Organics (GRO)	0.77	0.38	2.6	J	mg/Kg	1	11/1/2016 2:09:33 AM	GS3835
Surr: BFB	102	0	70-130		%Rec	1	11/1/2016 2:09:33 AM	GS3835

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Intera, Inc. **Client Sample ID:** SB-18 (3-6)
Project: COA Railyards **Collection Date:** 10/26/2016 12:02:00 PM
Lab ID: 1610E23-018 **Matrix:** MEOH (SOIL) **Received Date:** 10/28/2016 10:11:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: **TOM**	
Diesel Range Organics (DRO)	3.3	1.7	9.4	J	mg/Kg	1	11/1/2016 11:22:01 PM	28375
Motor Oil Range Organics (MRO)	ND	47	47		mg/Kg	1	11/1/2016 11:22:01 PM	28375
Surr: DNOP	94.4	0	70-130		%Rec	1	11/1/2016 11:22:01 PM	28375
EPA METHOD 8310: PAHS							Analyst: **SCC**	
Naphthalene	ND	0.034	0.24		mg/Kg	1	11/7/2016 3:18:20 AM	28398
1-Methylnaphthalene	ND	0.036	0.24		mg/Kg	1	11/7/2016 3:18:20 AM	28398
2-Methylnaphthalene	ND	0.034	0.24		mg/Kg	1	11/7/2016 3:18:20 AM	28398
Acenaphthylene	ND	0.033	0.24		mg/Kg	1	11/7/2016 3:18:20 AM	28398
Acenaphthene	ND	0.030	0.24		mg/Kg	1	11/7/2016 3:18:20 AM	28398
Fluorene	ND	0.0032	0.029		mg/Kg	1	11/7/2016 3:18:20 AM	28398
Phenanthrene	0.0024	0.0016	0.015	J	mg/Kg	1	11/7/2016 3:18:20 AM	28398
Anthracene	ND	0.0023	0.015		mg/Kg	1	11/7/2016 3:18:20 AM	28398
Fluoranthene	ND	0.0032	0.020		mg/Kg	1	11/7/2016 3:18:20 AM	28398
Pyrene	ND	0.0033	0.024		mg/Kg	1	11/7/2016 3:18:20 AM	28398
Benz(a)anthracene	ND	0.00049	0.0098		mg/Kg	1	11/7/2016 3:18:20 AM	28398
Chrysene	ND	0.0014	0.0098		mg/Kg	1	11/7/2016 3:18:20 AM	28398
Benzo(b)fluoranthene	ND	0.00069	0.0098		mg/Kg	1	11/7/2016 3:18:20 AM	28398
Benzo(k)fluoranthene	ND	0.00039	0.0098		mg/Kg	1	11/7/2016 3:18:20 AM	28398
Benzo(a)pyrene	ND	0.00039	0.0098		mg/Kg	1	11/7/2016 3:18:20 AM	28398
Dibenz(a,h)anthracene	ND	0.00049	0.0098		mg/Kg	1	11/7/2016 3:18:20 AM	28398
Benzo(g,h,i)perylene	0.00073	0.00059	0.0098	J	mg/Kg	1	11/7/2016 3:18:20 AM	28398
Indeno(1,2,3-cd)pyrene	ND	0.00078	0.0098		mg/Kg	1	11/7/2016 3:18:20 AM	28398
Surr: Benzo(e)pyrene	60.6	0	27.4-110		%Rec	1	11/7/2016 3:18:20 AM	28398
EPA METHOD 6010B: SOIL METALS							Analyst: **MED**	
Antimony	ND	0.96	2.4		mg/Kg	1	11/2/2016 11:23:58 AM	28364
Arsenic	3.0	0.85	2.4		mg/Kg	1	11/2/2016 11:23:58 AM	28364
Chromium	4.9	0.090	0.29		mg/Kg	1	11/2/2016 11:23:58 AM	28364
Iron	9200	72	240		mg/Kg	100	11/2/2016 10:42:40 AM	28364
Lead	3.0	0.17	0.24		mg/Kg	1	11/2/2016 11:23:58 AM	28364
Manganese	180	0.051	0.096		mg/Kg	1	11/2/2016 11:23:58 AM	28364
Thallium	ND	0.74	2.4		mg/Kg	1	11/2/2016 11:23:58 AM	28364
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Benzene	ND	0.012	0.015		mg/Kg	1	11/1/2016 2:38:06 AM	S38351
Toluene	ND	0.0017	0.029		mg/Kg	1	11/1/2016 2:38:06 AM	S38351
Ethylbenzene	ND	0.0024	0.029		mg/Kg	1	11/1/2016 2:38:06 AM	S38351
Methyl tert-butyl ether (MTBE)	ND	0.0092	0.029		mg/Kg	1	11/1/2016 2:38:06 AM	S38351
1,2,4-Trimethylbenzene	ND	0.0022	0.029		mg/Kg	1	11/1/2016 2:38:06 AM	S38351
1,3,5-Trimethylbenzene	ND	0.0021	0.029		mg/Kg	1	11/1/2016 2:38:06 AM	S38351

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Intera, Inc. **Client Sample ID:** SB-18 (3-6)
Project: COA Railyards **Collection Date:** 10/26/2016 12:02:00 PM
Lab ID: 1610E23-018 **Matrix:** MEOH (SOIL) **Received Date:** 10/28/2016 10:11:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
1,2-Dichloroethane (EDC)	ND	0.0076	0.029		mg/Kg	1	11/1/2016 2:38:06 AM	S38351
1,2-Dibromoethane (EDB)	ND	0.0021	0.029		mg/Kg	1	11/1/2016 2:38:06 AM	S38351
Naphthalene	ND	0.0046	0.058		mg/Kg	1	11/1/2016 2:38:06 AM	S38351
1-Methylnaphthalene	ND	0.0065	0.12		mg/Kg	1	11/1/2016 2:38:06 AM	S38351
2-Methylnaphthalene	ND	0.0063	0.12		mg/Kg	1	11/1/2016 2:38:06 AM	S38351
Acetone	ND	0.038	0.44		mg/Kg	1	11/1/2016 2:38:06 AM	S38351
Bromobenzene	ND	0.0024	0.029		mg/Kg	1	11/1/2016 2:38:06 AM	S38351
Bromodichloromethane	ND	0.0017	0.029		mg/Kg	1	11/1/2016 2:38:06 AM	S38351
Bromoform	ND	0.0036	0.029		mg/Kg	1	11/1/2016 2:38:06 AM	S38351
Bromomethane	0.012	0.011	0.088	J	mg/Kg	1	11/1/2016 2:38:06 AM	S38351
2-Butanone	0.029	0.017	0.29	J	mg/Kg	1	11/1/2016 2:38:06 AM	S38351
Carbon disulfide	ND	0.0097	0.29		mg/Kg	1	11/1/2016 2:38:06 AM	S38351
Carbon tetrachloride	ND	0.0019	0.029		mg/Kg	1	11/1/2016 2:38:06 AM	S38351
Chlorobenzene	ND	0.0024	0.029		mg/Kg	1	11/1/2016 2:38:06 AM	S38351
Chloroethane	ND	0.0058	0.058		mg/Kg	1	11/1/2016 2:38:06 AM	S38351
Chloroform	ND	0.0022	0.029		mg/Kg	1	11/1/2016 2:38:06 AM	S38351
Chloromethane	ND	0.0026	0.088		mg/Kg	1	11/1/2016 2:38:06 AM	S38351
2-Chlorotoluene	ND	0.0022	0.029		mg/Kg	1	11/1/2016 2:38:06 AM	S38351
4-Chlorotoluene	ND	0.0026	0.029		mg/Kg	1	11/1/2016 2:38:06 AM	S38351
cis-1,2-DCE	ND	0.0017	0.029		mg/Kg	1	11/1/2016 2:38:06 AM	S38351
cis-1,3-Dichloropropene	ND	0.0027	0.029		mg/Kg	1	11/1/2016 2:38:06 AM	S38351
1,2-Dibromo-3-chloropropane	ND	0.0090	0.058		mg/Kg	1	11/1/2016 2:38:06 AM	S38351
Dibromochloromethane	ND	0.0026	0.029		mg/Kg	1	11/1/2016 2:38:06 AM	S38351
Dibromomethane	ND	0.0025	0.029		mg/Kg	1	11/1/2016 2:38:06 AM	S38351
1,2-Dichlorobenzene	ND	0.0026	0.029		mg/Kg	1	11/1/2016 2:38:06 AM	S38351
1,3-Dichlorobenzene	ND	0.0024	0.029		mg/Kg	1	11/1/2016 2:38:06 AM	S38351
1,4-Dichlorobenzene	ND	0.0036	0.029		mg/Kg	1	11/1/2016 2:38:06 AM	S38351
Dichlorodifluoromethane	ND	0.0090	0.029		mg/Kg	1	11/1/2016 2:38:06 AM	S38351
1,1-Dichloroethane	ND	0.0016	0.029		mg/Kg	1	11/1/2016 2:38:06 AM	S38351
1,1-Dichloroethene	ND	0.0096	0.029		mg/Kg	1	11/1/2016 2:38:06 AM	S38351
1,2-Dichloropropane	ND	0.0025	0.029		mg/Kg	1	11/1/2016 2:38:06 AM	S38351
1,3-Dichloropropane	ND	0.0033	0.029		mg/Kg	1	11/1/2016 2:38:06 AM	S38351
2,2-Dichloropropane	ND	0.0017	0.058		mg/Kg	1	11/1/2016 2:38:06 AM	S38351
1,1-Dichloropropene	ND	0.0023	0.058		mg/Kg	1	11/1/2016 2:38:06 AM	S38351
Hexachlorobutadiene	ND	0.0036	0.058		mg/Kg	1	11/1/2016 2:38:06 AM	S38351
2-Hexanone	ND	0.016	0.29		mg/Kg	1	11/1/2016 2:38:06 AM	S38351
Isopropylbenzene	ND	0.0025	0.029		mg/Kg	1	11/1/2016 2:38:06 AM	S38351
4-Isopropyltoluene	ND	0.0026	0.029		mg/Kg	1	11/1/2016 2:38:06 AM	S38351
4-Methyl-2-pentanone	ND	0.0085	0.29		mg/Kg	1	11/1/2016 2:38:06 AM	S38351

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Qualifiers:

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H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Intera, Inc. **Client Sample ID:** SB-18 (3-6)
Project: COA Railyards **Collection Date:** 10/26/2016 12:02:00 PM
Lab ID: 1610E23-018 **Matrix:** MEOH (SOIL) **Received Date:** 10/28/2016 10:11:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Methylene chloride	0.021	0.0084	0.088	J	mg/Kg	1	11/1/2016 2:38:06 AM	S38351
n-Butylbenzene	ND	0.0026	0.088		mg/Kg	1	11/1/2016 2:38:06 AM	S38351
n-Propylbenzene	ND	0.0023	0.029		mg/Kg	1	11/1/2016 2:38:06 AM	S38351
sec-Butylbenzene	ND	0.0040	0.029		mg/Kg	1	11/1/2016 2:38:06 AM	S38351
Styrene	ND	0.0026	0.029		mg/Kg	1	11/1/2016 2:38:06 AM	S38351
tert-Butylbenzene	ND	0.0024	0.029		mg/Kg	1	11/1/2016 2:38:06 AM	S38351
1,1,1,2-Tetrachloroethane	ND	0.0028	0.029		mg/Kg	1	11/1/2016 2:38:06 AM	S38351
1,1,2,2-Tetrachloroethane	ND	0.0047	0.029		mg/Kg	1	11/1/2016 2:38:06 AM	S38351
Tetrachloroethene (PCE)	ND	0.0024	0.029		mg/Kg	1	11/1/2016 2:38:06 AM	S38351
trans-1,2-DCE	ND	0.0082	0.029		mg/Kg	1	11/1/2016 2:38:06 AM	S38351
trans-1,3-Dichloropropene	ND	0.0043	0.029		mg/Kg	1	11/1/2016 2:38:06 AM	S38351
1,2,3-Trichlorobenzene	ND	0.0044	0.058		mg/Kg	1	11/1/2016 2:38:06 AM	S38351
1,2,4-Trichlorobenzene	ND	0.0031	0.029		mg/Kg	1	11/1/2016 2:38:06 AM	S38351
1,1,1-Trichloroethane	ND	0.0018	0.029		mg/Kg	1	11/1/2016 2:38:06 AM	S38351
1,1,2-Trichloroethane	ND	0.0034	0.029		mg/Kg	1	11/1/2016 2:38:06 AM	S38351
Trichloroethene (TCE)	ND	0.0031	0.029		mg/Kg	1	11/1/2016 2:38:06 AM	S38351
Trichlorofluoromethane	ND	0.0022	0.029		mg/Kg	1	11/1/2016 2:38:06 AM	S38351
1,2,3-Trichloropropane	ND	0.0051	0.058		mg/Kg	1	11/1/2016 2:38:06 AM	S38351
Vinyl chloride	ND	0.0024	0.029		mg/Kg	1	11/1/2016 2:38:06 AM	S38351
Xylenes, Total	ND	0.0055	0.058		mg/Kg	1	11/1/2016 2:38:06 AM	S38351
Surr: Dibromofluoromethane	95.0		70-130		%Rec	1	11/1/2016 2:38:06 AM	S38351
Surr: 1,2-Dichloroethane-d4	93.6		70-130		%Rec	1	11/1/2016 2:38:06 AM	S38351
Surr: Toluene-d8	95.3		70-130		%Rec	1	11/1/2016 2:38:06 AM	S38351
Surr: 4-Bromofluorobenzene	95.1		70-130		%Rec	1	11/1/2016 2:38:06 AM	S38351
EPA METHOD 8015D MOD: GASOLINE RANGE							Analyst: **DJF**	
Gasoline Range Organics (GRO)	ND	0.44	2.9		mg/Kg	1	11/1/2016 2:38:06 AM	GS3835
Surr: BFB	104	0	70-130		%Rec	1	11/1/2016 2:38:06 AM	GS3835

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Intera, Inc. **Client Sample ID:** SB-19 (5-10)
Project: COA Railyards **Collection Date:** 10/26/2016 12:17:00 PM
Lab ID: 1610E23-019 **Matrix:** MEOH (SOIL) **Received Date:** 10/28/2016 10:11:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: **TOM**	
Diesel Range Organics (DRO)	280	1.8	9.9		mg/Kg	1	11/2/2016 12:27:41 AM	28375
Motor Oil Range Organics (MRO)	ND	49	49		mg/Kg	1	11/2/2016 12:27:41 AM	28375
Surr: DNOP	102	0	70-130		%Rec	1	11/2/2016 12:27:41 AM	28375
EPA METHOD 8310: PAHS							Analyst: **SCC**	
Naphthalene	ND	0.034	0.24		mg/Kg	1	11/7/2016 3:47:37 AM	28398
1-Methylnaphthalene	ND	0.036	0.24		mg/Kg	1	11/7/2016 3:47:37 AM	28398
2-Methylnaphthalene	0.039	0.034	0.24	J	mg/Kg	1	11/7/2016 3:47:37 AM	28398
Acenaphthylene	ND	0.032	0.24		mg/Kg	1	11/7/2016 3:47:37 AM	28398
Acenaphthene	ND	0.029	0.24		mg/Kg	1	11/7/2016 3:47:37 AM	28398
Fluorene	0.018	0.0032	0.029	J	mg/Kg	1	11/7/2016 3:47:37 AM	28398
Phenanthrene	0.12	0.0015	0.014		mg/Kg	1	11/7/2016 3:47:37 AM	28398
Anthracene	ND	0.0023	0.014		mg/Kg	1	11/7/2016 3:47:37 AM	28398
Fluoranthene	0.0065	0.0032	0.019	J	mg/Kg	1	11/7/2016 3:47:37 AM	28398
Pyrene	0.026	0.0033	0.024		mg/Kg	1	11/7/2016 3:47:37 AM	28398
Benz(a)anthracene	ND	0.00048	0.0096		mg/Kg	1	11/7/2016 3:47:37 AM	28398
Chrysene	0.11	0.0013	0.0096		mg/Kg	1	11/7/2016 3:47:37 AM	28398
Benzo(b)fluoranthene	ND	0.00068	0.0096		mg/Kg	1	11/7/2016 3:47:37 AM	28398
Benzo(k)fluoranthene	ND	0.00039	0.0096		mg/Kg	1	11/7/2016 3:47:37 AM	28398
Benzo(a)pyrene	ND	0.00039	0.0096		mg/Kg	1	11/7/2016 3:47:37 AM	28398
Dibenz(a,h)anthracene	ND	0.00048	0.0096		mg/Kg	1	11/7/2016 3:47:37 AM	28398
Benzo(g,h,i)perylene	ND	0.00058	0.0096		mg/Kg	1	11/7/2016 3:47:37 AM	28398
Indeno(1,2,3-cd)pyrene	ND	0.00077	0.0096		mg/Kg	1	11/7/2016 3:47:37 AM	28398
Surr: Benzo(e)pyrene	59.3	0	27.4-110		%Rec	1	11/7/2016 3:47:37 AM	28398
EPA METHOD 6010B: SOIL METALS							Analyst: **MED**	
Antimony	ND	1.9	4.8		mg/Kg	2	11/2/2016 11:29:02 AM	28364
Arsenic	2.6	1.7	4.8	J	mg/Kg	2	11/2/2016 11:29:02 AM	28364
Chromium	7.2	0.18	0.58		mg/Kg	2	11/2/2016 11:29:02 AM	28364
Iron	12000	72	240		mg/Kg	100	11/2/2016 10:44:10 AM	28364
Lead	4.4	0.33	0.48		mg/Kg	2	11/2/2016 11:29:02 AM	28364
Manganese	160	0.10	0.19		mg/Kg	2	11/2/2016 11:29:02 AM	28364
Thallium	ND	1.9	4.8		mg/Kg	2	11/2/2016 11:29:02 AM	28364
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Benzene	ND	0.014	0.017		mg/Kg	1	11/1/2016 3:06:41 AM	S38351
Toluene	ND	0.0021	0.035		mg/Kg	1	11/1/2016 3:06:41 AM	S38351
Ethylbenzene	ND	0.0028	0.035		mg/Kg	1	11/1/2016 3:06:41 AM	S38351
Methyl tert-butyl ether (MTBE)	ND	0.011	0.035		mg/Kg	1	11/1/2016 3:06:41 AM	S38351
1,2,4-Trimethylbenzene	ND	0.0026	0.035		mg/Kg	1	11/1/2016 3:06:41 AM	S38351
1,3,5-Trimethylbenzene	ND	0.0025	0.035		mg/Kg	1	11/1/2016 3:06:41 AM	S38351

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Intera, Inc. **Client Sample ID:** SB-19 (5-10)
Project: COA Railyards **Collection Date:** 10/26/2016 12:17:00 PM
Lab ID: 1610E23-019 **Matrix:** MEOH (SOIL) **Received Date:** 10/28/2016 10:11:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
1,2-Dichloroethane (EDC)	ND	0.0091	0.035		mg/Kg	1	11/1/2016 3:06:41 AM	S38351
1,2-Dibromoethane (EDB)	ND	0.0025	0.035		mg/Kg	1	11/1/2016 3:06:41 AM	S38351
Naphthalene	ND	0.0054	0.069		mg/Kg	1	11/1/2016 3:06:41 AM	S38351
1-Methylnaphthalene	0.068	0.0077	0.14	J	mg/Kg	1	11/1/2016 3:06:41 AM	S38351
2-Methylnaphthalene	0.047	0.0074	0.14	J	mg/Kg	1	11/1/2016 3:06:41 AM	S38351
Acetone	0.082	0.045	0.52	J	mg/Kg	1	11/1/2016 3:06:41 AM	S38351
Bromobenzene	ND	0.0028	0.035		mg/Kg	1	11/1/2016 3:06:41 AM	S38351
Bromodichloromethane	ND	0.0020	0.035		mg/Kg	1	11/1/2016 3:06:41 AM	S38351
Bromoform	ND	0.0042	0.035		mg/Kg	1	11/1/2016 3:06:41 AM	S38351
Bromomethane	0.013	0.013	0.10	J	mg/Kg	1	11/1/2016 3:06:41 AM	S38351
2-Butanone	ND	0.020	0.35		mg/Kg	1	11/1/2016 3:06:41 AM	S38351
Carbon disulfide	ND	0.011	0.35		mg/Kg	1	11/1/2016 3:06:41 AM	S38351
Carbon tetrachloride	ND	0.0023	0.035		mg/Kg	1	11/1/2016 3:06:41 AM	S38351
Chlorobenzene	ND	0.0028	0.035		mg/Kg	1	11/1/2016 3:06:41 AM	S38351
Chloroethane	ND	0.0069	0.069		mg/Kg	1	11/1/2016 3:06:41 AM	S38351
Chloroform	ND	0.0026	0.035		mg/Kg	1	11/1/2016 3:06:41 AM	S38351
Chloromethane	ND	0.0031	0.10		mg/Kg	1	11/1/2016 3:06:41 AM	S38351
2-Chlorotoluene	ND	0.0026	0.035		mg/Kg	1	11/1/2016 3:06:41 AM	S38351
4-Chlorotoluene	ND	0.0031	0.035		mg/Kg	1	11/1/2016 3:06:41 AM	S38351
cis-1,2-DCE	ND	0.0020	0.035		mg/Kg	1	11/1/2016 3:06:41 AM	S38351
cis-1,3-Dichloropropene	ND	0.0032	0.035		mg/Kg	1	11/1/2016 3:06:41 AM	S38351
1,2-Dibromo-3-chloropropane	ND	0.011	0.069		mg/Kg	1	11/1/2016 3:06:41 AM	S38351
Dibromochloromethane	ND	0.0031	0.035		mg/Kg	1	11/1/2016 3:06:41 AM	S38351
Dibromomethane	ND	0.0030	0.035		mg/Kg	1	11/1/2016 3:06:41 AM	S38351
1,2-Dichlorobenzene	ND	0.0030	0.035		mg/Kg	1	11/1/2016 3:06:41 AM	S38351
1,3-Dichlorobenzene	ND	0.0028	0.035		mg/Kg	1	11/1/2016 3:06:41 AM	S38351
1,4-Dichlorobenzene	ND	0.0043	0.035		mg/Kg	1	11/1/2016 3:06:41 AM	S38351
Dichlorodifluoromethane	ND	0.011	0.035		mg/Kg	1	11/1/2016 3:06:41 AM	S38351
1,1-Dichloroethane	ND	0.0019	0.035		mg/Kg	1	11/1/2016 3:06:41 AM	S38351
1,1-Dichloroethene	ND	0.011	0.035		mg/Kg	1	11/1/2016 3:06:41 AM	S38351
1,2-Dichloropropane	ND	0.0029	0.035		mg/Kg	1	11/1/2016 3:06:41 AM	S38351
1,3-Dichloropropane	ND	0.0039	0.035		mg/Kg	1	11/1/2016 3:06:41 AM	S38351
2,2-Dichloropropane	ND	0.0020	0.069		mg/Kg	1	11/1/2016 3:06:41 AM	S38351
1,1-Dichloropropene	ND	0.0028	0.069		mg/Kg	1	11/1/2016 3:06:41 AM	S38351
Hexachlorobutadiene	ND	0.0042	0.069		mg/Kg	1	11/1/2016 3:06:41 AM	S38351
2-Hexanone	ND	0.019	0.35		mg/Kg	1	11/1/2016 3:06:41 AM	S38351
Isopropylbenzene	ND	0.0030	0.035		mg/Kg	1	11/1/2016 3:06:41 AM	S38351
4-Isopropyltoluene	ND	0.0031	0.035		mg/Kg	1	11/1/2016 3:06:41 AM	S38351
4-Methyl-2-pentanone	0.018	0.010	0.35	J	mg/Kg	1	11/1/2016 3:06:41 AM	S38351

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Intera, Inc. **Client Sample ID:** SB-19 (5-10)
Project: COA Railyards **Collection Date:** 10/26/2016 12:17:00 PM
Lab ID: 1610E23-019 **Matrix:** MEOH (SOIL) **Received Date:** 10/28/2016 10:11:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Methylene chloride	0.023	0.010	0.10	J	mg/Kg	1	11/1/2016 3:06:41 AM	S38351
n-Butylbenzene	ND	0.0031	0.10		mg/Kg	1	11/1/2016 3:06:41 AM	S38351
n-Propylbenzene	ND	0.0027	0.035		mg/Kg	1	11/1/2016 3:06:41 AM	S38351
sec-Butylbenzene	ND	0.0048	0.035		mg/Kg	1	11/1/2016 3:06:41 AM	S38351
Styrene	ND	0.0031	0.035		mg/Kg	1	11/1/2016 3:06:41 AM	S38351
tert-Butylbenzene	ND	0.0029	0.035		mg/Kg	1	11/1/2016 3:06:41 AM	S38351
1,1,1,2-Tetrachloroethane	ND	0.0033	0.035		mg/Kg	1	11/1/2016 3:06:41 AM	S38351
1,1,2,2-Tetrachloroethane	ND	0.0056	0.035		mg/Kg	1	11/1/2016 3:06:41 AM	S38351
Tetrachloroethene (PCE)	ND	0.0029	0.035		mg/Kg	1	11/1/2016 3:06:41 AM	S38351
trans-1,2-DCE	ND	0.0097	0.035		mg/Kg	1	11/1/2016 3:06:41 AM	S38351
trans-1,3-Dichloropropene	ND	0.0051	0.035		mg/Kg	1	11/1/2016 3:06:41 AM	S38351
1,2,3-Trichlorobenzene	0.0087	0.0052	0.069	J	mg/Kg	1	11/1/2016 3:06:41 AM	S38351
1,2,4-Trichlorobenzene	ND	0.0037	0.035		mg/Kg	1	11/1/2016 3:06:41 AM	S38351
1,1,1-Trichloroethane	ND	0.0021	0.035		mg/Kg	1	11/1/2016 3:06:41 AM	S38351
1,1,2-Trichloroethane	ND	0.0041	0.035		mg/Kg	1	11/1/2016 3:06:41 AM	S38351
Trichloroethene (TCE)	ND	0.0037	0.035		mg/Kg	1	11/1/2016 3:06:41 AM	S38351
Trichlorofluoromethane	ND	0.0026	0.035		mg/Kg	1	11/1/2016 3:06:41 AM	S38351
1,2,3-Trichloropropane	ND	0.0060	0.069		mg/Kg	1	11/1/2016 3:06:41 AM	S38351
Vinyl chloride	ND	0.0028	0.035		mg/Kg	1	11/1/2016 3:06:41 AM	S38351
Xylenes, Total	ND	0.0066	0.069		mg/Kg	1	11/1/2016 3:06:41 AM	S38351
Surr: Dibromofluoromethane	103		70-130		%Rec	1	11/1/2016 3:06:41 AM	S38351
Surr: 1,2-Dichloroethane-d4	94.2		70-130		%Rec	1	11/1/2016 3:06:41 AM	S38351
Surr: Toluene-d8	95.1		70-130		%Rec	1	11/1/2016 3:06:41 AM	S38351
Surr: 4-Bromofluorobenzene	96.1		70-130		%Rec	1	11/1/2016 3:06:41 AM	S38351
EPA METHOD 8015D MOD: GASOLINE RANGE							Analyst: **DJF**	
Gasoline Range Organics (GRO)	2.0	0.52	3.5	J	mg/Kg	1	11/1/2016 3:06:41 AM	GS3835
Surr: BFB	105	0	70-130		%Rec	1	11/1/2016 3:06:41 AM	GS3835

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Intera, Inc. **Client Sample ID:** SB-20 (3-6)
Project: COA Railyards **Collection Date:** 10/26/2016 12:32:00 PM
Lab ID: 1610E23-020 **Matrix:** MEOH (SOIL) **Received Date:** 10/28/2016 10:11:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: **TOM**	
Diesel Range Organics (DRO)	11	1.8	9.8		mg/Kg	1	11/2/2016 12:49:22 AM	28375
Motor Oil Range Organics (MRO)	ND	49	49		mg/Kg	1	11/2/2016 12:49:22 AM	28375
Surr: DNOP	96.8	0	70-130		%Rec	1	11/2/2016 12:49:22 AM	28375
EPA METHOD 8310: PAHS							Analyst: **SCC**	
Naphthalene	ND	0.033	0.24		mg/Kg	1	11/7/2016 4:16:51 AM	28398
1-Methylnaphthalene	ND	0.035	0.24		mg/Kg	1	11/7/2016 4:16:51 AM	28398
2-Methylnaphthalene	ND	0.034	0.24		mg/Kg	1	11/7/2016 4:16:51 AM	28398
Acenaphthylene	ND	0.032	0.24		mg/Kg	1	11/7/2016 4:16:51 AM	28398
Acenaphthene	ND	0.029	0.24		mg/Kg	1	11/7/2016 4:16:51 AM	28398
Fluorene	ND	0.0032	0.029		mg/Kg	1	11/7/2016 4:16:51 AM	28398
Phenanthrene	0.016	0.0015	0.014		mg/Kg	1	11/7/2016 4:16:51 AM	28398
Anthracene	ND	0.0023	0.014		mg/Kg	1	11/7/2016 4:16:51 AM	28398
Fluoranthene	0.0034	0.0032	0.019	J	mg/Kg	1	11/7/2016 4:16:51 AM	28398
Pyrene	0.0041	0.0033	0.024	J	mg/Kg	1	11/7/2016 4:16:51 AM	28398
Benz(a)anthracene	0.00072	0.00048	0.0096	J	mg/Kg	1	11/7/2016 4:16:51 AM	28398
Chrysene	0.0041	0.0013	0.0096	J	mg/Kg	1	11/7/2016 4:16:51 AM	28398
Benzo(b)fluoranthene	0.0019	0.00068	0.0096	J	mg/Kg	1	11/7/2016 4:16:51 AM	28398
Benzo(k)fluoranthene	0.0012	0.00038	0.0096	J	mg/Kg	1	11/7/2016 4:16:51 AM	28398
Benzo(a)pyrene	0.00072	0.00038	0.0096	J	mg/Kg	1	11/7/2016 4:16:51 AM	28398
Dibenz(a,h)anthracene	ND	0.00048	0.0096		mg/Kg	1	11/7/2016 4:16:51 AM	28398
Benzo(g,h,i)perylene	0.00096	0.00057	0.0096	J	mg/Kg	1	11/7/2016 4:16:51 AM	28398
Indeno(1,2,3-cd)pyrene	0.0012	0.00077	0.0096	J	mg/Kg	1	11/7/2016 4:16:51 AM	28398
Surr: Benzo(e)pyrene	61.1	0	27.4-110		%Rec	1	11/7/2016 4:16:51 AM	28398
EPA METHOD 6010B: SOIL METALS							Analyst: **MED**	
Antimony	ND	0.99	2.5		mg/Kg	1	11/2/2016 11:30:42 AM	28364
Arsenic	3.1	0.88	2.5		mg/Kg	1	11/2/2016 11:30:42 AM	28364
Chromium	5.0	0.093	0.30		mg/Kg	1	11/2/2016 11:30:42 AM	28364
Iron	13000	74	250		mg/Kg	100	11/2/2016 10:45:39 AM	28364
Lead	5.1	0.17	0.25		mg/Kg	1	11/2/2016 11:30:42 AM	28364
Manganese	190	0.053	0.098		mg/Kg	1	11/2/2016 11:30:42 AM	28364
Thallium	ND	0.76	2.5		mg/Kg	1	11/2/2016 11:30:42 AM	28364
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Benzene	ND	0.013	0.016		mg/Kg	1	11/1/2016 3:35:07 AM	S38351
Toluene	ND	0.0019	0.032		mg/Kg	1	11/1/2016 3:35:07 AM	S38351
Ethylbenzene	ND	0.0026	0.032		mg/Kg	1	11/1/2016 3:35:07 AM	S38351
Methyl tert-butyl ether (MTBE)	ND	0.010	0.032		mg/Kg	1	11/1/2016 3:35:07 AM	S38351
1,2,4-Trimethylbenzene	ND	0.0024	0.032		mg/Kg	1	11/1/2016 3:35:07 AM	S38351
1,3,5-Trimethylbenzene	ND	0.0023	0.032		mg/Kg	1	11/1/2016 3:35:07 AM	S38351

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Intera, Inc. **Client Sample ID:** SB-20 (3-6)
Project: COA Railyards **Collection Date:** 10/26/2016 12:32:00 PM
Lab ID: 1610E23-020 **Matrix:** MEOH (SOIL) **Received Date:** 10/28/2016 10:11:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
1,2-Dichloroethane (EDC)	ND	0.0084	0.032		mg/Kg	1	11/1/2016 3:35:07 AM	S38351
1,2-Dibromoethane (EDB)	ND	0.0023	0.032		mg/Kg	1	11/1/2016 3:35:07 AM	S38351
Naphthalene	ND	0.0051	0.065		mg/Kg	1	11/1/2016 3:35:07 AM	S38351
1-Methylnaphthalene	ND	0.0072	0.13		mg/Kg	1	11/1/2016 3:35:07 AM	S38351
2-Methylnaphthalene	ND	0.0069	0.13		mg/Kg	1	11/1/2016 3:35:07 AM	S38351
Acetone	ND	0.042	0.49		mg/Kg	1	11/1/2016 3:35:07 AM	S38351
Bromobenzene	ND	0.0026	0.032		mg/Kg	1	11/1/2016 3:35:07 AM	S38351
Bromodichloromethane	ND	0.0019	0.032		mg/Kg	1	11/1/2016 3:35:07 AM	S38351
Bromoform	ND	0.0039	0.032		mg/Kg	1	11/1/2016 3:35:07 AM	S38351
Bromomethane	0.015	0.012	0.097	J	mg/Kg	1	11/1/2016 3:35:07 AM	S38351
2-Butanone	ND	0.018	0.32		mg/Kg	1	11/1/2016 3:35:07 AM	S38351
Carbon disulfide	ND	0.011	0.32		mg/Kg	1	11/1/2016 3:35:07 AM	S38351
Carbon tetrachloride	ND	0.0021	0.032		mg/Kg	1	11/1/2016 3:35:07 AM	S38351
Chlorobenzene	ND	0.0026	0.032		mg/Kg	1	11/1/2016 3:35:07 AM	S38351
Chloroethane	ND	0.0065	0.065		mg/Kg	1	11/1/2016 3:35:07 AM	S38351
Chloroform	ND	0.0024	0.032		mg/Kg	1	11/1/2016 3:35:07 AM	S38351
Chloromethane	ND	0.0029	0.097		mg/Kg	1	11/1/2016 3:35:07 AM	S38351
2-Chlorotoluene	ND	0.0024	0.032		mg/Kg	1	11/1/2016 3:35:07 AM	S38351
4-Chlorotoluene	ND	0.0029	0.032		mg/Kg	1	11/1/2016 3:35:07 AM	S38351
cis-1,2-DCE	ND	0.0019	0.032		mg/Kg	1	11/1/2016 3:35:07 AM	S38351
cis-1,3-Dichloropropene	ND	0.0030	0.032		mg/Kg	1	11/1/2016 3:35:07 AM	S38351
1,2-Dibromo-3-chloropropane	ND	0.0099	0.065		mg/Kg	1	11/1/2016 3:35:07 AM	S38351
Dibromochloromethane	ND	0.0029	0.032		mg/Kg	1	11/1/2016 3:35:07 AM	S38351
Dibromomethane	ND	0.0028	0.032		mg/Kg	1	11/1/2016 3:35:07 AM	S38351
1,2-Dichlorobenzene	ND	0.0028	0.032		mg/Kg	1	11/1/2016 3:35:07 AM	S38351
1,3-Dichlorobenzene	ND	0.0027	0.032		mg/Kg	1	11/1/2016 3:35:07 AM	S38351
1,4-Dichlorobenzene	ND	0.0040	0.032		mg/Kg	1	11/1/2016 3:35:07 AM	S38351
Dichlorodifluoromethane	ND	0.010	0.032		mg/Kg	1	11/1/2016 3:35:07 AM	S38351
1,1-Dichloroethane	ND	0.0017	0.032		mg/Kg	1	11/1/2016 3:35:07 AM	S38351
1,1-Dichloroethene	ND	0.011	0.032		mg/Kg	1	11/1/2016 3:35:07 AM	S38351
1,2-Dichloropropane	ND	0.0027	0.032		mg/Kg	1	11/1/2016 3:35:07 AM	S38351
1,3-Dichloropropane	ND	0.0037	0.032		mg/Kg	1	11/1/2016 3:35:07 AM	S38351
2,2-Dichloropropane	ND	0.0019	0.065		mg/Kg	1	11/1/2016 3:35:07 AM	S38351
1,1-Dichloropropene	ND	0.0026	0.065		mg/Kg	1	11/1/2016 3:35:07 AM	S38351
Hexachlorobutadiene	ND	0.0040	0.065		mg/Kg	1	11/1/2016 3:35:07 AM	S38351
2-Hexanone	ND	0.018	0.32		mg/Kg	1	11/1/2016 3:35:07 AM	S38351
Isopropylbenzene	ND	0.0028	0.032		mg/Kg	1	11/1/2016 3:35:07 AM	S38351
4-Isopropyltoluene	ND	0.0029	0.032		mg/Kg	1	11/1/2016 3:35:07 AM	S38351
4-Methyl-2-pentanone	ND	0.0094	0.32		mg/Kg	1	11/1/2016 3:35:07 AM	S38351

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Intera, Inc. **Client Sample ID:** SB-20 (3-6)
Project: COA Railyards **Collection Date:** 10/26/2016 12:32:00 PM
Lab ID: 1610E23-020 **Matrix:** MEOH (SOIL) **Received Date:** 10/28/2016 10:11:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Methylene chloride	0.021	0.0093	0.097	J	mg/Kg	1	11/1/2016 3:35:07 AM	S38351
n-Butylbenzene	ND	0.0029	0.097		mg/Kg	1	11/1/2016 3:35:07 AM	S38351
n-Propylbenzene	ND	0.0025	0.032		mg/Kg	1	11/1/2016 3:35:07 AM	S38351
sec-Butylbenzene	ND	0.0045	0.032		mg/Kg	1	11/1/2016 3:35:07 AM	S38351
Styrene	ND	0.0029	0.032		mg/Kg	1	11/1/2016 3:35:07 AM	S38351
tert-Butylbenzene	ND	0.0027	0.032		mg/Kg	1	11/1/2016 3:35:07 AM	S38351
1,1,1,2-Tetrachloroethane	ND	0.0031	0.032		mg/Kg	1	11/1/2016 3:35:07 AM	S38351
1,1,2,2-Tetrachloroethane	ND	0.0052	0.032		mg/Kg	1	11/1/2016 3:35:07 AM	S38351
Tetrachloroethene (PCE)	ND	0.0027	0.032		mg/Kg	1	11/1/2016 3:35:07 AM	S38351
trans-1,2-DCE	ND	0.0091	0.032		mg/Kg	1	11/1/2016 3:35:07 AM	S38351
trans-1,3-Dichloropropene	ND	0.0047	0.032		mg/Kg	1	11/1/2016 3:35:07 AM	S38351
1,2,3-Trichlorobenzene	ND	0.0048	0.065		mg/Kg	1	11/1/2016 3:35:07 AM	S38351
1,2,4-Trichlorobenzene	ND	0.0035	0.032		mg/Kg	1	11/1/2016 3:35:07 AM	S38351
1,1,1-Trichloroethane	ND	0.0020	0.032		mg/Kg	1	11/1/2016 3:35:07 AM	S38351
1,1,2-Trichloroethane	ND	0.0038	0.032		mg/Kg	1	11/1/2016 3:35:07 AM	S38351
Trichloroethene (TCE)	ND	0.0035	0.032		mg/Kg	1	11/1/2016 3:35:07 AM	S38351
Trichlorofluoromethane	ND	0.0024	0.032		mg/Kg	1	11/1/2016 3:35:07 AM	S38351
1,2,3-Trichloropropane	ND	0.0056	0.065		mg/Kg	1	11/1/2016 3:35:07 AM	S38351
Vinyl chloride	ND	0.0026	0.032		mg/Kg	1	11/1/2016 3:35:07 AM	S38351
Xylenes, Total	ND	0.0061	0.065		mg/Kg	1	11/1/2016 3:35:07 AM	S38351
Surr: Dibromofluoromethane	101		70-130		%Rec	1	11/1/2016 3:35:07 AM	S38351
Surr: 1,2-Dichloroethane-d4	90.7		70-130		%Rec	1	11/1/2016 3:35:07 AM	S38351
Surr: Toluene-d8	100		70-130		%Rec	1	11/1/2016 3:35:07 AM	S38351
Surr: 4-Bromofluorobenzene	92.7		70-130		%Rec	1	11/1/2016 3:35:07 AM	S38351
EPA METHOD 8015D MOD: GASOLINE RANGE							Analyst: **DJF**	
Gasoline Range Organics (GRO)	ND	0.49	3.2		mg/Kg	1	11/1/2016 3:35:07 AM	GS3835
Surr: BFB	104	0	70-130		%Rec	1	11/1/2016 3:35:07 AM	GS3835

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Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
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S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Intera, Inc. **Client Sample ID:** SB-21 (0-5)
Project: COA Railyards **Collection Date:** 10/27/2016 8:15:00 AM
Lab ID: 1610E23-021 **Matrix:** MEOH (SOIL) **Received Date:** 10/28/2016 10:11:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	1.8	9.8		mg/Kg	1	11/2/2016 1:11:11 AM	28375
Motor Oil Range Organics (MRO)	ND	49	49		mg/Kg	1	11/2/2016 1:11:11 AM	28375
Surr: DNOP	95.5	0	70-130		%Rec	1	11/2/2016 1:11:11 AM	28375
EPA METHOD 8310: PAHS							Analyst: **SCC**	
Naphthalene	ND	0.035	0.25		mg/Kg	1	11/7/2016 4:46:05 AM	28398
1-Methylnaphthalene	ND	0.037	0.25		mg/Kg	1	11/7/2016 4:46:05 AM	28398
2-Methylnaphthalene	ND	0.035	0.25		mg/Kg	1	11/7/2016 4:46:05 AM	28398
Acenaphthylene	ND	0.033	0.25		mg/Kg	1	11/7/2016 4:46:05 AM	28398
Acenaphthene	ND	0.030	0.25		mg/Kg	1	11/7/2016 4:46:05 AM	28398
Fluorene	ND	0.0033	0.030		mg/Kg	1	11/7/2016 4:46:05 AM	28398
Phenanthrene	0.0035	0.0016	0.015	J	mg/Kg	1	11/7/2016 4:46:05 AM	28398
Anthracene	ND	0.0024	0.015		mg/Kg	1	11/7/2016 4:46:05 AM	28398
Fluoranthene	ND	0.0033	0.020		mg/Kg	1	11/7/2016 4:46:05 AM	28398
Pyrene	ND	0.0034	0.025		mg/Kg	1	11/7/2016 4:46:05 AM	28398
Benz(a)anthracene	ND	0.00050	0.0099		mg/Kg	1	11/7/2016 4:46:05 AM	28398
Chrysene	ND	0.0014	0.0099		mg/Kg	1	11/7/2016 4:46:05 AM	28398
Benzo(b)fluoranthene	ND	0.00070	0.0099		mg/Kg	1	11/7/2016 4:46:05 AM	28398
Benzo(k)fluoranthene	ND	0.00040	0.0099		mg/Kg	1	11/7/2016 4:46:05 AM	28398
Benzo(a)pyrene	0.00050	0.00040	0.0099	J	mg/Kg	1	11/7/2016 4:46:05 AM	28398
Dibenz(a,h)anthracene	ND	0.00050	0.0099		mg/Kg	1	11/7/2016 4:46:05 AM	28398
Benzo(g,h,i)perylene	0.00074	0.00060	0.0099	J	mg/Kg	1	11/7/2016 4:46:05 AM	28398
Indeno(1,2,3-cd)pyrene	0.0087	0.00079	0.0099	J	mg/Kg	1	11/7/2016 4:46:05 AM	28398
Surr: Benzo(e)pyrene	66.7	0	27.4-110		%Rec	1	11/7/2016 4:46:05 AM	28398
EPA METHOD 6010B: SOIL METALS							Analyst: **MED**	
Antimony	ND	0.96	2.4		mg/Kg	1	11/2/2016 11:40:23 AM	28364
Arsenic	3.5	0.85	2.4		mg/Kg	1	11/2/2016 11:40:23 AM	28364
Chromium	6.9	0.090	0.29		mg/Kg	1	11/2/2016 11:40:23 AM	28364
Iron	11000	72	240		mg/Kg	100	11/2/2016 10:47:08 AM	28364
Lead	1.7	0.17	0.24		mg/Kg	1	11/2/2016 11:40:23 AM	28364
Manganese	410	0.10	0.19		mg/Kg	2	11/2/2016 11:42:00 AM	28364
Thallium	ND	0.74	2.4		mg/Kg	1	11/2/2016 11:40:23 AM	28364
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Benzene	ND	0.012	0.015		mg/Kg	1	11/1/2016 4:03:34 AM	T38351
Toluene	ND	0.0018	0.030		mg/Kg	1	11/1/2016 4:03:34 AM	T38351
Ethylbenzene	ND	0.0025	0.030		mg/Kg	1	11/1/2016 4:03:34 AM	T38351
Methyl tert-butyl ether (MTBE)	ND	0.0095	0.030		mg/Kg	1	11/1/2016 4:03:34 AM	T38351
1,2,4-Trimethylbenzene	ND	0.0022	0.030		mg/Kg	1	11/1/2016 4:03:34 AM	T38351
1,3,5-Trimethylbenzene	ND	0.0022	0.030		mg/Kg	1	11/1/2016 4:03:34 AM	T38351

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Intera, Inc. **Client Sample ID:** SB-21 (0-5)
Project: COA Railyards **Collection Date:** 10/27/2016 8:15:00 AM
Lab ID: 1610E23-021 **Matrix:** MEOH (SOIL) **Received Date:** 10/28/2016 10:11:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
1,2-Dichloroethane (EDC)	ND	0.0079	0.030		mg/Kg	1	11/1/2016 4:03:34 AM	T38351
1,2-Dibromoethane (EDB)	ND	0.0022	0.030		mg/Kg	1	11/1/2016 4:03:34 AM	T38351
Naphthalene	ND	0.0047	0.061		mg/Kg	1	11/1/2016 4:03:34 AM	T38351
1-Methylnaphthalene	ND	0.0067	0.12		mg/Kg	1	11/1/2016 4:03:34 AM	T38351
2-Methylnaphthalene	ND	0.0065	0.12		mg/Kg	1	11/1/2016 4:03:34 AM	T38351
Acetone	0.044	0.039	0.46	J	mg/Kg	1	11/1/2016 4:03:34 AM	T38351
Bromobenzene	ND	0.0024	0.030		mg/Kg	1	11/1/2016 4:03:34 AM	T38351
Bromodichloromethane	ND	0.0018	0.030		mg/Kg	1	11/1/2016 4:03:34 AM	T38351
Bromoform	ND	0.0037	0.030		mg/Kg	1	11/1/2016 4:03:34 AM	T38351
Bromomethane	0.012	0.011	0.091	J	mg/Kg	1	11/1/2016 4:03:34 AM	T38351
2-Butanone	ND	0.017	0.30		mg/Kg	1	11/1/2016 4:03:34 AM	T38351
Carbon disulfide	ND	0.010	0.30		mg/Kg	1	11/1/2016 4:03:34 AM	T38351
Carbon tetrachloride	ND	0.0020	0.030		mg/Kg	1	11/1/2016 4:03:34 AM	T38351
Chlorobenzene	ND	0.0025	0.030		mg/Kg	1	11/1/2016 4:03:34 AM	T38351
Chloroethane	ND	0.0061	0.061		mg/Kg	1	11/1/2016 4:03:34 AM	T38351
Chloroform	ND	0.0023	0.030		mg/Kg	1	11/1/2016 4:03:34 AM	T38351
Chloromethane	ND	0.0027	0.091		mg/Kg	1	11/1/2016 4:03:34 AM	T38351
2-Chlorotoluene	ND	0.0022	0.030		mg/Kg	1	11/1/2016 4:03:34 AM	T38351
4-Chlorotoluene	ND	0.0027	0.030		mg/Kg	1	11/1/2016 4:03:34 AM	T38351
cis-1,2-DCE	ND	0.0018	0.030		mg/Kg	1	11/1/2016 4:03:34 AM	T38351
cis-1,3-Dichloropropene	ND	0.0028	0.030		mg/Kg	1	11/1/2016 4:03:34 AM	T38351
1,2-Dibromo-3-chloropropane	ND	0.0093	0.061		mg/Kg	1	11/1/2016 4:03:34 AM	T38351
Dibromochloromethane	ND	0.0027	0.030		mg/Kg	1	11/1/2016 4:03:34 AM	T38351
Dibromomethane	ND	0.0026	0.030		mg/Kg	1	11/1/2016 4:03:34 AM	T38351
1,2-Dichlorobenzene	ND	0.0026	0.030		mg/Kg	1	11/1/2016 4:03:34 AM	T38351
1,3-Dichlorobenzene	ND	0.0025	0.030		mg/Kg	1	11/1/2016 4:03:34 AM	T38351
1,4-Dichlorobenzene	ND	0.0038	0.030		mg/Kg	1	11/1/2016 4:03:34 AM	T38351
Dichlorodifluoromethane	ND	0.0094	0.030		mg/Kg	1	11/1/2016 4:03:34 AM	T38351
1,1-Dichloroethane	ND	0.0016	0.030		mg/Kg	1	11/1/2016 4:03:34 AM	T38351
1,1-Dichloroethene	ND	0.0099	0.030		mg/Kg	1	11/1/2016 4:03:34 AM	T38351
1,2-Dichloropropane	ND	0.0025	0.030		mg/Kg	1	11/1/2016 4:03:34 AM	T38351
1,3-Dichloropropane	ND	0.0034	0.030		mg/Kg	1	11/1/2016 4:03:34 AM	T38351
2,2-Dichloropropane	ND	0.0017	0.061		mg/Kg	1	11/1/2016 4:03:34 AM	T38351
1,1-Dichloropropene	ND	0.0024	0.061		mg/Kg	1	11/1/2016 4:03:34 AM	T38351
Hexachlorobutadiene	ND	0.0037	0.061		mg/Kg	1	11/1/2016 4:03:34 AM	T38351
2-Hexanone	ND	0.017	0.30		mg/Kg	1	11/1/2016 4:03:34 AM	T38351
Isopropylbenzene	ND	0.0026	0.030		mg/Kg	1	11/1/2016 4:03:34 AM	T38351
4-Isopropyltoluene	ND	0.0027	0.030		mg/Kg	1	11/1/2016 4:03:34 AM	T38351
4-Methyl-2-pentanone	ND	0.0088	0.30		mg/Kg	1	11/1/2016 4:03:34 AM	T38351

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Intera, Inc. **Client Sample ID:** SB-21 (0-5)
Project: COA Railyards **Collection Date:** 10/27/2016 8:15:00 AM
Lab ID: 1610E23-021 **Matrix:** MEOH (SOIL) **Received Date:** 10/28/2016 10:11:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Methylene chloride	0.020	0.0087	0.091	J	mg/Kg	1	11/1/2016 4:03:34 AM	T38351
n-Butylbenzene	ND	0.0027	0.091		mg/Kg	1	11/1/2016 4:03:34 AM	T38351
n-Propylbenzene	ND	0.0023	0.030		mg/Kg	1	11/1/2016 4:03:34 AM	T38351
sec-Butylbenzene	ND	0.0042	0.030		mg/Kg	1	11/1/2016 4:03:34 AM	T38351
Styrene	ND	0.0027	0.030		mg/Kg	1	11/1/2016 4:03:34 AM	T38351
tert-Butylbenzene	ND	0.0025	0.030		mg/Kg	1	11/1/2016 4:03:34 AM	T38351
1,1,1,2-Tetrachloroethane	ND	0.0029	0.030		mg/Kg	1	11/1/2016 4:03:34 AM	T38351
1,1,2,2-Tetrachloroethane	ND	0.0049	0.030		mg/Kg	1	11/1/2016 4:03:34 AM	T38351
Tetrachloroethene (PCE)	ND	0.0025	0.030		mg/Kg	1	11/1/2016 4:03:34 AM	T38351
trans-1,2-DCE	ND	0.0085	0.030		mg/Kg	1	11/1/2016 4:03:34 AM	T38351
trans-1,3-Dichloropropene	ND	0.0044	0.030		mg/Kg	1	11/1/2016 4:03:34 AM	T38351
1,2,3-Trichlorobenzene	ND	0.0045	0.061		mg/Kg	1	11/1/2016 4:03:34 AM	T38351
1,2,4-Trichlorobenzene	ND	0.0032	0.030		mg/Kg	1	11/1/2016 4:03:34 AM	T38351
1,1,1-Trichloroethane	ND	0.0019	0.030		mg/Kg	1	11/1/2016 4:03:34 AM	T38351
1,1,2-Trichloroethane	ND	0.0036	0.030		mg/Kg	1	11/1/2016 4:03:34 AM	T38351
Trichloroethene (TCE)	ND	0.0033	0.030		mg/Kg	1	11/1/2016 4:03:34 AM	T38351
Trichlorofluoromethane	ND	0.0023	0.030		mg/Kg	1	11/1/2016 4:03:34 AM	T38351
1,2,3-Trichloropropane	ND	0.0052	0.061		mg/Kg	1	11/1/2016 4:03:34 AM	T38351
Vinyl chloride	ND	0.0025	0.030		mg/Kg	1	11/1/2016 4:03:34 AM	T38351
Xylenes, Total	ND	0.0057	0.061		mg/Kg	1	11/1/2016 4:03:34 AM	T38351
Surr: Dibromofluoromethane	97.8		70-130		%Rec	1	11/1/2016 4:03:34 AM	T38351
Surr: 1,2-Dichloroethane-d4	88.1		70-130		%Rec	1	11/1/2016 4:03:34 AM	T38351
Surr: Toluene-d8	98.7		70-130		%Rec	1	11/1/2016 4:03:34 AM	T38351
Surr: 4-Bromofluorobenzene	91.1		70-130		%Rec	1	11/1/2016 4:03:34 AM	T38351
EPA METHOD 8015D MOD: GASOLINE RANGE							Analyst: **DJF**	
Gasoline Range Organics (GRO)	ND	0.46	3.0		mg/Kg	1	11/1/2016 4:03:34 AM	GT3835
Surr: BFB	98.6	0	70-130		%Rec	1	11/1/2016 4:03:34 AM	GT3835

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Intera, Inc. **Client Sample ID:** SB-22 (3-6)
Project: COA Railyards **Collection Date:** 10/27/2016 8:35:00 AM
Lab ID: 1610E23-022 **Matrix:** MEOH (SOIL) **Received Date:** 10/28/2016 10:11:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: **TOM**	
Diesel Range Organics (DRO)	1100	18	98		mg/Kg	10	11/3/2016 12:25:33 AM	28375
Motor Oil Range Organics (MRO)	4600	490	490		mg/Kg	10	11/3/2016 12:25:33 AM	28375
Surr: DNOP	0	0	70-130	S	%Rec	10	11/3/2016 12:25:33 AM	28375
EPA METHOD 8310: PAHS							Analyst: **SCC**	
Naphthalene	ND	3.4	24	D	mg/Kg	10	11/8/2016 11:55:31 AM	28398
1-Methylnaphthalene	ND	3.6	24	D	mg/Kg	10	11/8/2016 11:55:31 AM	28398
2-Methylnaphthalene	ND	3.4	24	D	mg/Kg	10	11/8/2016 11:55:31 AM	28398
Acenaphthylene	ND	3.3	24	D	mg/Kg	10	11/8/2016 11:55:31 AM	28398
Acenaphthene	ND	3.0	24	D	mg/Kg	10	11/8/2016 11:55:31 AM	28398
Fluorene	ND	0.32	2.9	D	mg/Kg	10	11/8/2016 11:55:31 AM	28398
Phenanthrene	ND	0.16	1.5	D	mg/Kg	10	11/8/2016 11:55:31 AM	28398
Anthracene	ND	0.23	1.5	D	mg/Kg	10	11/8/2016 11:55:31 AM	28398
Fluoranthene	ND	0.32	1.9	D	mg/Kg	10	11/8/2016 11:55:31 AM	28398
Pyrene	ND	0.33	2.4	D	mg/Kg	10	11/8/2016 11:55:31 AM	28398
Benz(a)anthracene	ND	0.049	0.97	D	mg/Kg	10	11/8/2016 11:55:31 AM	28398
Chrysene	ND	0.14	0.97	D	mg/Kg	10	11/8/2016 11:55:31 AM	28398
Benzo(b)fluoranthene	ND	0.069	0.97	D	mg/Kg	10	11/8/2016 11:55:31 AM	28398
Benzo(k)fluoranthene	ND	0.039	0.97	D	mg/Kg	10	11/8/2016 11:55:31 AM	28398
Benzo(a)pyrene	ND	0.039	0.97	D	mg/Kg	10	11/8/2016 11:55:31 AM	28398
Dibenz(a,h)anthracene	ND	0.049	0.97	D	mg/Kg	10	11/8/2016 11:55:31 AM	28398
Benzo(g,h,i)perylene	0.073	0.058	0.97	JD	mg/Kg	10	11/8/2016 11:55:31 AM	28398
Indeno(1,2,3-cd)pyrene	ND	0.078	0.97	D	mg/Kg	10	11/8/2016 11:55:31 AM	28398
Surr: Benzo(e)pyrene	0	0	27.4-110	SD	%Rec	10	11/8/2016 11:55:31 AM	28398
EPA METHOD 6010B: SOIL METALS							Analyst: **MED**	
Antimony	ND	1.0	2.5		mg/Kg	1	11/2/2016 11:43:41 AM	28364
Arsenic	3.8	0.89	2.5		mg/Kg	1	11/2/2016 11:43:41 AM	28364
Chromium	7.2	0.094	0.30		mg/Kg	1	11/2/2016 11:43:41 AM	28364
Iron	11000	75	250		mg/Kg	100	11/2/2016 10:54:57 AM	28364
Lead	1.7	0.17	0.25		mg/Kg	1	11/2/2016 11:43:41 AM	28364
Manganese	320	0.11	0.20		mg/Kg	2	11/2/2016 11:45:14 AM	28364
Thallium	ND	0.77	2.5		mg/Kg	1	11/2/2016 11:43:41 AM	28364
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Benzene	ND	0.014	0.018		mg/Kg	1	11/1/2016 5:29:40 AM	T38351
Toluene	ND	0.0021	0.036		mg/Kg	1	11/1/2016 5:29:40 AM	T38351
Ethylbenzene	ND	0.0029	0.036		mg/Kg	1	11/1/2016 5:29:40 AM	T38351
Methyl tert-butyl ether (MTBE)	ND	0.011	0.036		mg/Kg	1	11/1/2016 5:29:40 AM	T38351
1,2,4-Trimethylbenzene	ND	0.0026	0.036		mg/Kg	1	11/1/2016 5:29:40 AM	T38351
1,3,5-Trimethylbenzene	ND	0.0026	0.036		mg/Kg	1	11/1/2016 5:29:40 AM	T38351

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Intera, Inc. **Client Sample ID:** SB-22 (3-6)
Project: COA Railyards **Collection Date:** 10/27/2016 8:35:00 AM
Lab ID: 1610E23-022 **Matrix:** MEOH (SOIL) **Received Date:** 10/28/2016 10:11:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
1,2-Dichloroethane (EDC)	ND	0.0094	0.036		mg/Kg	1	11/1/2016 5:29:40 AM	T38351
1,2-Dibromoethane (EDB)	ND	0.0026	0.036		mg/Kg	1	11/1/2016 5:29:40 AM	T38351
Naphthalene	ND	0.0056	0.072		mg/Kg	1	11/1/2016 5:29:40 AM	T38351
1-Methylnaphthalene	ND	0.0080	0.14		mg/Kg	1	11/1/2016 5:29:40 AM	T38351
2-Methylnaphthalene	ND	0.0077	0.14		mg/Kg	1	11/1/2016 5:29:40 AM	T38351
Acetone	ND	0.046	0.54		mg/Kg	1	11/1/2016 5:29:40 AM	T38351
Bromobenzene	ND	0.0029	0.036		mg/Kg	1	11/1/2016 5:29:40 AM	T38351
Bromodichloromethane	ND	0.0021	0.036		mg/Kg	1	11/1/2016 5:29:40 AM	T38351
Bromoform	ND	0.0044	0.036		mg/Kg	1	11/1/2016 5:29:40 AM	T38351
Bromomethane	0.013	0.013	0.11	J	mg/Kg	1	11/1/2016 5:29:40 AM	T38351
2-Butanone	0.032	0.021	0.36	J	mg/Kg	1	11/1/2016 5:29:40 AM	T38351
Carbon disulfide	ND	0.012	0.36		mg/Kg	1	11/1/2016 5:29:40 AM	T38351
Carbon tetrachloride	ND	0.0024	0.036		mg/Kg	1	11/1/2016 5:29:40 AM	T38351
Chlorobenzene	ND	0.0029	0.036		mg/Kg	1	11/1/2016 5:29:40 AM	T38351
Chloroethane	ND	0.0072	0.072		mg/Kg	1	11/1/2016 5:29:40 AM	T38351
Chloroform	ND	0.0027	0.036		mg/Kg	1	11/1/2016 5:29:40 AM	T38351
Chloromethane	ND	0.0032	0.11		mg/Kg	1	11/1/2016 5:29:40 AM	T38351
2-Chlorotoluene	ND	0.0026	0.036		mg/Kg	1	11/1/2016 5:29:40 AM	T38351
4-Chlorotoluene	ND	0.0032	0.036		mg/Kg	1	11/1/2016 5:29:40 AM	T38351
cis-1,2-DCE	ND	0.0021	0.036		mg/Kg	1	11/1/2016 5:29:40 AM	T38351
cis-1,3-Dichloropropene	ND	0.0033	0.036		mg/Kg	1	11/1/2016 5:29:40 AM	T38351
1,2-Dibromo-3-chloropropane	ND	0.011	0.072		mg/Kg	1	11/1/2016 5:29:40 AM	T38351
Dibromochloromethane	ND	0.0032	0.036		mg/Kg	1	11/1/2016 5:29:40 AM	T38351
Dibromomethane	ND	0.0031	0.036		mg/Kg	1	11/1/2016 5:29:40 AM	T38351
1,2-Dichlorobenzene	ND	0.0031	0.036		mg/Kg	1	11/1/2016 5:29:40 AM	T38351
1,3-Dichlorobenzene	ND	0.0029	0.036		mg/Kg	1	11/1/2016 5:29:40 AM	T38351
1,4-Dichlorobenzene	ND	0.0045	0.036		mg/Kg	1	11/1/2016 5:29:40 AM	T38351
Dichlorodifluoromethane	ND	0.011	0.036		mg/Kg	1	11/1/2016 5:29:40 AM	T38351
1,1-Dichloroethane	ND	0.0019	0.036		mg/Kg	1	11/1/2016 5:29:40 AM	T38351
1,1-Dichloroethene	ND	0.012	0.036		mg/Kg	1	11/1/2016 5:29:40 AM	T38351
1,2-Dichloropropane	ND	0.0030	0.036		mg/Kg	1	11/1/2016 5:29:40 AM	T38351
1,3-Dichloropropane	ND	0.0041	0.036		mg/Kg	1	11/1/2016 5:29:40 AM	T38351
2,2-Dichloropropane	ND	0.0021	0.072		mg/Kg	1	11/1/2016 5:29:40 AM	T38351
1,1-Dichloropropene	ND	0.0028	0.072		mg/Kg	1	11/1/2016 5:29:40 AM	T38351
Hexachlorobutadiene	ND	0.0044	0.072		mg/Kg	1	11/1/2016 5:29:40 AM	T38351
2-Hexanone	ND	0.020	0.36		mg/Kg	1	11/1/2016 5:29:40 AM	T38351
Isopropylbenzene	ND	0.0031	0.036		mg/Kg	1	11/1/2016 5:29:40 AM	T38351
4-Isopropyltoluene	ND	0.0032	0.036		mg/Kg	1	11/1/2016 5:29:40 AM	T38351
4-Methyl-2-pentanone	ND	0.010	0.36		mg/Kg	1	11/1/2016 5:29:40 AM	T38351

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Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Intera, Inc. **Client Sample ID:** SB-22 (3-6)
Project: COA Railyards **Collection Date:** 10/27/2016 8:35:00 AM
Lab ID: 1610E23-022 **Matrix:** MEOH (SOIL) **Received Date:** 10/28/2016 10:11:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Methylene chloride	0.030	0.010	0.11	J	mg/Kg	1	11/1/2016 5:29:40 AM	T38351
n-Butylbenzene	ND	0.0032	0.11		mg/Kg	1	11/1/2016 5:29:40 AM	T38351
n-Propylbenzene	ND	0.0028	0.036		mg/Kg	1	11/1/2016 5:29:40 AM	T38351
sec-Butylbenzene	ND	0.0050	0.036		mg/Kg	1	11/1/2016 5:29:40 AM	T38351
Styrene	ND	0.0032	0.036		mg/Kg	1	11/1/2016 5:29:40 AM	T38351
tert-Butylbenzene	ND	0.0030	0.036		mg/Kg	1	11/1/2016 5:29:40 AM	T38351
1,1,1,2-Tetrachloroethane	ND	0.0034	0.036		mg/Kg	1	11/1/2016 5:29:40 AM	T38351
1,1,2,2-Tetrachloroethane	ND	0.0058	0.036		mg/Kg	1	11/1/2016 5:29:40 AM	T38351
Tetrachloroethene (PCE)	ND	0.0030	0.036		mg/Kg	1	11/1/2016 5:29:40 AM	T38351
trans-1,2-DCE	ND	0.010	0.036		mg/Kg	1	11/1/2016 5:29:40 AM	T38351
trans-1,3-Dichloropropene	ND	0.0053	0.036		mg/Kg	1	11/1/2016 5:29:40 AM	T38351
1,2,3-Trichlorobenzene	ND	0.0054	0.072		mg/Kg	1	11/1/2016 5:29:40 AM	T38351
1,2,4-Trichlorobenzene	ND	0.0038	0.036		mg/Kg	1	11/1/2016 5:29:40 AM	T38351
1,1,1-Trichloroethane	ND	0.0022	0.036		mg/Kg	1	11/1/2016 5:29:40 AM	T38351
1,1,2-Trichloroethane	ND	0.0042	0.036		mg/Kg	1	11/1/2016 5:29:40 AM	T38351
Trichloroethene (TCE)	ND	0.0038	0.036		mg/Kg	1	11/1/2016 5:29:40 AM	T38351
Trichlorofluoromethane	ND	0.0027	0.036		mg/Kg	1	11/1/2016 5:29:40 AM	T38351
1,2,3-Trichloropropane	ND	0.0062	0.072		mg/Kg	1	11/1/2016 5:29:40 AM	T38351
Vinyl chloride	ND	0.0029	0.036		mg/Kg	1	11/1/2016 5:29:40 AM	T38351
Xylenes, Total	ND	0.0068	0.072		mg/Kg	1	11/1/2016 5:29:40 AM	T38351
Surr: Dibromofluoromethane	93.9		70-130		%Rec	1	11/1/2016 5:29:40 AM	T38351
Surr: 1,2-Dichloroethane-d4	91.1		70-130		%Rec	1	11/1/2016 5:29:40 AM	T38351
Surr: Toluene-d8	93.3		70-130		%Rec	1	11/1/2016 5:29:40 AM	T38351
Surr: 4-Bromofluorobenzene	94.4		70-130		%Rec	1	11/1/2016 5:29:40 AM	T38351
EPA METHOD 8015D MOD: GASOLINE RANGE							Analyst: **DJF**	
Gasoline Range Organics (GRO)	ND	0.54	3.6		mg/Kg	1	11/1/2016 5:29:40 AM	GT3835
Surr: BFB	99.0	0	70-130		%Rec	1	11/1/2016 5:29:40 AM	GT3835

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Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Intera, Inc. **Client Sample ID:** SB-23 (0-5)
Project: COA Railyards **Collection Date:** 10/27/2016 8:58:00 AM
Lab ID: 1610E23-023 **Matrix:** MEOH (SOIL) **Received Date:** 10/28/2016 10:11:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: **TOM**	
Diesel Range Organics (DRO)	170	3.6	20		mg/Kg	2	11/5/2016 3:14:19 AM	28375
Motor Oil Range Organics (MRO)	570	98	98		mg/Kg	2	11/5/2016 3:14:19 AM	28375
Surr: DNOP	99.8	0	70-130		%Rec	2	11/5/2016 3:14:19 AM	28375
EPA METHOD 8310: PAHS							Analyst: **SCC**	
Naphthalene	ND	1.7	12	D	mg/Kg	5	11/7/2016 3:30:10 PM	28398
1-Methylnaphthalene	ND	1.8	12	D	mg/Kg	5	11/7/2016 3:30:10 PM	28398
2-Methylnaphthalene	ND	1.7	12	D	mg/Kg	5	11/7/2016 3:30:10 PM	28398
Acenaphthylene	ND	1.6	12	D	mg/Kg	5	11/7/2016 3:30:10 PM	28398
Acenaphthene	ND	1.5	12	D	mg/Kg	5	11/7/2016 3:30:10 PM	28398
Fluorene	ND	0.16	1.5	D	mg/Kg	5	11/7/2016 3:30:10 PM	28398
Phenanthrene	0.22	0.078	0.74	JD	mg/Kg	5	11/7/2016 3:30:10 PM	28398
Anthracene	ND	0.12	0.74	D	mg/Kg	5	11/7/2016 3:30:10 PM	28398
Fluoranthene	0.20	0.16	0.98	JD	mg/Kg	5	11/7/2016 3:30:10 PM	28398
Pyrene	0.22	0.17	1.2	JD	mg/Kg	5	11/7/2016 3:30:10 PM	28398
Benz(a)anthracene	0.098	0.025	0.49	JD	mg/Kg	5	11/7/2016 3:30:10 PM	28398
Chrysene	0.11	0.069	0.49	JD	mg/Kg	5	11/7/2016 3:30:10 PM	28398
Benzo(b)fluoranthene	0.098	0.035	0.49	JD	mg/Kg	5	11/7/2016 3:30:10 PM	28398
Benzo(k)fluoranthene	0.061	0.020	0.49	JD	mg/Kg	5	11/7/2016 3:30:10 PM	28398
Benzo(a)pyrene	0.098	0.020	0.49	JD	mg/Kg	5	11/7/2016 3:30:10 PM	28398
Dibenz(a,h)anthracene	ND	0.025	0.49	D	mg/Kg	5	11/7/2016 3:30:10 PM	28398
Benzo(g,h,i)perylene	0.11	0.029	0.49	JD	mg/Kg	5	11/7/2016 3:30:10 PM	28398
Indeno(1,2,3-cd)pyrene	0.34	0.039	0.49	JD	mg/Kg	5	11/7/2016 3:30:10 PM	28398
Surr: Benzo(e)pyrene	0	0	27.4-110	SD	%Rec	5	11/7/2016 3:30:10 PM	28398
EPA METHOD 6010B: SOIL METALS							Analyst: **MED**	
Antimony	ND	1.0	2.5		mg/Kg	1	11/2/2016 11:46:56 AM	28364
Arsenic	1.9	0.88	2.5	J	mg/Kg	1	11/2/2016 11:46:56 AM	28364
Chromium	4.4	0.094	0.30		mg/Kg	1	11/2/2016 11:46:56 AM	28364
Iron	11000	75	250		mg/Kg	100	11/2/2016 10:56:27 AM	28364
Lead	21	0.17	0.25		mg/Kg	1	11/2/2016 11:46:56 AM	28364
Manganese	190	0.053	0.099		mg/Kg	1	11/2/2016 11:46:56 AM	28364
Thallium	ND	0.77	2.5		mg/Kg	1	11/2/2016 11:46:56 AM	28364
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Benzene	ND	0.015	0.018		mg/Kg	1	11/1/2016 6:55:35 AM	T38351
Toluene	0.0071	0.0022	0.037	J	mg/Kg	1	11/1/2016 6:55:35 AM	T38351
Ethylbenzene	ND	0.0030	0.037		mg/Kg	1	11/1/2016 6:55:35 AM	T38351
Methyl tert-butyl ether (MTBE)	ND	0.012	0.037		mg/Kg	1	11/1/2016 6:55:35 AM	T38351
1,2,4-Trimethylbenzene	0.0099	0.0027	0.037	J	mg/Kg	1	11/1/2016 6:55:35 AM	T38351
1,3,5-Trimethylbenzene	ND	0.0027	0.037		mg/Kg	1	11/1/2016 6:55:35 AM	T38351

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Intera, Inc. **Client Sample ID:** SB-23 (0-5)
Project: COA Railyards **Collection Date:** 10/27/2016 8:58:00 AM
Lab ID: 1610E23-023 **Matrix:** MEOH (SOIL) **Received Date:** 10/28/2016 10:11:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
1,2-Dichloroethane (EDC)	ND	0.0096	0.037		mg/Kg	1	11/1/2016 6:55:35 AM	T38351
1,2-Dibromoethane (EDB)	ND	0.0026	0.037		mg/Kg	1	11/1/2016 6:55:35 AM	T38351
Naphthalene	0.020	0.0058	0.074	J	mg/Kg	1	11/1/2016 6:55:35 AM	T38351
1-Methylnaphthalene	0.013	0.0082	0.15	J	mg/Kg	1	11/1/2016 6:55:35 AM	T38351
2-Methylnaphthalene	0.024	0.0079	0.15	J	mg/Kg	1	11/1/2016 6:55:35 AM	T38351
Acetone	0.13	0.048	0.55	J	mg/Kg	1	11/1/2016 6:55:35 AM	T38351
Bromobenzene	ND	0.0030	0.037		mg/Kg	1	11/1/2016 6:55:35 AM	T38351
Bromodichloromethane	ND	0.0022	0.037		mg/Kg	1	11/1/2016 6:55:35 AM	T38351
Bromoform	ND	0.0045	0.037		mg/Kg	1	11/1/2016 6:55:35 AM	T38351
Bromomethane	ND	0.014	0.11		mg/Kg	1	11/1/2016 6:55:35 AM	T38351
2-Butanone	ND	0.021	0.37		mg/Kg	1	11/1/2016 6:55:35 AM	T38351
Carbon disulfide	ND	0.012	0.37		mg/Kg	1	11/1/2016 6:55:35 AM	T38351
Carbon tetrachloride	ND	0.0024	0.037		mg/Kg	1	11/1/2016 6:55:35 AM	T38351
Chlorobenzene	ND	0.0030	0.037		mg/Kg	1	11/1/2016 6:55:35 AM	T38351
Chloroethane	ND	0.0074	0.074		mg/Kg	1	11/1/2016 6:55:35 AM	T38351
Chloroform	0.032	0.0028	0.037	J	mg/Kg	1	11/1/2016 6:55:35 AM	T38351
Chloromethane	ND	0.0033	0.11		mg/Kg	1	11/1/2016 6:55:35 AM	T38351
2-Chlorotoluene	ND	0.0027	0.037		mg/Kg	1	11/1/2016 6:55:35 AM	T38351
4-Chlorotoluene	ND	0.0033	0.037		mg/Kg	1	11/1/2016 6:55:35 AM	T38351
cis-1,2-DCE	ND	0.0021	0.037		mg/Kg	1	11/1/2016 6:55:35 AM	T38351
cis-1,3-Dichloropropene	ND	0.0034	0.037		mg/Kg	1	11/1/2016 6:55:35 AM	T38351
1,2-Dibromo-3-chloropropane	ND	0.011	0.074		mg/Kg	1	11/1/2016 6:55:35 AM	T38351
Dibromochloromethane	ND	0.0033	0.037		mg/Kg	1	11/1/2016 6:55:35 AM	T38351
Dibromomethane	ND	0.0032	0.037		mg/Kg	1	11/1/2016 6:55:35 AM	T38351
1,2-Dichlorobenzene	ND	0.0032	0.037		mg/Kg	1	11/1/2016 6:55:35 AM	T38351
1,3-Dichlorobenzene	ND	0.0030	0.037		mg/Kg	1	11/1/2016 6:55:35 AM	T38351
1,4-Dichlorobenzene	ND	0.0046	0.037		mg/Kg	1	11/1/2016 6:55:35 AM	T38351
Dichlorodifluoromethane	ND	0.011	0.037		mg/Kg	1	11/1/2016 6:55:35 AM	T38351
1,1-Dichloroethane	ND	0.0020	0.037		mg/Kg	1	11/1/2016 6:55:35 AM	T38351
1,1-Dichloroethene	ND	0.012	0.037		mg/Kg	1	11/1/2016 6:55:35 AM	T38351
1,2-Dichloropropane	ND	0.0031	0.037		mg/Kg	1	11/1/2016 6:55:35 AM	T38351
1,3-Dichloropropane	ND	0.0042	0.037		mg/Kg	1	11/1/2016 6:55:35 AM	T38351
2,2-Dichloropropane	ND	0.0021	0.074		mg/Kg	1	11/1/2016 6:55:35 AM	T38351
1,1-Dichloropropene	ND	0.0029	0.074		mg/Kg	1	11/1/2016 6:55:35 AM	T38351
Hexachlorobutadiene	ND	0.0045	0.074		mg/Kg	1	11/1/2016 6:55:35 AM	T38351
2-Hexanone	ND	0.020	0.37		mg/Kg	1	11/1/2016 6:55:35 AM	T38351
Isopropylbenzene	ND	0.0032	0.037		mg/Kg	1	11/1/2016 6:55:35 AM	T38351
4-Isopropyltoluene	ND	0.0033	0.037		mg/Kg	1	11/1/2016 6:55:35 AM	T38351
4-Methyl-2-pentanone	0.021	0.011	0.37	J	mg/Kg	1	11/1/2016 6:55:35 AM	T38351

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Intera, Inc. **Client Sample ID:** SB-23 (0-5)
Project: COA Railyards **Collection Date:** 10/27/2016 8:58:00 AM
Lab ID: 1610E23-023 **Matrix:** MEOH (SOIL) **Received Date:** 10/28/2016 10:11:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Methylene chloride	0.023	0.011	0.11	J	mg/Kg	1	11/1/2016 6:55:35 AM	T38351
n-Butylbenzene	ND	0.0033	0.11		mg/Kg	1	11/1/2016 6:55:35 AM	T38351
n-Propylbenzene	ND	0.0028	0.037		mg/Kg	1	11/1/2016 6:55:35 AM	T38351
sec-Butylbenzene	ND	0.0051	0.037		mg/Kg	1	11/1/2016 6:55:35 AM	T38351
Styrene	ND	0.0033	0.037		mg/Kg	1	11/1/2016 6:55:35 AM	T38351
tert-Butylbenzene	ND	0.0031	0.037		mg/Kg	1	11/1/2016 6:55:35 AM	T38351
1,1,1,2-Tetrachloroethane	ND	0.0035	0.037		mg/Kg	1	11/1/2016 6:55:35 AM	T38351
1,1,2,2-Tetrachloroethane	ND	0.0060	0.037		mg/Kg	1	11/1/2016 6:55:35 AM	T38351
Tetrachloroethene (PCE)	ND	0.0031	0.037		mg/Kg	1	11/1/2016 6:55:35 AM	T38351
trans-1,2-DCE	ND	0.010	0.037		mg/Kg	1	11/1/2016 6:55:35 AM	T38351
trans-1,3-Dichloropropene	ND	0.0054	0.037		mg/Kg	1	11/1/2016 6:55:35 AM	T38351
1,2,3-Trichlorobenzene	ND	0.0055	0.074		mg/Kg	1	11/1/2016 6:55:35 AM	T38351
1,2,4-Trichlorobenzene	ND	0.0040	0.037		mg/Kg	1	11/1/2016 6:55:35 AM	T38351
1,1,1-Trichloroethane	ND	0.0023	0.037		mg/Kg	1	11/1/2016 6:55:35 AM	T38351
1,1,2-Trichloroethane	ND	0.0044	0.037		mg/Kg	1	11/1/2016 6:55:35 AM	T38351
Trichloroethene (TCE)	ND	0.0040	0.037		mg/Kg	1	11/1/2016 6:55:35 AM	T38351
Trichlorofluoromethane	ND	0.0028	0.037		mg/Kg	1	11/1/2016 6:55:35 AM	T38351
1,2,3-Trichloropropane	ND	0.0064	0.074		mg/Kg	1	11/1/2016 6:55:35 AM	T38351
Vinyl chloride	ND	0.0030	0.037		mg/Kg	1	11/1/2016 6:55:35 AM	T38351
Xylenes, Total	0.016	0.0070	0.074	J	mg/Kg	1	11/1/2016 6:55:35 AM	T38351
Surr: Dibromofluoromethane	98.4		70-130		%Rec	1	11/1/2016 6:55:35 AM	T38351
Surr: 1,2-Dichloroethane-d4	93.0		70-130		%Rec	1	11/1/2016 6:55:35 AM	T38351
Surr: Toluene-d8	94.6		70-130		%Rec	1	11/1/2016 6:55:35 AM	T38351
Surr: 4-Bromofluorobenzene	97.2		70-130		%Rec	1	11/1/2016 6:55:35 AM	T38351
EPA METHOD 8015D MOD: GASOLINE RANGE							Analyst: **DJF**	
Gasoline Range Organics (GRO)	1.1	0.56	3.7	J	mg/Kg	1	11/1/2016 6:55:35 AM	GT3835
Surr: BFB	101	0	70-130		%Rec	1	11/1/2016 6:55:35 AM	GT3835

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Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Intera, Inc. **Client Sample ID:** SB-24 (0-5)
Project: COA Railyards **Collection Date:** 10/27/2016 9:20:00 AM
Lab ID: 1610E23-024 **Matrix:** MEOH (SOIL) **Received Date:** 10/28/2016 10:11:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: **TOM**	
Diesel Range Organics (DRO)	29	1.8	10		mg/Kg	1	11/3/2016 1:52:18 AM	28375
Motor Oil Range Organics (MRO)	70	50	50		mg/Kg	1	11/3/2016 1:52:18 AM	28375
Surr: DNOP	102	0	70-130		%Rec	1	11/3/2016 1:52:18 AM	28375
EPA METHOD 8310: PAHS							Analyst: **SCC**	
Naphthalene	ND	0.35	2.5	D	mg/Kg	1	11/7/2016 6:42:54 AM	28417
1-Methylnaphthalene	ND	0.37	2.5	D	mg/Kg	1	11/7/2016 6:42:54 AM	28417
2-Methylnaphthalene	ND	0.35	2.5	D	mg/Kg	1	11/7/2016 6:42:54 AM	28417
Acenaphthylene	ND	0.33	2.5	D	mg/Kg	1	11/7/2016 6:42:54 AM	28417
Acenaphthene	ND	0.30	2.5	D	mg/Kg	1	11/7/2016 6:42:54 AM	28417
Fluorene	ND	0.033	0.30	D	mg/Kg	1	11/7/2016 6:42:54 AM	28417
Phenanthrene	0.11	0.016	0.15	JD	mg/Kg	1	11/7/2016 6:42:54 AM	28417
Anthracene	ND	0.024	0.15	D	mg/Kg	1	11/7/2016 6:42:54 AM	28417
Fluoranthene	0.070	0.033	0.20	JD	mg/Kg	1	11/7/2016 6:42:54 AM	28417
Pyrene	0.080	0.034	0.25	JD	mg/Kg	1	11/7/2016 6:42:54 AM	28417
Benz(a)anthracene	0.027	0.0050	0.10	JD	mg/Kg	1	11/7/2016 6:42:54 AM	28417
Chrysene	0.032	0.014	0.10	JD	mg/Kg	1	11/7/2016 6:42:54 AM	28417
Benzo(b)fluoranthene	0.020	0.0070	0.10	JD	mg/Kg	1	11/7/2016 6:42:54 AM	28417
Benzo(k)fluoranthene	0.022	0.0040	0.10	JD	mg/Kg	1	11/7/2016 6:42:54 AM	28417
Benzo(a)pyrene	0.040	0.0040	0.10	JD	mg/Kg	1	11/7/2016 6:42:54 AM	28417
Dibenz(a,h)anthracene	ND	0.0050	0.10	D	mg/Kg	1	11/7/2016 6:42:54 AM	28417
Benzo(g,h,i)perylene	0.027	0.0060	0.10	JD	mg/Kg	1	11/7/2016 6:42:54 AM	28417
Indeno(1,2,3-cd)pyrene	0.29	0.0080	0.10	D	mg/Kg	1	11/7/2016 6:42:54 AM	28417
Surr: Benzo(e)pyrene	0	0	27.4-110	SD	%Rec	1	11/7/2016 6:42:54 AM	28417
EPA METHOD 6010B: SOIL METALS							Analyst: **MED**	
Antimony	ND	1.0	2.5		mg/Kg	1	11/2/2016 11:50:19 AM	28364
Arsenic	2.9	0.88	2.5		mg/Kg	1	11/2/2016 11:50:19 AM	28364
Chromium	4.1	0.094	0.30		mg/Kg	1	11/2/2016 11:50:19 AM	28364
Iron	14000	75	250		mg/Kg	100	11/2/2016 10:57:58 AM	28364
Lead	28	0.17	0.25		mg/Kg	1	11/2/2016 11:50:19 AM	28364
Manganese	230	0.053	0.099		mg/Kg	1	11/2/2016 11:50:19 AM	28364
Thallium	ND	0.77	2.5		mg/Kg	1	11/2/2016 11:50:19 AM	28364
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Benzene	ND	0.011	0.013		mg/Kg	1	11/1/2016 7:24:14 AM	T38351
Toluene	ND	0.0016	0.026		mg/Kg	1	11/1/2016 7:24:14 AM	T38351
Ethylbenzene	ND	0.0022	0.026		mg/Kg	1	11/1/2016 7:24:14 AM	T38351
Methyl tert-butyl ether (MTBE)	ND	0.0083	0.026		mg/Kg	1	11/1/2016 7:24:14 AM	T38351
1,2,4-Trimethylbenzene	ND	0.0019	0.026		mg/Kg	1	11/1/2016 7:24:14 AM	T38351
1,3,5-Trimethylbenzene	ND	0.0019	0.026		mg/Kg	1	11/1/2016 7:24:14 AM	T38351

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Intera, Inc. **Client Sample ID:** SB-24 (0-5)
Project: COA Railyards **Collection Date:** 10/27/2016 9:20:00 AM
Lab ID: 1610E23-024 **Matrix:** MEOH (SOIL) **Received Date:** 10/28/2016 10:11:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
1,2-Dichloroethane (EDC)	ND	0.0069	0.026		mg/Kg	1	11/1/2016 7:24:14 AM	T38351
1,2-Dibromoethane (EDB)	ND	0.0019	0.026		mg/Kg	1	11/1/2016 7:24:14 AM	T38351
Naphthalene	ND	0.0041	0.053		mg/Kg	1	11/1/2016 7:24:14 AM	T38351
1-Methylnaphthalene	ND	0.0059	0.11		mg/Kg	1	11/1/2016 7:24:14 AM	T38351
2-Methylnaphthalene	ND	0.0057	0.11		mg/Kg	1	11/1/2016 7:24:14 AM	T38351
Acetone	ND	0.034	0.40		mg/Kg	1	11/1/2016 7:24:14 AM	T38351
Bromobenzene	ND	0.0021	0.026		mg/Kg	1	11/1/2016 7:24:14 AM	T38351
Bromodichloromethane	ND	0.0015	0.026		mg/Kg	1	11/1/2016 7:24:14 AM	T38351
Bromoform	ND	0.0032	0.026		mg/Kg	1	11/1/2016 7:24:14 AM	T38351
Bromomethane	ND	0.0097	0.079		mg/Kg	1	11/1/2016 7:24:14 AM	T38351
2-Butanone	ND	0.015	0.26		mg/Kg	1	11/1/2016 7:24:14 AM	T38351
Carbon disulfide	ND	0.0087	0.26		mg/Kg	1	11/1/2016 7:24:14 AM	T38351
Carbon tetrachloride	ND	0.0017	0.026		mg/Kg	1	11/1/2016 7:24:14 AM	T38351
Chlorobenzene	ND	0.0021	0.026		mg/Kg	1	11/1/2016 7:24:14 AM	T38351
Chloroethane	ND	0.0053	0.053		mg/Kg	1	11/1/2016 7:24:14 AM	T38351
Chloroform	ND	0.0020	0.026		mg/Kg	1	11/1/2016 7:24:14 AM	T38351
Chloromethane	ND	0.0023	0.079		mg/Kg	1	11/1/2016 7:24:14 AM	T38351
2-Chlorotoluene	ND	0.0019	0.026		mg/Kg	1	11/1/2016 7:24:14 AM	T38351
4-Chlorotoluene	ND	0.0023	0.026		mg/Kg	1	11/1/2016 7:24:14 AM	T38351
cis-1,2-DCE	ND	0.0015	0.026		mg/Kg	1	11/1/2016 7:24:14 AM	T38351
cis-1,3-Dichloropropene	ND	0.0024	0.026		mg/Kg	1	11/1/2016 7:24:14 AM	T38351
1,2-Dibromo-3-chloropropane	ND	0.0081	0.053		mg/Kg	1	11/1/2016 7:24:14 AM	T38351
Dibromochloromethane	ND	0.0024	0.026		mg/Kg	1	11/1/2016 7:24:14 AM	T38351
Dibromomethane	ND	0.0023	0.026		mg/Kg	1	11/1/2016 7:24:14 AM	T38351
1,2-Dichlorobenzene	ND	0.0023	0.026		mg/Kg	1	11/1/2016 7:24:14 AM	T38351
1,3-Dichlorobenzene	ND	0.0022	0.026		mg/Kg	1	11/1/2016 7:24:14 AM	T38351
1,4-Dichlorobenzene	ND	0.0033	0.026		mg/Kg	1	11/1/2016 7:24:14 AM	T38351
Dichlorodifluoromethane	ND	0.0082	0.026		mg/Kg	1	11/1/2016 7:24:14 AM	T38351
1,1-Dichloroethane	ND	0.0014	0.026		mg/Kg	1	11/1/2016 7:24:14 AM	T38351
1,1-Dichloroethene	ND	0.0086	0.026		mg/Kg	1	11/1/2016 7:24:14 AM	T38351
1,2-Dichloropropane	ND	0.0022	0.026		mg/Kg	1	11/1/2016 7:24:14 AM	T38351
1,3-Dichloropropane	ND	0.0030	0.026		mg/Kg	1	11/1/2016 7:24:14 AM	T38351
2,2-Dichloropropane	ND	0.0015	0.053		mg/Kg	1	11/1/2016 7:24:14 AM	T38351
1,1-Dichloropropene	ND	0.0021	0.053		mg/Kg	1	11/1/2016 7:24:14 AM	T38351
Hexachlorobutadiene	ND	0.0032	0.053		mg/Kg	1	11/1/2016 7:24:14 AM	T38351
2-Hexanone	ND	0.014	0.26		mg/Kg	1	11/1/2016 7:24:14 AM	T38351
Isopropylbenzene	ND	0.0023	0.026		mg/Kg	1	11/1/2016 7:24:14 AM	T38351
4-Isopropyltoluene	ND	0.0024	0.026		mg/Kg	1	11/1/2016 7:24:14 AM	T38351
4-Methyl-2-pentanone	ND	0.0077	0.26		mg/Kg	1	11/1/2016 7:24:14 AM	T38351

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Intera, Inc. **Client Sample ID:** SB-24 (0-5)
Project: COA Railyards **Collection Date:** 10/27/2016 9:20:00 AM
Lab ID: 1610E23-024 **Matrix:** MEOH (SOIL) **Received Date:** 10/28/2016 10:11:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Methylene chloride	0.017	0.0076	0.079	J	mg/Kg	1	11/1/2016 7:24:14 AM	T38351
n-Butylbenzene	ND	0.0023	0.079		mg/Kg	1	11/1/2016 7:24:14 AM	T38351
n-Propylbenzene	ND	0.0020	0.026		mg/Kg	1	11/1/2016 7:24:14 AM	T38351
sec-Butylbenzene	ND	0.0037	0.026		mg/Kg	1	11/1/2016 7:24:14 AM	T38351
Styrene	ND	0.0024	0.026		mg/Kg	1	11/1/2016 7:24:14 AM	T38351
tert-Butylbenzene	ND	0.0022	0.026		mg/Kg	1	11/1/2016 7:24:14 AM	T38351
1,1,1,2-Tetrachloroethane	ND	0.0025	0.026		mg/Kg	1	11/1/2016 7:24:14 AM	T38351
1,1,2,2-Tetrachloroethane	ND	0.0043	0.026		mg/Kg	1	11/1/2016 7:24:14 AM	T38351
Tetrachloroethene (PCE)	ND	0.0022	0.026		mg/Kg	1	11/1/2016 7:24:14 AM	T38351
trans-1,2-DCE	ND	0.0074	0.026		mg/Kg	1	11/1/2016 7:24:14 AM	T38351
trans-1,3-Dichloropropene	ND	0.0039	0.026		mg/Kg	1	11/1/2016 7:24:14 AM	T38351
1,2,3-Trichlorobenzene	ND	0.0039	0.053		mg/Kg	1	11/1/2016 7:24:14 AM	T38351
1,2,4-Trichlorobenzene	ND	0.0028	0.026		mg/Kg	1	11/1/2016 7:24:14 AM	T38351
1,1,1-Trichloroethane	ND	0.0016	0.026		mg/Kg	1	11/1/2016 7:24:14 AM	T38351
1,1,2-Trichloroethane	ND	0.0031	0.026		mg/Kg	1	11/1/2016 7:24:14 AM	T38351
Trichloroethene (TCE)	ND	0.0028	0.026		mg/Kg	1	11/1/2016 7:24:14 AM	T38351
Trichlorofluoromethane	ND	0.0020	0.026		mg/Kg	1	11/1/2016 7:24:14 AM	T38351
1,2,3-Trichloropropane	ND	0.0046	0.053		mg/Kg	1	11/1/2016 7:24:14 AM	T38351
Vinyl chloride	ND	0.0022	0.026		mg/Kg	1	11/1/2016 7:24:14 AM	T38351
Xylenes, Total	ND	0.0050	0.053		mg/Kg	1	11/1/2016 7:24:14 AM	T38351
Surr: Dibromofluoromethane	93.6		70-130		%Rec	1	11/1/2016 7:24:14 AM	T38351
Surr: 1,2-Dichloroethane-d4	85.3		70-130		%Rec	1	11/1/2016 7:24:14 AM	T38351
Surr: Toluene-d8	95.4		70-130		%Rec	1	11/1/2016 7:24:14 AM	T38351
Surr: 4-Bromofluorobenzene	94.1		70-130		%Rec	1	11/1/2016 7:24:14 AM	T38351
EPA METHOD 8015D MOD: GASOLINE RANGE							Analyst: **DJF**	
Gasoline Range Organics (GRO)	ND	0.40	2.6		mg/Kg	1	11/1/2016 7:24:14 AM	GT3835
Surr: BFB	99.4	0	70-130		%Rec	1	11/1/2016 7:24:14 AM	GT3835

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Intera, Inc. **Client Sample ID:** SB-25 (0-3)
Project: COA Railyards **Collection Date:** 10/27/2016 9:45:00 AM
Lab ID: 1610E23-025 **Matrix:** MEOH (SOIL) **Received Date:** 10/28/2016 10:11:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: **TOM**	
Diesel Range Organics (DRO)	150	3.5	19		mg/Kg	2	11/5/2016 4:18:32 AM	28375
Motor Oil Range Organics (MRO)	300	94	94		mg/Kg	2	11/5/2016 4:18:32 AM	28375
Surr: DNOP	105	0	70-130		%Rec	2	11/5/2016 4:18:32 AM	28375
EPA METHOD 8310: PAHS							Analyst: **SCC**	
Naphthalene	ND	6.9	49	D	mg/Kg	20	11/7/2016 7:12:05 AM	28417
1-Methylnaphthalene	ND	7.3	49	D	mg/Kg	20	11/7/2016 7:12:05 AM	28417
2-Methylnaphthalene	ND	6.9	49	D	mg/Kg	20	11/7/2016 7:12:05 AM	28417
Acenaphthylene	ND	6.6	49	D	mg/Kg	20	11/7/2016 7:12:05 AM	28417
Acenaphthene	ND	6.1	49	D	mg/Kg	20	11/7/2016 7:12:05 AM	28417
Fluorene	ND	0.65	5.9	D	mg/Kg	20	11/7/2016 7:12:05 AM	28417
Phenanthrene	3.0	0.32	3.0	D	mg/Kg	20	11/7/2016 7:12:05 AM	28417
Anthracene	ND	0.47	3.0	D	mg/Kg	20	11/7/2016 7:12:05 AM	28417
Fluoranthene	3.5	0.65	4.0	JD	mg/Kg	20	11/7/2016 7:12:05 AM	28417
Pyrene	4.0	0.67	4.9	JD	mg/Kg	20	11/7/2016 7:12:05 AM	28417
Benz(a)anthracene	0.89	0.099	2.0	JD	mg/Kg	20	11/7/2016 7:12:05 AM	28417
Chrysene	0.74	0.28	2.0	JD	mg/Kg	20	11/7/2016 7:12:05 AM	28417
Benzo(b)fluoranthene	0.69	0.14	2.0	JD	mg/Kg	20	11/7/2016 7:12:05 AM	28417
Benzo(k)fluoranthene	0.49	0.079	2.0	JD	mg/Kg	20	11/7/2016 7:12:05 AM	28417
Benzo(a)pyrene	0.54	0.079	2.0	JD	mg/Kg	20	11/7/2016 7:12:05 AM	28417
Dibenz(a,h)anthracene	ND	0.099	2.0	D	mg/Kg	20	11/7/2016 7:12:05 AM	28417
Benzo(g,h,i)perylene	0.59	0.12	2.0	JD	mg/Kg	20	11/7/2016 7:12:05 AM	28417
Indeno(1,2,3-cd)pyrene	1.3	0.16	2.0	JD	mg/Kg	20	11/7/2016 7:12:05 AM	28417
Surr: Benzo(e)pyrene	0	0	27.4-110	SD	%Rec	20	11/7/2016 7:12:05 AM	28417
EPA METHOD 6010B: SOIL METALS							Analyst: **MED**	
Antimony	240	50	120		mg/Kg	50	11/2/2016 1:44:06 PM	28364
Arsenic	18	0.88	2.5		mg/Kg	1	11/2/2016 11:53:38 AM	28364
Chromium	4.5	0.093	0.30		mg/Kg	1	11/2/2016 11:53:38 AM	28364
Iron	15000	75	250		mg/Kg	100	11/2/2016 10:59:32 AM	28364
Lead	3900	17	25		mg/Kg	100	11/2/2016 10:59:32 AM	28364
Manganese	130	0.053	0.099		mg/Kg	1	11/2/2016 11:53:38 AM	28364
Thallium	ND	0.76	2.5		mg/Kg	1	11/2/2016 11:53:38 AM	28364
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Benzene	ND	0.016	0.020		mg/Kg	1	11/1/2016 12:46:15 PM	S38379
Toluene	ND	0.0023	0.039		mg/Kg	1	11/1/2016 12:46:15 PM	S38379
Ethylbenzene	ND	0.0032	0.039		mg/Kg	1	11/1/2016 12:46:15 PM	S38379
Methyl tert-butyl ether (MTBE)	ND	0.012	0.039		mg/Kg	1	11/1/2016 12:46:15 PM	S38379
1,2,4-Trimethylbenzene	ND	0.0029	0.039		mg/Kg	1	11/1/2016 12:46:15 PM	S38379
1,3,5-Trimethylbenzene	ND	0.0028	0.039		mg/Kg	1	11/1/2016 12:46:15 PM	S38379

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Intera, Inc. **Client Sample ID:** SB-25 (0-3)
Project: COA Railyards **Collection Date:** 10/27/2016 9:45:00 AM
Lab ID: 1610E23-025 **Matrix:** MEOH (SOIL) **Received Date:** 10/28/2016 10:11:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
1,2-Dichloroethane (EDC)	ND	0.010	0.039		mg/Kg	1	11/1/2016 12:46:15 PM	S38379
1,2-Dibromoethane (EDB)	ND	0.0028	0.039		mg/Kg	1	11/1/2016 12:46:15 PM	S38379
Naphthalene	0.059	0.0061	0.078	J	mg/Kg	1	11/1/2016 12:46:15 PM	S38379
1-Methylnaphthalene	0.093	0.0087	0.16	J	mg/Kg	1	11/1/2016 12:46:15 PM	S38379
2-Methylnaphthalene	0.14	0.0084	0.16	J	mg/Kg	1	11/1/2016 12:46:15 PM	S38379
Acetone	0.091	0.050	0.59	J	mg/Kg	1	11/1/2016 12:46:15 PM	S38379
Bromobenzene	ND	0.0031	0.039		mg/Kg	1	11/1/2016 12:46:15 PM	S38379
Bromodichloromethane	ND	0.0023	0.039		mg/Kg	1	11/1/2016 12:46:15 PM	S38379
Bromoform	ND	0.0048	0.039		mg/Kg	1	11/1/2016 12:46:15 PM	S38379
Bromomethane	ND	0.014	0.12		mg/Kg	1	11/1/2016 12:46:15 PM	S38379
2-Butanone	0.038	0.022	0.39	J	mg/Kg	1	11/1/2016 12:46:15 PM	S38379
Carbon disulfide	ND	0.013	0.39		mg/Kg	1	11/1/2016 12:46:15 PM	S38379
Carbon tetrachloride	ND	0.0026	0.039		mg/Kg	1	11/1/2016 12:46:15 PM	S38379
Chlorobenzene	ND	0.0032	0.039		mg/Kg	1	11/1/2016 12:46:15 PM	S38379
Chloroethane	ND	0.0078	0.078		mg/Kg	1	11/1/2016 12:46:15 PM	S38379
Chloroform	0.014	0.0029	0.039	J	mg/Kg	1	11/1/2016 12:46:15 PM	S38379
Chloromethane	ND	0.0035	0.12		mg/Kg	1	11/1/2016 12:46:15 PM	S38379
2-Chlorotoluene	ND	0.0029	0.039		mg/Kg	1	11/1/2016 12:46:15 PM	S38379
4-Chlorotoluene	ND	0.0035	0.039		mg/Kg	1	11/1/2016 12:46:15 PM	S38379
cis-1,2-DCE	ND	0.0023	0.039		mg/Kg	1	11/1/2016 12:46:15 PM	S38379
cis-1,3-Dichloropropene	ND	0.0036	0.039		mg/Kg	1	11/1/2016 12:46:15 PM	S38379
1,2-Dibromo-3-chloropropane	ND	0.012	0.078		mg/Kg	1	11/1/2016 12:46:15 PM	S38379
Dibromochloromethane	ND	0.0035	0.039		mg/Kg	1	11/1/2016 12:46:15 PM	S38379
Dibromomethane	ND	0.0034	0.039		mg/Kg	1	11/1/2016 12:46:15 PM	S38379
1,2-Dichlorobenzene	ND	0.0034	0.039		mg/Kg	1	11/1/2016 12:46:15 PM	S38379
1,3-Dichlorobenzene	ND	0.0032	0.039		mg/Kg	1	11/1/2016 12:46:15 PM	S38379
1,4-Dichlorobenzene	ND	0.0048	0.039		mg/Kg	1	11/1/2016 12:46:15 PM	S38379
Dichlorodifluoromethane	ND	0.012	0.039		mg/Kg	1	11/1/2016 12:46:15 PM	S38379
1,1-Dichloroethane	ND	0.0021	0.039		mg/Kg	1	11/1/2016 12:46:15 PM	S38379
1,1-Dichloroethene	ND	0.013	0.039		mg/Kg	1	11/1/2016 12:46:15 PM	S38379
1,2-Dichloropropane	ND	0.0033	0.039		mg/Kg	1	11/1/2016 12:46:15 PM	S38379
1,3-Dichloropropane	ND	0.0044	0.039		mg/Kg	1	11/1/2016 12:46:15 PM	S38379
2,2-Dichloropropane	ND	0.0022	0.078		mg/Kg	1	11/1/2016 12:46:15 PM	S38379
1,1-Dichloropropene	ND	0.0031	0.078		mg/Kg	1	11/1/2016 12:46:15 PM	S38379
Hexachlorobutadiene	ND	0.0048	0.078		mg/Kg	1	11/1/2016 12:46:15 PM	S38379
2-Hexanone	ND	0.021	0.39		mg/Kg	1	11/1/2016 12:46:15 PM	S38379
Isopropylbenzene	ND	0.0034	0.039		mg/Kg	1	11/1/2016 12:46:15 PM	S38379
4-Isopropyltoluene	ND	0.0035	0.039		mg/Kg	1	11/1/2016 12:46:15 PM	S38379
4-Methyl-2-pentanone	0.029	0.011	0.39	J	mg/Kg	1	11/1/2016 12:46:15 PM	S38379

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Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Intera, Inc. **Client Sample ID:** SB-25 (0-3)
Project: COA Railyards **Collection Date:** 10/27/2016 9:45:00 AM
Lab ID: 1610E23-025 **Matrix:** MEOH (SOIL) **Received Date:** 10/28/2016 10:11:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Methylene chloride	0.013	0.011	0.12	J	mg/Kg	1	11/1/2016 12:46:15 PM	S38379
n-Butylbenzene	ND	0.0035	0.12		mg/Kg	1	11/1/2016 12:46:15 PM	S38379
n-Propylbenzene	ND	0.0030	0.039		mg/Kg	1	11/1/2016 12:46:15 PM	S38379
sec-Butylbenzene	ND	0.0054	0.039		mg/Kg	1	11/1/2016 12:46:15 PM	S38379
Styrene	ND	0.0035	0.039		mg/Kg	1	11/1/2016 12:46:15 PM	S38379
tert-Butylbenzene	ND	0.0032	0.039		mg/Kg	1	11/1/2016 12:46:15 PM	S38379
1,1,1,2-Tetrachloroethane	ND	0.0037	0.039		mg/Kg	1	11/1/2016 12:46:15 PM	S38379
1,1,2,2-Tetrachloroethane	ND	0.0063	0.039		mg/Kg	1	11/1/2016 12:46:15 PM	S38379
Tetrachloroethene (PCE)	ND	0.0032	0.039		mg/Kg	1	11/1/2016 12:46:15 PM	S38379
trans-1,2-DCE	ND	0.011	0.039		mg/Kg	1	11/1/2016 12:46:15 PM	S38379
trans-1,3-Dichloropropene	ND	0.0057	0.039		mg/Kg	1	11/1/2016 12:46:15 PM	S38379
1,2,3-Trichlorobenzene	ND	0.0058	0.078		mg/Kg	1	11/1/2016 12:46:15 PM	S38379
1,2,4-Trichlorobenzene	ND	0.0042	0.039		mg/Kg	1	11/1/2016 12:46:15 PM	S38379
1,1,1-Trichloroethane	ND	0.0024	0.039		mg/Kg	1	11/1/2016 12:46:15 PM	S38379
1,1,2-Trichloroethane	ND	0.0046	0.039		mg/Kg	1	11/1/2016 12:46:15 PM	S38379
Trichloroethene (TCE)	ND	0.0042	0.039		mg/Kg	1	11/1/2016 12:46:15 PM	S38379
Trichlorofluoromethane	ND	0.0029	0.039		mg/Kg	1	11/1/2016 12:46:15 PM	S38379
1,2,3-Trichloropropane	ND	0.0067	0.078		mg/Kg	1	11/1/2016 12:46:15 PM	S38379
Vinyl chloride	ND	0.0032	0.039		mg/Kg	1	11/1/2016 12:46:15 PM	S38379
Xylenes, Total	0.0098	0.0074	0.078	J	mg/Kg	1	11/1/2016 12:46:15 PM	S38379
Surr: Dibromofluoromethane	101		70-130		%Rec	1	11/1/2016 12:46:15 PM	S38379
Surr: 1,2-Dichloroethane-d4	100		70-130		%Rec	1	11/1/2016 12:46:15 PM	S38379
Surr: Toluene-d8	94.5		70-130		%Rec	1	11/1/2016 12:46:15 PM	S38379
Surr: 4-Bromofluorobenzene	93.7		70-130		%Rec	1	11/1/2016 12:46:15 PM	S38379
EPA METHOD 8015D MOD: GASOLINE RANGE							Analyst: **DJF**	
Gasoline Range Organics (GRO)	ND	0.59	3.9		mg/Kg	1	11/1/2016 12:46:15 PM	G38379
Surr: BFB	100	0	70-130		%Rec	1	11/1/2016 12:46:15 PM	G38379

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Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Intera, Inc. **Client Sample ID:** SB-26 (10-15)
Project: COA Railyards **Collection Date:** 10/27/2016 10:02:00 AM
Lab ID: 1610E23-026 **Matrix:** MEOH (SOIL) **Received Date:** 10/28/2016 10:11:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	1.8	9.9		mg/Kg	1	11/2/2016 4:26:00 AM	28375
Motor Oil Range Organics (MRO)	ND	49	49		mg/Kg	1	11/2/2016 4:26:00 AM	28375
Surr: DNOP	98.8	0	70-130		%Rec	1	11/2/2016 4:26:00 AM	28375
EPA METHOD 8310: PAHS							Analyst: **SCC**	
Naphthalene	ND	0.035	0.25		mg/Kg	1	11/7/2016 7:41:21 AM	28417
1-Methylnaphthalene	ND	0.037	0.25		mg/Kg	1	11/7/2016 7:41:21 AM	28417
2-Methylnaphthalene	ND	0.035	0.25		mg/Kg	1	11/7/2016 7:41:21 AM	28417
Acenaphthylene	ND	0.033	0.25		mg/Kg	1	11/7/2016 7:41:21 AM	28417
Acenaphthene	ND	0.031	0.25		mg/Kg	1	11/7/2016 7:41:21 AM	28417
Fluorene	ND	0.0033	0.030		mg/Kg	1	11/7/2016 7:41:21 AM	28417
Phenanthrene	ND	0.0016	0.015		mg/Kg	1	11/7/2016 7:41:21 AM	28417
Anthracene	ND	0.0024	0.015		mg/Kg	1	11/7/2016 7:41:21 AM	28417
Fluoranthene	ND	0.0033	0.020		mg/Kg	1	11/7/2016 7:41:21 AM	28417
Pyrene	ND	0.0034	0.025		mg/Kg	1	11/7/2016 7:41:21 AM	28417
Benz(a)anthracene	ND	0.00050	0.010		mg/Kg	1	11/7/2016 7:41:21 AM	28417
Chrysene	ND	0.0014	0.010		mg/Kg	1	11/7/2016 7:41:21 AM	28417
Benzo(b)fluoranthene	ND	0.00071	0.010		mg/Kg	1	11/7/2016 7:41:21 AM	28417
Benzo(k)fluoranthene	ND	0.00040	0.010		mg/Kg	1	11/7/2016 7:41:21 AM	28417
Benzo(a)pyrene	ND	0.00040	0.010		mg/Kg	1	11/7/2016 7:41:21 AM	28417
Dibenz(a,h)anthracene	ND	0.00050	0.010		mg/Kg	1	11/7/2016 7:41:21 AM	28417
Benzo(g,h,i)perylene	ND	0.00060	0.010		mg/Kg	1	11/7/2016 7:41:21 AM	28417
Indeno(1,2,3-cd)pyrene	ND	0.00080	0.010		mg/Kg	1	11/7/2016 7:41:21 AM	28417
Surr: Benzo(e)pyrene	60.6	0	27.4-110		%Rec	1	11/7/2016 7:41:21 AM	28417
EPA METHOD 6010B: SOIL METALS							Analyst: **MED**	
Antimony	ND	0.98	2.4		mg/Kg	1	11/2/2016 12:04:59 PM	28364
Arsenic	ND	0.86	2.4		mg/Kg	1	11/2/2016 12:04:59 PM	28364
Chromium	3.0	0.092	0.29		mg/Kg	1	11/2/2016 12:04:59 PM	28364
Iron	3900	73	240		mg/Kg	100	11/2/2016 11:01:04 AM	28364
Lead	1.6	0.17	0.24		mg/Kg	1	11/2/2016 12:04:59 PM	28364
Manganese	20	0.052	0.097		mg/Kg	1	11/2/2016 12:04:59 PM	28364
Thallium	ND	0.75	2.4		mg/Kg	1	11/2/2016 12:04:59 PM	28364
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Benzene	ND	0.011	0.014		mg/Kg	1	11/1/2016 1:15:01 PM	S38379
Toluene	ND	0.0017	0.029		mg/Kg	1	11/1/2016 1:15:01 PM	S38379
Ethylbenzene	ND	0.0023	0.029		mg/Kg	1	11/1/2016 1:15:01 PM	S38379
Methyl tert-butyl ether (MTBE)	ND	0.0090	0.029		mg/Kg	1	11/1/2016 1:15:01 PM	S38379
1,2,4-Trimethylbenzene	ND	0.0021	0.029		mg/Kg	1	11/1/2016 1:15:01 PM	S38379
1,3,5-Trimethylbenzene	ND	0.0021	0.029		mg/Kg	1	11/1/2016 1:15:01 PM	S38379

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Intera, Inc. **Client Sample ID:** SB-26 (10-15)
Project: COA Railyards **Collection Date:** 10/27/2016 10:02:00 AM
Lab ID: 1610E23-026 **Matrix:** MEOH (SOIL) **Received Date:** 10/28/2016 10:11:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
1,2-Dichloroethane (EDC)	ND	0.0074	0.029		mg/Kg	1	11/1/2016 1:15:01 PM	S38379
1,2-Dibromoethane (EDB)	ND	0.0020	0.029		mg/Kg	1	11/1/2016 1:15:01 PM	S38379
Naphthalene	ND	0.0045	0.057		mg/Kg	1	11/1/2016 1:15:01 PM	S38379
1-Methylnaphthalene	ND	0.0063	0.11		mg/Kg	1	11/1/2016 1:15:01 PM	S38379
2-Methylnaphthalene	ND	0.0061	0.11		mg/Kg	1	11/1/2016 1:15:01 PM	S38379
Acetone	0.043	0.037	0.43	J	mg/Kg	1	11/1/2016 1:15:01 PM	S38379
Bromobenzene	ND	0.0023	0.029		mg/Kg	1	11/1/2016 1:15:01 PM	S38379
Bromodichloromethane	ND	0.0017	0.029		mg/Kg	1	11/1/2016 1:15:01 PM	S38379
Bromoform	ND	0.0035	0.029		mg/Kg	1	11/1/2016 1:15:01 PM	S38379
Bromomethane	ND	0.011	0.086		mg/Kg	1	11/1/2016 1:15:01 PM	S38379
2-Butanone	ND	0.016	0.29		mg/Kg	1	11/1/2016 1:15:01 PM	S38379
Carbon disulfide	ND	0.0094	0.29		mg/Kg	1	11/1/2016 1:15:01 PM	S38379
Carbon tetrachloride	ND	0.0019	0.029		mg/Kg	1	11/1/2016 1:15:01 PM	S38379
Chlorobenzene	ND	0.0023	0.029		mg/Kg	1	11/1/2016 1:15:01 PM	S38379
Chloroethane	ND	0.0057	0.057		mg/Kg	1	11/1/2016 1:15:01 PM	S38379
Chloroform	ND	0.0022	0.029		mg/Kg	1	11/1/2016 1:15:01 PM	S38379
Chloromethane	ND	0.0025	0.086		mg/Kg	1	11/1/2016 1:15:01 PM	S38379
2-Chlorotoluene	ND	0.0021	0.029		mg/Kg	1	11/1/2016 1:15:01 PM	S38379
4-Chlorotoluene	ND	0.0025	0.029		mg/Kg	1	11/1/2016 1:15:01 PM	S38379
cis-1,2-DCE	ND	0.0017	0.029		mg/Kg	1	11/1/2016 1:15:01 PM	S38379
cis-1,3-Dichloropropene	ND	0.0026	0.029		mg/Kg	1	11/1/2016 1:15:01 PM	S38379
1,2-Dibromo-3-chloropropane	ND	0.0087	0.057		mg/Kg	1	11/1/2016 1:15:01 PM	S38379
Dibromochloromethane	ND	0.0026	0.029		mg/Kg	1	11/1/2016 1:15:01 PM	S38379
Dibromomethane	ND	0.0025	0.029		mg/Kg	1	11/1/2016 1:15:01 PM	S38379
1,2-Dichlorobenzene	ND	0.0025	0.029		mg/Kg	1	11/1/2016 1:15:01 PM	S38379
1,3-Dichlorobenzene	ND	0.0023	0.029		mg/Kg	1	11/1/2016 1:15:01 PM	S38379
1,4-Dichlorobenzene	ND	0.0035	0.029		mg/Kg	1	11/1/2016 1:15:01 PM	S38379
Dichlorodifluoromethane	ND	0.0088	0.029		mg/Kg	1	11/1/2016 1:15:01 PM	S38379
1,1-Dichloroethane	ND	0.0015	0.029		mg/Kg	1	11/1/2016 1:15:01 PM	S38379
1,1-Dichloroethene	ND	0.0093	0.029		mg/Kg	1	11/1/2016 1:15:01 PM	S38379
1,2-Dichloropropane	ND	0.0024	0.029		mg/Kg	1	11/1/2016 1:15:01 PM	S38379
1,3-Dichloropropane	ND	0.0032	0.029		mg/Kg	1	11/1/2016 1:15:01 PM	S38379
2,2-Dichloropropane	ND	0.0016	0.057		mg/Kg	1	11/1/2016 1:15:01 PM	S38379
1,1-Dichloropropene	ND	0.0023	0.057		mg/Kg	1	11/1/2016 1:15:01 PM	S38379
Hexachlorobutadiene	ND	0.0035	0.057		mg/Kg	1	11/1/2016 1:15:01 PM	S38379
2-Hexanone	ND	0.016	0.29		mg/Kg	1	11/1/2016 1:15:01 PM	S38379
Isopropylbenzene	ND	0.0025	0.029		mg/Kg	1	11/1/2016 1:15:01 PM	S38379
4-Isopropyltoluene	ND	0.0026	0.029		mg/Kg	1	11/1/2016 1:15:01 PM	S38379
4-Methyl-2-pentanone	ND	0.0083	0.29		mg/Kg	1	11/1/2016 1:15:01 PM	S38379

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Intera, Inc. **Client Sample ID:** SB-26 (10-15)
Project: COA Railyards **Collection Date:** 10/27/2016 10:02:00 AM
Lab ID: 1610E23-026 **Matrix:** MEOH (SOIL) **Received Date:** 10/28/2016 10:11:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Methylene chloride	0.013	0.0082	0.086	J	mg/Kg	1	11/1/2016 1:15:01 PM	S38379
n-Butylbenzene	ND	0.0025	0.086		mg/Kg	1	11/1/2016 1:15:01 PM	S38379
n-Propylbenzene	ND	0.0022	0.029		mg/Kg	1	11/1/2016 1:15:01 PM	S38379
sec-Butylbenzene	ND	0.0040	0.029		mg/Kg	1	11/1/2016 1:15:01 PM	S38379
Styrene	ND	0.0025	0.029		mg/Kg	1	11/1/2016 1:15:01 PM	S38379
tert-Butylbenzene	ND	0.0024	0.029		mg/Kg	1	11/1/2016 1:15:01 PM	S38379
1,1,1,2-Tetrachloroethane	ND	0.0027	0.029		mg/Kg	1	11/1/2016 1:15:01 PM	S38379
1,1,2,2-Tetrachloroethane	ND	0.0046	0.029		mg/Kg	1	11/1/2016 1:15:01 PM	S38379
Tetrachloroethene (PCE)	ND	0.0024	0.029		mg/Kg	1	11/1/2016 1:15:01 PM	S38379
trans-1,2-DCE	ND	0.0080	0.029		mg/Kg	1	11/1/2016 1:15:01 PM	S38379
trans-1,3-Dichloropropene	ND	0.0042	0.029		mg/Kg	1	11/1/2016 1:15:01 PM	S38379
1,2,3-Trichlorobenzene	ND	0.0043	0.057		mg/Kg	1	11/1/2016 1:15:01 PM	S38379
1,2,4-Trichlorobenzene	ND	0.0031	0.029		mg/Kg	1	11/1/2016 1:15:01 PM	S38379
1,1,1-Trichloroethane	ND	0.0017	0.029		mg/Kg	1	11/1/2016 1:15:01 PM	S38379
1,1,2-Trichloroethane	ND	0.0034	0.029		mg/Kg	1	11/1/2016 1:15:01 PM	S38379
Trichloroethene (TCE)	ND	0.0031	0.029		mg/Kg	1	11/1/2016 1:15:01 PM	S38379
Trichlorofluoromethane	ND	0.0021	0.029		mg/Kg	1	11/1/2016 1:15:01 PM	S38379
1,2,3-Trichloropropane	ND	0.0049	0.057		mg/Kg	1	11/1/2016 1:15:01 PM	S38379
Vinyl chloride	ND	0.0023	0.029		mg/Kg	1	11/1/2016 1:15:01 PM	S38379
Xylenes, Total	ND	0.0054	0.057		mg/Kg	1	11/1/2016 1:15:01 PM	S38379
Surr: Dibromofluoromethane	98.7		70-130		%Rec	1	11/1/2016 1:15:01 PM	S38379
Surr: 1,2-Dichloroethane-d4	90.1		70-130		%Rec	1	11/1/2016 1:15:01 PM	S38379
Surr: Toluene-d8	94.8		70-130		%Rec	1	11/1/2016 1:15:01 PM	S38379
Surr: 4-Bromofluorobenzene	91.8		70-130		%Rec	1	11/1/2016 1:15:01 PM	S38379
EPA METHOD 8015D MOD: GASOLINE RANGE							Analyst: **DJF**	
Gasoline Range Organics (GRO)	ND	0.43	2.9		mg/Kg	1	11/1/2016 1:15:01 PM	G38379
Surr: BFB	99.6	0	70-130		%Rec	1	11/1/2016 1:15:01 PM	G38379

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Intera, Inc. **Client Sample ID:** SB-27 (0-5)
Project: COA Railyards **Collection Date:** 10/27/2016 10:38:00 AM
Lab ID: 1610E23-027 **Matrix:** MEOH (SOIL) **Received Date:** 10/28/2016 10:11:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	1.8	9.6		mg/Kg	1	11/2/2016 4:47:10 AM	28375
Motor Oil Range Organics (MRO)	ND	48	48		mg/Kg	1	11/2/2016 4:47:10 AM	28375
Surr: DNOP	100	0	70-130		%Rec	1	11/2/2016 4:47:10 AM	28375
EPA METHOD 8310: PAHS							Analyst: **SCC**	
Naphthalene	ND	0.034	0.25		mg/Kg	1	11/7/2016 8:10:31 AM	28417
1-Methylnaphthalene	ND	0.037	0.25		mg/Kg	1	11/7/2016 8:10:31 AM	28417
2-Methylnaphthalene	ND	0.035	0.25		mg/Kg	1	11/7/2016 8:10:31 AM	28417
Acenaphthylene	ND	0.033	0.25		mg/Kg	1	11/7/2016 8:10:31 AM	28417
Acenaphthene	ND	0.030	0.25		mg/Kg	1	11/7/2016 8:10:31 AM	28417
Fluorene	ND	0.0033	0.030		mg/Kg	1	11/7/2016 8:10:31 AM	28417
Phenanthrene	ND	0.0016	0.015		mg/Kg	1	11/7/2016 8:10:31 AM	28417
Anthracene	ND	0.0024	0.015		mg/Kg	1	11/7/2016 8:10:31 AM	28417
Fluoranthene	ND	0.0033	0.020		mg/Kg	1	11/7/2016 8:10:31 AM	28417
Pyrene	ND	0.0034	0.025		mg/Kg	1	11/7/2016 8:10:31 AM	28417
Benz(a)anthracene	ND	0.00050	0.0099		mg/Kg	1	11/7/2016 8:10:31 AM	28417
Chrysene	ND	0.0014	0.0099		mg/Kg	1	11/7/2016 8:10:31 AM	28417
Benzo(b)fluoranthene	ND	0.00070	0.0099		mg/Kg	1	11/7/2016 8:10:31 AM	28417
Benzo(k)fluoranthene	ND	0.00040	0.0099		mg/Kg	1	11/7/2016 8:10:31 AM	28417
Benzo(a)pyrene	ND	0.00040	0.0099		mg/Kg	1	11/7/2016 8:10:31 AM	28417
Dibenz(a,h)anthracene	ND	0.00050	0.0099		mg/Kg	1	11/7/2016 8:10:31 AM	28417
Benzo(g,h,i)perylene	ND	0.00059	0.0099		mg/Kg	1	11/7/2016 8:10:31 AM	28417
Indeno(1,2,3-cd)pyrene	ND	0.00079	0.0099		mg/Kg	1	11/7/2016 8:10:31 AM	28417
Surr: Benzo(e)pyrene	57.6	0	27.4-110		%Rec	1	11/7/2016 8:10:31 AM	28417
EPA METHOD 6010B: SOIL METALS							Analyst: **MED**	
Antimony	ND	0.99	2.5		mg/Kg	1	11/2/2016 12:08:13 PM	28364
Arsenic	1.1	0.88	2.5	J	mg/Kg	1	11/2/2016 12:08:13 PM	28364
Chromium	3.6	0.093	0.30		mg/Kg	1	11/2/2016 12:08:13 PM	28364
Iron	8700	74	250		mg/Kg	100	11/2/2016 11:03:00 AM	28364
Lead	1.9	0.17	0.25		mg/Kg	1	11/2/2016 12:08:13 PM	28364
Manganese	130	0.053	0.098		mg/Kg	1	11/2/2016 12:08:13 PM	28364
Thallium	ND	0.76	2.5		mg/Kg	1	11/2/2016 12:08:13 PM	28364
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Benzene	ND	0.012	0.015		mg/Kg	1	11/1/2016 2:12:22 PM	S38379
Toluene	ND	0.0017	0.030		mg/Kg	1	11/1/2016 2:12:22 PM	S38379
Ethylbenzene	ND	0.0024	0.030		mg/Kg	1	11/1/2016 2:12:22 PM	S38379
Methyl tert-butyl ether (MTBE)	ND	0.0093	0.030		mg/Kg	1	11/1/2016 2:12:22 PM	S38379
1,2,4-Trimethylbenzene	ND	0.0022	0.030		mg/Kg	1	11/1/2016 2:12:22 PM	S38379
1,3,5-Trimethylbenzene	ND	0.0021	0.030		mg/Kg	1	11/1/2016 2:12:22 PM	S38379

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Intera, Inc. **Client Sample ID:** SB-27 (0-5)
Project: COA Railyards **Collection Date:** 10/27/2016 10:38:00 AM
Lab ID: 1610E23-027 **Matrix:** MEOH (SOIL) **Received Date:** 10/28/2016 10:11:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
1,2-Dichloroethane (EDC)	ND	0.0077	0.030		mg/Kg	1	11/1/2016 2:12:22 PM	S38379
1,2-Dibromoethane (EDB)	ND	0.0021	0.030		mg/Kg	1	11/1/2016 2:12:22 PM	S38379
Naphthalene	ND	0.0046	0.059		mg/Kg	1	11/1/2016 2:12:22 PM	S38379
1-Methylnaphthalene	ND	0.0066	0.12		mg/Kg	1	11/1/2016 2:12:22 PM	S38379
2-Methylnaphthalene	ND	0.0063	0.12		mg/Kg	1	11/1/2016 2:12:22 PM	S38379
Acetone	ND	0.038	0.44		mg/Kg	1	11/1/2016 2:12:22 PM	S38379
Bromobenzene	ND	0.0024	0.030		mg/Kg	1	11/1/2016 2:12:22 PM	S38379
Bromodichloromethane	ND	0.0017	0.030		mg/Kg	1	11/1/2016 2:12:22 PM	S38379
Bromoform	ND	0.0036	0.030		mg/Kg	1	11/1/2016 2:12:22 PM	S38379
Bromomethane	ND	0.011	0.088		mg/Kg	1	11/1/2016 2:12:22 PM	S38379
2-Butanone	ND	0.017	0.30		mg/Kg	1	11/1/2016 2:12:22 PM	S38379
Carbon disulfide	ND	0.0097	0.30		mg/Kg	1	11/1/2016 2:12:22 PM	S38379
Carbon tetrachloride	ND	0.0019	0.030		mg/Kg	1	11/1/2016 2:12:22 PM	S38379
Chlorobenzene	ND	0.0024	0.030		mg/Kg	1	11/1/2016 2:12:22 PM	S38379
Chloroethane	ND	0.0059	0.059		mg/Kg	1	11/1/2016 2:12:22 PM	S38379
Chloroform	ND	0.0022	0.030		mg/Kg	1	11/1/2016 2:12:22 PM	S38379
Chloromethane	ND	0.0026	0.088		mg/Kg	1	11/1/2016 2:12:22 PM	S38379
2-Chlorotoluene	ND	0.0022	0.030		mg/Kg	1	11/1/2016 2:12:22 PM	S38379
4-Chlorotoluene	ND	0.0026	0.030		mg/Kg	1	11/1/2016 2:12:22 PM	S38379
cis-1,2-DCE	ND	0.0017	0.030		mg/Kg	1	11/1/2016 2:12:22 PM	S38379
cis-1,3-Dichloropropene	ND	0.0027	0.030		mg/Kg	1	11/1/2016 2:12:22 PM	S38379
1,2-Dibromo-3-chloropropane	ND	0.0090	0.059		mg/Kg	1	11/1/2016 2:12:22 PM	S38379
Dibromochloromethane	ND	0.0027	0.030		mg/Kg	1	11/1/2016 2:12:22 PM	S38379
Dibromomethane	ND	0.0026	0.030		mg/Kg	1	11/1/2016 2:12:22 PM	S38379
1,2-Dichlorobenzene	ND	0.0026	0.030		mg/Kg	1	11/1/2016 2:12:22 PM	S38379
1,3-Dichlorobenzene	ND	0.0024	0.030		mg/Kg	1	11/1/2016 2:12:22 PM	S38379
1,4-Dichlorobenzene	ND	0.0037	0.030		mg/Kg	1	11/1/2016 2:12:22 PM	S38379
Dichlorodifluoromethane	ND	0.0091	0.030		mg/Kg	1	11/1/2016 2:12:22 PM	S38379
1,1-Dichloroethane	ND	0.0016	0.030		mg/Kg	1	11/1/2016 2:12:22 PM	S38379
1,1-Dichloroethene	ND	0.0097	0.030		mg/Kg	1	11/1/2016 2:12:22 PM	S38379
1,2-Dichloropropane	ND	0.0025	0.030		mg/Kg	1	11/1/2016 2:12:22 PM	S38379
1,3-Dichloropropane	ND	0.0033	0.030		mg/Kg	1	11/1/2016 2:12:22 PM	S38379
2,2-Dichloropropane	ND	0.0017	0.059		mg/Kg	1	11/1/2016 2:12:22 PM	S38379
1,1-Dichloropropene	ND	0.0023	0.059		mg/Kg	1	11/1/2016 2:12:22 PM	S38379
Hexachlorobutadiene	ND	0.0036	0.059		mg/Kg	1	11/1/2016 2:12:22 PM	S38379
2-Hexanone	ND	0.016	0.30		mg/Kg	1	11/1/2016 2:12:22 PM	S38379
Isopropylbenzene	ND	0.0025	0.030		mg/Kg	1	11/1/2016 2:12:22 PM	S38379
4-Isopropyltoluene	ND	0.0026	0.030		mg/Kg	1	11/1/2016 2:12:22 PM	S38379
4-Methyl-2-pentanone	ND	0.0086	0.30		mg/Kg	1	11/1/2016 2:12:22 PM	S38379

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Intera, Inc. **Client Sample ID:** SB-27 (0-5)
Project: COA Railyards **Collection Date:** 10/27/2016 10:38:00 AM
Lab ID: 1610E23-027 **Matrix:** MEOH (SOIL) **Received Date:** 10/28/2016 10:11:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Methylene chloride	0.0091	0.0085	0.088	J	mg/Kg	1	11/1/2016 2:12:22 PM	S38379
n-Butylbenzene	ND	0.0026	0.088		mg/Kg	1	11/1/2016 2:12:22 PM	S38379
n-Propylbenzene	ND	0.0023	0.030		mg/Kg	1	11/1/2016 2:12:22 PM	S38379
sec-Butylbenzene	ND	0.0041	0.030		mg/Kg	1	11/1/2016 2:12:22 PM	S38379
Styrene	ND	0.0026	0.030		mg/Kg	1	11/1/2016 2:12:22 PM	S38379
tert-Butylbenzene	ND	0.0024	0.030		mg/Kg	1	11/1/2016 2:12:22 PM	S38379
1,1,1,2-Tetrachloroethane	ND	0.0028	0.030		mg/Kg	1	11/1/2016 2:12:22 PM	S38379
1,1,2,2-Tetrachloroethane	ND	0.0048	0.030		mg/Kg	1	11/1/2016 2:12:22 PM	S38379
Tetrachloroethene (PCE)	ND	0.0024	0.030		mg/Kg	1	11/1/2016 2:12:22 PM	S38379
trans-1,2-DCE	ND	0.0083	0.030		mg/Kg	1	11/1/2016 2:12:22 PM	S38379
trans-1,3-Dichloropropene	ND	0.0043	0.030		mg/Kg	1	11/1/2016 2:12:22 PM	S38379
1,2,3-Trichlorobenzene	ND	0.0044	0.059		mg/Kg	1	11/1/2016 2:12:22 PM	S38379
1,2,4-Trichlorobenzene	ND	0.0032	0.030		mg/Kg	1	11/1/2016 2:12:22 PM	S38379
1,1,1-Trichloroethane	ND	0.0018	0.030		mg/Kg	1	11/1/2016 2:12:22 PM	S38379
1,1,2-Trichloroethane	ND	0.0035	0.030		mg/Kg	1	11/1/2016 2:12:22 PM	S38379
Trichloroethene (TCE)	ND	0.0032	0.030		mg/Kg	1	11/1/2016 2:12:22 PM	S38379
Trichlorofluoromethane	ND	0.0022	0.030		mg/Kg	1	11/1/2016 2:12:22 PM	S38379
1,2,3-Trichloropropane	ND	0.0051	0.059		mg/Kg	1	11/1/2016 2:12:22 PM	S38379
Vinyl chloride	ND	0.0024	0.030		mg/Kg	1	11/1/2016 2:12:22 PM	S38379
Xylenes, Total	ND	0.0056	0.059		mg/Kg	1	11/1/2016 2:12:22 PM	S38379
Surr: Dibromofluoromethane	99.2		70-130		%Rec	1	11/1/2016 2:12:22 PM	S38379
Surr: 1,2-Dichloroethane-d4	91.1		70-130		%Rec	1	11/1/2016 2:12:22 PM	S38379
Surr: Toluene-d8	93.7		70-130		%Rec	1	11/1/2016 2:12:22 PM	S38379
Surr: 4-Bromofluorobenzene	95.1		70-130		%Rec	1	11/1/2016 2:12:22 PM	S38379
EPA METHOD 8015D MOD: GASOLINE RANGE							Analyst: **DJF**	
Gasoline Range Organics (GRO)	ND	0.44	3.0		mg/Kg	1	11/1/2016 2:12:22 PM	G38379
Surr: BFB	98.4	0	70-130		%Rec	1	11/1/2016 2:12:22 PM	G38379

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Intera, Inc. **Client Sample ID:** SB-28 (0-5)
Project: COA Railyards **Collection Date:** 10/27/2016 10:57:00 AM
Lab ID: 1610E23-028 **Matrix:** MEOH (SOIL) **Received Date:** 10/28/2016 10:11:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	1.7	9.4		mg/Kg	1	11/2/2016 5:08:48 AM	28375
Motor Oil Range Organics (MRO)	ND	47	47		mg/Kg	1	11/2/2016 5:08:48 AM	28375
Surr: DNOP	104	0	70-130		%Rec	1	11/2/2016 5:08:48 AM	28375
EPA METHOD 8310: PAHS							Analyst: **SCC**	
Naphthalene	ND	0.034	0.24		mg/Kg	1	11/7/2016 8:39:44 AM	28417
1-Methylnaphthalene	ND	0.036	0.24		mg/Kg	1	11/7/2016 8:39:44 AM	28417
2-Methylnaphthalene	ND	0.034	0.24		mg/Kg	1	11/7/2016 8:39:44 AM	28417
Acenaphthylene	ND	0.032	0.24		mg/Kg	1	11/7/2016 8:39:44 AM	28417
Acenaphthene	ND	0.030	0.24		mg/Kg	1	11/7/2016 8:39:44 AM	28417
Fluorene	ND	0.0032	0.029		mg/Kg	1	11/7/2016 8:39:44 AM	28417
Phenanthrene	0.0017	0.0015	0.014	J	mg/Kg	1	11/7/2016 8:39:44 AM	28417
Anthracene	ND	0.0023	0.014		mg/Kg	1	11/7/2016 8:39:44 AM	28417
Fluoranthene	ND	0.0032	0.019		mg/Kg	1	11/7/2016 8:39:44 AM	28417
Pyrene	ND	0.0033	0.024		mg/Kg	1	11/7/2016 8:39:44 AM	28417
Benz(a)anthracene	ND	0.00048	0.0096		mg/Kg	1	11/7/2016 8:39:44 AM	28417
Chrysene	ND	0.0014	0.0096		mg/Kg	1	11/7/2016 8:39:44 AM	28417
Benzo(b)fluoranthene	ND	0.00068	0.0096		mg/Kg	1	11/7/2016 8:39:44 AM	28417
Benzo(k)fluoranthene	ND	0.00039	0.0096		mg/Kg	1	11/7/2016 8:39:44 AM	28417
Benzo(a)pyrene	ND	0.00039	0.0096		mg/Kg	1	11/7/2016 8:39:44 AM	28417
Dibenz(a,h)anthracene	ND	0.00048	0.0096		mg/Kg	1	11/7/2016 8:39:44 AM	28417
Benzo(g,h,i)perylene	ND	0.00058	0.0096		mg/Kg	1	11/7/2016 8:39:44 AM	28417
Indeno(1,2,3-cd)pyrene	ND	0.00077	0.0096		mg/Kg	1	11/7/2016 8:39:44 AM	28417
Surr: Benzo(e)pyrene	55.6	0	27.4-110		%Rec	1	11/7/2016 8:39:44 AM	28417
EPA METHOD 6010B: SOIL METALS							Analyst: **MED**	
Antimony	ND	0.98	2.4		mg/Kg	1	11/2/2016 12:11:31 PM	28364
Arsenic	1.3	0.86	2.4	J	mg/Kg	1	11/2/2016 12:11:31 PM	28364
Chromium	4.1	0.092	0.29		mg/Kg	1	11/2/2016 12:11:31 PM	28364
Iron	9100	73	240		mg/Kg	100	11/2/2016 11:04:41 AM	28364
Lead	2.3	0.17	0.24		mg/Kg	1	11/2/2016 12:11:31 PM	28364
Manganese	210	0.052	0.097		mg/Kg	1	11/2/2016 12:11:31 PM	28364
Thallium	ND	0.75	2.4		mg/Kg	1	11/2/2016 12:11:31 PM	28364
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Benzene	ND	0.010	0.013		mg/Kg	1	11/1/2016 2:40:52 PM	S38379
Toluene	ND	0.0016	0.026		mg/Kg	1	11/1/2016 2:40:52 PM	S38379
Ethylbenzene	ND	0.0021	0.026		mg/Kg	1	11/1/2016 2:40:52 PM	S38379
Methyl tert-butyl ether (MTBE)	ND	0.0082	0.026		mg/Kg	1	11/1/2016 2:40:52 PM	S38379
1,2,4-Trimethylbenzene	ND	0.0019	0.026		mg/Kg	1	11/1/2016 2:40:52 PM	S38379
1,3,5-Trimethylbenzene	ND	0.0019	0.026		mg/Kg	1	11/1/2016 2:40:52 PM	S38379

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Intera, Inc. **Client Sample ID:** SB-28 (0-5)
Project: COA Railyards **Collection Date:** 10/27/2016 10:57:00 AM
Lab ID: 1610E23-028 **Matrix:** MEOH (SOIL) **Received Date:** 10/28/2016 10:11:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
1,2-Dichloroethane (EDC)	ND	0.0068	0.026		mg/Kg	1	11/1/2016 2:40:52 PM	S38379
1,2-Dibromoethane (EDB)	ND	0.0019	0.026		mg/Kg	1	11/1/2016 2:40:52 PM	S38379
Naphthalene	ND	0.0041	0.052		mg/Kg	1	11/1/2016 2:40:52 PM	S38379
1-Methylnaphthalene	ND	0.0058	0.10		mg/Kg	1	11/1/2016 2:40:52 PM	S38379
2-Methylnaphthalene	ND	0.0056	0.10		mg/Kg	1	11/1/2016 2:40:52 PM	S38379
Acetone	ND	0.034	0.39		mg/Kg	1	11/1/2016 2:40:52 PM	S38379
Bromobenzene	ND	0.0021	0.026		mg/Kg	1	11/1/2016 2:40:52 PM	S38379
Bromodichloromethane	ND	0.0015	0.026		mg/Kg	1	11/1/2016 2:40:52 PM	S38379
Bromoform	ND	0.0032	0.026		mg/Kg	1	11/1/2016 2:40:52 PM	S38379
Bromomethane	ND	0.0096	0.079		mg/Kg	1	11/1/2016 2:40:52 PM	S38379
2-Butanone	ND	0.015	0.26		mg/Kg	1	11/1/2016 2:40:52 PM	S38379
Carbon disulfide	ND	0.0086	0.26		mg/Kg	1	11/1/2016 2:40:52 PM	S38379
Carbon tetrachloride	ND	0.0017	0.026		mg/Kg	1	11/1/2016 2:40:52 PM	S38379
Chlorobenzene	ND	0.0021	0.026		mg/Kg	1	11/1/2016 2:40:52 PM	S38379
Chloroethane	ND	0.0052	0.052		mg/Kg	1	11/1/2016 2:40:52 PM	S38379
Chloroform	ND	0.0020	0.026		mg/Kg	1	11/1/2016 2:40:52 PM	S38379
Chloromethane	ND	0.0023	0.079		mg/Kg	1	11/1/2016 2:40:52 PM	S38379
2-Chlorotoluene	ND	0.0019	0.026		mg/Kg	1	11/1/2016 2:40:52 PM	S38379
4-Chlorotoluene	ND	0.0023	0.026		mg/Kg	1	11/1/2016 2:40:52 PM	S38379
cis-1,2-DCE	ND	0.0015	0.026		mg/Kg	1	11/1/2016 2:40:52 PM	S38379
cis-1,3-Dichloropropene	ND	0.0024	0.026		mg/Kg	1	11/1/2016 2:40:52 PM	S38379
1,2-Dibromo-3-chloropropane	ND	0.0080	0.052		mg/Kg	1	11/1/2016 2:40:52 PM	S38379
Dibromochloromethane	ND	0.0024	0.026		mg/Kg	1	11/1/2016 2:40:52 PM	S38379
Dibromomethane	ND	0.0023	0.026		mg/Kg	1	11/1/2016 2:40:52 PM	S38379
1,2-Dichlorobenzene	ND	0.0023	0.026		mg/Kg	1	11/1/2016 2:40:52 PM	S38379
1,3-Dichlorobenzene	ND	0.0021	0.026		mg/Kg	1	11/1/2016 2:40:52 PM	S38379
1,4-Dichlorobenzene	ND	0.0032	0.026		mg/Kg	1	11/1/2016 2:40:52 PM	S38379
Dichlorodifluoromethane	ND	0.0081	0.026		mg/Kg	1	11/1/2016 2:40:52 PM	S38379
1,1-Dichloroethane	ND	0.0014	0.026		mg/Kg	1	11/1/2016 2:40:52 PM	S38379
1,1-Dichloroethene	ND	0.0086	0.026		mg/Kg	1	11/1/2016 2:40:52 PM	S38379
1,2-Dichloropropane	ND	0.0022	0.026		mg/Kg	1	11/1/2016 2:40:52 PM	S38379
1,3-Dichloropropane	ND	0.0030	0.026		mg/Kg	1	11/1/2016 2:40:52 PM	S38379
2,2-Dichloropropane	ND	0.0015	0.052		mg/Kg	1	11/1/2016 2:40:52 PM	S38379
1,1-Dichloropropene	ND	0.0021	0.052		mg/Kg	1	11/1/2016 2:40:52 PM	S38379
Hexachlorobutadiene	ND	0.0032	0.052		mg/Kg	1	11/1/2016 2:40:52 PM	S38379
2-Hexanone	ND	0.014	0.26		mg/Kg	1	11/1/2016 2:40:52 PM	S38379
Isopropylbenzene	ND	0.0023	0.026		mg/Kg	1	11/1/2016 2:40:52 PM	S38379
4-Isopropyltoluene	ND	0.0024	0.026		mg/Kg	1	11/1/2016 2:40:52 PM	S38379
4-Methyl-2-pentanone	0.013	0.0076	0.26	J	mg/Kg	1	11/1/2016 2:40:52 PM	S38379

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Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Intera, Inc. **Client Sample ID:** SB-28 (0-5)
Project: COA Railyards **Collection Date:** 10/27/2016 10:57:00 AM
Lab ID: 1610E23-028 **Matrix:** MEOH (SOIL) **Received Date:** 10/28/2016 10:11:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Methylene chloride	0.0081	0.0075	0.079	J	mg/Kg	1	11/1/2016 2:40:52 PM	S38379
n-Butylbenzene	ND	0.0023	0.079		mg/Kg	1	11/1/2016 2:40:52 PM	S38379
n-Propylbenzene	ND	0.0020	0.026		mg/Kg	1	11/1/2016 2:40:52 PM	S38379
sec-Butylbenzene	ND	0.0036	0.026		mg/Kg	1	11/1/2016 2:40:52 PM	S38379
Styrene	ND	0.0023	0.026		mg/Kg	1	11/1/2016 2:40:52 PM	S38379
tert-Butylbenzene	ND	0.0022	0.026		mg/Kg	1	11/1/2016 2:40:52 PM	S38379
1,1,1,2-Tetrachloroethane	ND	0.0025	0.026		mg/Kg	1	11/1/2016 2:40:52 PM	S38379
1,1,2,2-Tetrachloroethane	ND	0.0042	0.026		mg/Kg	1	11/1/2016 2:40:52 PM	S38379
Tetrachloroethene (PCE)	ND	0.0022	0.026		mg/Kg	1	11/1/2016 2:40:52 PM	S38379
trans-1,2-DCE	ND	0.0073	0.026		mg/Kg	1	11/1/2016 2:40:52 PM	S38379
trans-1,3-Dichloropropene	ND	0.0038	0.026		mg/Kg	1	11/1/2016 2:40:52 PM	S38379
1,2,3-Trichlorobenzene	ND	0.0039	0.052		mg/Kg	1	11/1/2016 2:40:52 PM	S38379
1,2,4-Trichlorobenzene	ND	0.0028	0.026		mg/Kg	1	11/1/2016 2:40:52 PM	S38379
1,1,1-Trichloroethane	ND	0.0016	0.026		mg/Kg	1	11/1/2016 2:40:52 PM	S38379
1,1,2-Trichloroethane	ND	0.0031	0.026		mg/Kg	1	11/1/2016 2:40:52 PM	S38379
Trichloroethene (TCE)	ND	0.0028	0.026		mg/Kg	1	11/1/2016 2:40:52 PM	S38379
Trichlorofluoromethane	ND	0.0020	0.026		mg/Kg	1	11/1/2016 2:40:52 PM	S38379
1,2,3-Trichloropropane	ND	0.0045	0.052		mg/Kg	1	11/1/2016 2:40:52 PM	S38379
Vinyl chloride	ND	0.0021	0.026		mg/Kg	1	11/1/2016 2:40:52 PM	S38379
Xylenes, Total	ND	0.0050	0.052		mg/Kg	1	11/1/2016 2:40:52 PM	S38379
Surr: Dibromofluoromethane	101		70-130		%Rec	1	11/1/2016 2:40:52 PM	S38379
Surr: 1,2-Dichloroethane-d4	93.7		70-130		%Rec	1	11/1/2016 2:40:52 PM	S38379
Surr: Toluene-d8	97.4		70-130		%Rec	1	11/1/2016 2:40:52 PM	S38379
Surr: 4-Bromofluorobenzene	97.7		70-130		%Rec	1	11/1/2016 2:40:52 PM	S38379
EPA METHOD 8015D MOD: GASOLINE RANGE							Analyst: **DJF**	
Gasoline Range Organics (GRO)	ND	0.39	2.6		mg/Kg	1	11/1/2016 2:40:52 PM	G38379
Surr: BFB	102	0	70-130		%Rec	1	11/1/2016 2:40:52 PM	G38379

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Intera, Inc. **Client Sample ID:** SB-29 (0-5)
Project: COA Railyards **Collection Date:** 10/27/2016 11:22:00 AM
Lab ID: 1610E23-029 **Matrix:** MEOH (SOIL) **Received Date:** 10/28/2016 10:11:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	1.7	9.3		mg/Kg	1	11/2/2016 5:30:28 AM	28375
Motor Oil Range Organics (MRO)	ND	47	47		mg/Kg	1	11/2/2016 5:30:28 AM	28375
Surr: DNOP	104	0	70-130		%Rec	1	11/2/2016 5:30:28 AM	28375
EPA METHOD 8310: PAHS							Analyst: **SCC**	
Naphthalene	ND	0.035	0.25		mg/Kg	1	11/7/2016 9:09:36 AM	28417
1-Methylnaphthalene	ND	0.037	0.25		mg/Kg	1	11/7/2016 9:09:36 AM	28417
2-Methylnaphthalene	ND	0.035	0.25		mg/Kg	1	11/7/2016 9:09:36 AM	28417
Acenaphthylene	ND	0.033	0.25		mg/Kg	1	11/7/2016 9:09:36 AM	28417
Acenaphthene	ND	0.030	0.25		mg/Kg	1	11/7/2016 9:09:36 AM	28417
Fluorene	ND	0.0033	0.030		mg/Kg	1	11/7/2016 9:09:36 AM	28417
Phenanthrene	ND	0.0016	0.015		mg/Kg	1	11/7/2016 9:09:36 AM	28417
Anthracene	ND	0.0024	0.015		mg/Kg	1	11/7/2016 9:09:36 AM	28417
Fluoranthene	ND	0.0033	0.020		mg/Kg	1	11/7/2016 9:09:36 AM	28417
Pyrene	ND	0.0034	0.025		mg/Kg	1	11/7/2016 9:09:36 AM	28417
Benz(a)anthracene	ND	0.00050	0.0099		mg/Kg	1	11/7/2016 9:09:36 AM	28417
Chrysene	ND	0.0014	0.0099		mg/Kg	1	11/7/2016 9:09:36 AM	28417
Benzo(b)fluoranthene	ND	0.00070	0.0099		mg/Kg	1	11/7/2016 9:09:36 AM	28417
Benzo(k)fluoranthene	ND	0.00040	0.0099		mg/Kg	1	11/7/2016 9:09:36 AM	28417
Benzo(a)pyrene	ND	0.00040	0.0099		mg/Kg	1	11/7/2016 9:09:36 AM	28417
Dibenz(a,h)anthracene	ND	0.00050	0.0099		mg/Kg	1	11/7/2016 9:09:36 AM	28417
Benzo(g,h,i)perylene	ND	0.00060	0.0099		mg/Kg	1	11/7/2016 9:09:36 AM	28417
Indeno(1,2,3-cd)pyrene	ND	0.00079	0.0099		mg/Kg	1	11/7/2016 9:09:36 AM	28417
Surr: Benzo(e)pyrene	67.0	0	27.4-110		%Rec	1	11/7/2016 9:09:36 AM	28417
EPA METHOD 6010B: SOIL METALS							Analyst: **MED**	
Antimony	ND	1.0	2.5		mg/Kg	1	11/2/2016 12:14:51 PM	28364
Arsenic	2.3	0.88	2.5	J	mg/Kg	1	11/2/2016 12:14:51 PM	28364
Chromium	6.0	0.094	0.30		mg/Kg	1	11/2/2016 12:14:51 PM	28364
Iron	10000	75	250		mg/Kg	100	11/2/2016 11:06:24 AM	28364
Lead	2.2	0.17	0.25		mg/Kg	1	11/2/2016 12:14:51 PM	28364
Manganese	210	0.053	0.099		mg/Kg	1	11/2/2016 12:14:51 PM	28364
Thallium	ND	0.77	2.5		mg/Kg	1	11/2/2016 12:14:51 PM	28364
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Benzene	ND	0.011	0.014		mg/Kg	1	11/1/2016 3:09:30 PM	S38379
Toluene	ND	0.0016	0.028		mg/Kg	1	11/1/2016 3:09:30 PM	S38379
Ethylbenzene	ND	0.0023	0.028		mg/Kg	1	11/1/2016 3:09:30 PM	S38379
Methyl tert-butyl ether (MTBE)	ND	0.0087	0.028		mg/Kg	1	11/1/2016 3:09:30 PM	S38379
1,2,4-Trimethylbenzene	ND	0.0020	0.028		mg/Kg	1	11/1/2016 3:09:30 PM	S38379
1,3,5-Trimethylbenzene	ND	0.0020	0.028		mg/Kg	1	11/1/2016 3:09:30 PM	S38379

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Intera, Inc. **Client Sample ID:** SB-29 (0-5)
Project: COA Railyards **Collection Date:** 10/27/2016 11:22:00 AM
Lab ID: 1610E23-029 **Matrix:** MEOH (SOIL) **Received Date:** 10/28/2016 10:11:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
1,2-Dichloroethane (EDC)	ND	0.0072	0.028		mg/Kg	1	11/1/2016 3:09:30 PM	S38379
1,2-Dibromoethane (EDB)	ND	0.0020	0.028		mg/Kg	1	11/1/2016 3:09:30 PM	S38379
Naphthalene	ND	0.0043	0.055		mg/Kg	1	11/1/2016 3:09:30 PM	S38379
1-Methylnaphthalene	ND	0.0061	0.11		mg/Kg	1	11/1/2016 3:09:30 PM	S38379
2-Methylnaphthalene	ND	0.0059	0.11		mg/Kg	1	11/1/2016 3:09:30 PM	S38379
Acetone	0.048	0.036	0.41	J	mg/Kg	1	11/1/2016 3:09:30 PM	S38379
Bromobenzene	ND	0.0022	0.028		mg/Kg	1	11/1/2016 3:09:30 PM	S38379
Bromodichloromethane	ND	0.0016	0.028		mg/Kg	1	11/1/2016 3:09:30 PM	S38379
Bromoform	ND	0.0034	0.028		mg/Kg	1	11/1/2016 3:09:30 PM	S38379
Bromomethane	ND	0.010	0.083		mg/Kg	1	11/1/2016 3:09:30 PM	S38379
2-Butanone	ND	0.016	0.28		mg/Kg	1	11/1/2016 3:09:30 PM	S38379
Carbon disulfide	ND	0.0091	0.28		mg/Kg	1	11/1/2016 3:09:30 PM	S38379
Carbon tetrachloride	ND	0.0018	0.028		mg/Kg	1	11/1/2016 3:09:30 PM	S38379
Chlorobenzene	ND	0.0022	0.028		mg/Kg	1	11/1/2016 3:09:30 PM	S38379
Chloroethane	ND	0.0055	0.055		mg/Kg	1	11/1/2016 3:09:30 PM	S38379
Chloroform	ND	0.0021	0.028		mg/Kg	1	11/1/2016 3:09:30 PM	S38379
Chloromethane	ND	0.0025	0.083		mg/Kg	1	11/1/2016 3:09:30 PM	S38379
2-Chlorotoluene	ND	0.0020	0.028		mg/Kg	1	11/1/2016 3:09:30 PM	S38379
4-Chlorotoluene	ND	0.0024	0.028		mg/Kg	1	11/1/2016 3:09:30 PM	S38379
cis-1,2-DCE	ND	0.0016	0.028		mg/Kg	1	11/1/2016 3:09:30 PM	S38379
cis-1,3-Dichloropropene	ND	0.0025	0.028		mg/Kg	1	11/1/2016 3:09:30 PM	S38379
1,2-Dibromo-3-chloropropane	ND	0.0084	0.055		mg/Kg	1	11/1/2016 3:09:30 PM	S38379
Dibromochloromethane	ND	0.0025	0.028		mg/Kg	1	11/1/2016 3:09:30 PM	S38379
Dibromomethane	ND	0.0024	0.028		mg/Kg	1	11/1/2016 3:09:30 PM	S38379
1,2-Dichlorobenzene	ND	0.0024	0.028		mg/Kg	1	11/1/2016 3:09:30 PM	S38379
1,3-Dichlorobenzene	ND	0.0023	0.028		mg/Kg	1	11/1/2016 3:09:30 PM	S38379
1,4-Dichlorobenzene	ND	0.0034	0.028		mg/Kg	1	11/1/2016 3:09:30 PM	S38379
Dichlorodifluoromethane	ND	0.0085	0.028		mg/Kg	1	11/1/2016 3:09:30 PM	S38379
1,1-Dichloroethane	ND	0.0015	0.028		mg/Kg	1	11/1/2016 3:09:30 PM	S38379
1,1-Dichloroethene	ND	0.0090	0.028		mg/Kg	1	11/1/2016 3:09:30 PM	S38379
1,2-Dichloropropane	ND	0.0023	0.028		mg/Kg	1	11/1/2016 3:09:30 PM	S38379
1,3-Dichloropropane	ND	0.0031	0.028		mg/Kg	1	11/1/2016 3:09:30 PM	S38379
2,2-Dichloropropane	ND	0.0016	0.055		mg/Kg	1	11/1/2016 3:09:30 PM	S38379
1,1-Dichloropropene	ND	0.0022	0.055		mg/Kg	1	11/1/2016 3:09:30 PM	S38379
Hexachlorobutadiene	ND	0.0034	0.055		mg/Kg	1	11/1/2016 3:09:30 PM	S38379
2-Hexanone	ND	0.015	0.28		mg/Kg	1	11/1/2016 3:09:30 PM	S38379
Isopropylbenzene	ND	0.0024	0.028		mg/Kg	1	11/1/2016 3:09:30 PM	S38379
4-Isopropyltoluene	ND	0.0025	0.028		mg/Kg	1	11/1/2016 3:09:30 PM	S38379
4-Methyl-2-pentanone	ND	0.0080	0.28		mg/Kg	1	11/1/2016 3:09:30 PM	S38379

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Intera, Inc. **Client Sample ID:** SB-29 (0-5)
Project: COA Railyards **Collection Date:** 10/27/2016 11:22:00 AM
Lab ID: 1610E23-029 **Matrix:** MEOH (SOIL) **Received Date:** 10/28/2016 10:11:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Methylene chloride	0.0084	0.0079	0.083	J	mg/Kg	1	11/1/2016 3:09:30 PM	S38379
n-Butylbenzene	ND	0.0024	0.083		mg/Kg	1	11/1/2016 3:09:30 PM	S38379
n-Propylbenzene	ND	0.0021	0.028		mg/Kg	1	11/1/2016 3:09:30 PM	S38379
sec-Butylbenzene	ND	0.0038	0.028		mg/Kg	1	11/1/2016 3:09:30 PM	S38379
Styrene	ND	0.0025	0.028		mg/Kg	1	11/1/2016 3:09:30 PM	S38379
tert-Butylbenzene	ND	0.0023	0.028		mg/Kg	1	11/1/2016 3:09:30 PM	S38379
1,1,1,2-Tetrachloroethane	ND	0.0026	0.028		mg/Kg	1	11/1/2016 3:09:30 PM	S38379
1,1,2,2-Tetrachloroethane	ND	0.0045	0.028		mg/Kg	1	11/1/2016 3:09:30 PM	S38379
Tetrachloroethene (PCE)	ND	0.0023	0.028		mg/Kg	1	11/1/2016 3:09:30 PM	S38379
trans-1,2-DCE	ND	0.0077	0.028		mg/Kg	1	11/1/2016 3:09:30 PM	S38379
trans-1,3-Dichloropropene	ND	0.0040	0.028		mg/Kg	1	11/1/2016 3:09:30 PM	S38379
1,2,3-Trichlorobenzene	ND	0.0041	0.055		mg/Kg	1	11/1/2016 3:09:30 PM	S38379
1,2,4-Trichlorobenzene	ND	0.0029	0.028		mg/Kg	1	11/1/2016 3:09:30 PM	S38379
1,1,1-Trichloroethane	ND	0.0017	0.028		mg/Kg	1	11/1/2016 3:09:30 PM	S38379
1,1,2-Trichloroethane	ND	0.0032	0.028		mg/Kg	1	11/1/2016 3:09:30 PM	S38379
Trichloroethene (TCE)	ND	0.0030	0.028		mg/Kg	1	11/1/2016 3:09:30 PM	S38379
Trichlorofluoromethane	ND	0.0021	0.028		mg/Kg	1	11/1/2016 3:09:30 PM	S38379
1,2,3-Trichloropropane	ND	0.0048	0.055		mg/Kg	1	11/1/2016 3:09:30 PM	S38379
Vinyl chloride	ND	0.0023	0.028		mg/Kg	1	11/1/2016 3:09:30 PM	S38379
Xylenes, Total	ND	0.0052	0.055		mg/Kg	1	11/1/2016 3:09:30 PM	S38379
Surr: Dibromofluoromethane	98.1		70-130		%Rec	1	11/1/2016 3:09:30 PM	S38379
Surr: 1,2-Dichloroethane-d4	92.4		70-130		%Rec	1	11/1/2016 3:09:30 PM	S38379
Surr: Toluene-d8	93.6		70-130		%Rec	1	11/1/2016 3:09:30 PM	S38379
Surr: 4-Bromofluorobenzene	95.2		70-130		%Rec	1	11/1/2016 3:09:30 PM	S38379
EPA METHOD 8015D MOD: GASOLINE RANGE							Analyst: **DJF**	
Gasoline Range Organics (GRO)	ND	0.41	2.8		mg/Kg	1	11/1/2016 3:09:30 PM	G38379
Surr: BFB	101	0	70-130		%Rec	1	11/1/2016 3:09:30 PM	G38379

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Intera, Inc. **Client Sample ID:** SB-30 (0-5)
Project: COA Railyards **Collection Date:** 10/27/2016 11:46:00 AM
Lab ID: 1610E23-030 **Matrix:** MEOH (SOIL) **Received Date:** 10/28/2016 10:11:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: **TOM**	
Diesel Range Organics (DRO)	6.2	1.8	9.7	J	mg/Kg	1	11/2/2016 5:52:19 AM	28375
Motor Oil Range Organics (MRO)	ND	49	49		mg/Kg	1	11/2/2016 5:52:19 AM	28375
Surr: DNOP	107	0	70-130		%Rec	1	11/2/2016 5:52:19 AM	28375
EPA METHOD 8310: PAHS							Analyst: **SCC**	
Naphthalene	0.052	0.035	0.25	J	mg/Kg	1	11/7/2016 9:38:49 AM	28417
1-Methylnaphthalene	0.087	0.037	0.25	J	mg/Kg	1	11/7/2016 9:38:49 AM	28417
2-Methylnaphthalene	0.12	0.035	0.25	J	mg/Kg	1	11/7/2016 9:38:49 AM	28417
Acenaphthylene	ND	0.033	0.25		mg/Kg	1	11/7/2016 9:38:49 AM	28417
Acenaphthene	ND	0.030	0.25		mg/Kg	1	11/7/2016 9:38:49 AM	28417
Fluorene	ND	0.0033	0.030		mg/Kg	1	11/7/2016 9:38:49 AM	28417
Phenanthrene	0.031	0.0016	0.015		mg/Kg	1	11/7/2016 9:38:49 AM	28417
Anthracene	ND	0.0024	0.015		mg/Kg	1	11/7/2016 9:38:49 AM	28417
Fluoranthene	0.0067	0.0033	0.020	J	mg/Kg	1	11/7/2016 9:38:49 AM	28417
Pyrene	0.011	0.0034	0.025	J	mg/Kg	1	11/7/2016 9:38:49 AM	28417
Benz(a)anthracene	0.0027	0.00050	0.010	J	mg/Kg	1	11/7/2016 9:38:49 AM	28417
Chrysene	0.0060	0.0014	0.010	J	mg/Kg	1	11/7/2016 9:38:49 AM	28417
Benzo(b)fluoranthene	ND	0.00070	0.010		mg/Kg	1	11/7/2016 9:38:49 AM	28417
Benzo(k)fluoranthene	0.0020	0.00040	0.010	J	mg/Kg	1	11/7/2016 9:38:49 AM	28417
Benzo(a)pyrene	0.0037	0.00040	0.010	J	mg/Kg	1	11/7/2016 9:38:49 AM	28417
Dibenz(a,h)anthracene	ND	0.00050	0.010		mg/Kg	1	11/7/2016 9:38:49 AM	28417
Benzo(g,h,i)perylene	0.0022	0.00060	0.010	J	mg/Kg	1	11/7/2016 9:38:49 AM	28417
Indeno(1,2,3-cd)pyrene	0.016	0.00080	0.010		mg/Kg	1	11/7/2016 9:38:49 AM	28417
Surr: Benzo(e)pyrene	60.4	0	27.4-110		%Rec	1	11/7/2016 9:38:49 AM	28417
EPA METHOD 6010B: SOIL METALS							Analyst: **MED**	
Antimony	ND	1.0	2.5		mg/Kg	1	11/2/2016 12:18:16 PM	28364
Arsenic	3.4	0.88	2.5		mg/Kg	1	11/2/2016 12:18:16 PM	28364
Chromium	7.3	0.093	0.30		mg/Kg	1	11/2/2016 12:18:16 PM	28364
Iron	12000	75	250		mg/Kg	100	11/2/2016 11:07:57 AM	28364
Lead	3.2	0.17	0.25		mg/Kg	1	11/2/2016 12:18:16 PM	28364
Manganese	300	0.11	0.20		mg/Kg	2	11/2/2016 12:19:50 PM	28364
Thallium	ND	0.76	2.5		mg/Kg	1	11/2/2016 12:18:16 PM	28364
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Benzene	ND	0.015	0.019		mg/Kg	1	11/1/2016 3:38:01 PM	S38379
Toluene	ND	0.0023	0.038		mg/Kg	1	11/1/2016 3:38:01 PM	S38379
Ethylbenzene	0.0035	0.0031	0.038	J	mg/Kg	1	11/1/2016 3:38:01 PM	S38379
Methyl tert-butyl ether (MTBE)	ND	0.012	0.038		mg/Kg	1	11/1/2016 3:38:01 PM	S38379
1,2,4-Trimethylbenzene	ND	0.0028	0.038		mg/Kg	1	11/1/2016 3:38:01 PM	S38379
1,3,5-Trimethylbenzene	ND	0.0028	0.038		mg/Kg	1	11/1/2016 3:38:01 PM	S38379

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Intera, Inc. **Client Sample ID:** SB-30 (0-5)
Project: COA Railyards **Collection Date:** 10/27/2016 11:46:00 AM
Lab ID: 1610E23-030 **Matrix:** MEOH (SOIL) **Received Date:** 10/28/2016 10:11:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
1,2-Dichloroethane (EDC)	ND	0.010	0.038		mg/Kg	1	11/1/2016 3:38:01 PM	S38379
1,2-Dibromoethane (EDB)	ND	0.0027	0.038		mg/Kg	1	11/1/2016 3:38:01 PM	S38379
Naphthalene	ND	0.0060	0.076		mg/Kg	1	11/1/2016 3:38:01 PM	S38379
1-Methylnaphthalene	ND	0.0085	0.15		mg/Kg	1	11/1/2016 3:38:01 PM	S38379
2-Methylnaphthalene	ND	0.0082	0.15		mg/Kg	1	11/1/2016 3:38:01 PM	S38379
Acetone	0.052	0.049	0.57	J	mg/Kg	1	11/1/2016 3:38:01 PM	S38379
Bromobenzene	ND	0.0031	0.038		mg/Kg	1	11/1/2016 3:38:01 PM	S38379
Bromodichloromethane	ND	0.0022	0.038		mg/Kg	1	11/1/2016 3:38:01 PM	S38379
Bromoform	ND	0.0046	0.038		mg/Kg	1	11/1/2016 3:38:01 PM	S38379
Bromomethane	ND	0.014	0.11		mg/Kg	1	11/1/2016 3:38:01 PM	S38379
2-Butanone	ND	0.022	0.38		mg/Kg	1	11/1/2016 3:38:01 PM	S38379
Carbon disulfide	ND	0.013	0.38		mg/Kg	1	11/1/2016 3:38:01 PM	S38379
Carbon tetrachloride	ND	0.0025	0.038		mg/Kg	1	11/1/2016 3:38:01 PM	S38379
Chlorobenzene	ND	0.0031	0.038		mg/Kg	1	11/1/2016 3:38:01 PM	S38379
Chloroethane	ND	0.0076	0.076		mg/Kg	1	11/1/2016 3:38:01 PM	S38379
Chloroform	ND	0.0029	0.038		mg/Kg	1	11/1/2016 3:38:01 PM	S38379
Chloromethane	ND	0.0034	0.11		mg/Kg	1	11/1/2016 3:38:01 PM	S38379
2-Chlorotoluene	ND	0.0028	0.038		mg/Kg	1	11/1/2016 3:38:01 PM	S38379
4-Chlorotoluene	ND	0.0034	0.038		mg/Kg	1	11/1/2016 3:38:01 PM	S38379
cis-1,2-DCE	ND	0.0022	0.038		mg/Kg	1	11/1/2016 3:38:01 PM	S38379
cis-1,3-Dichloropropene	ND	0.0035	0.038		mg/Kg	1	11/1/2016 3:38:01 PM	S38379
1,2-Dibromo-3-chloropropane	ND	0.012	0.076		mg/Kg	1	11/1/2016 3:38:01 PM	S38379
Dibromochloromethane	ND	0.0034	0.038		mg/Kg	1	11/1/2016 3:38:01 PM	S38379
Dibromomethane	ND	0.0033	0.038		mg/Kg	1	11/1/2016 3:38:01 PM	S38379
1,2-Dichlorobenzene	ND	0.0033	0.038		mg/Kg	1	11/1/2016 3:38:01 PM	S38379
1,3-Dichlorobenzene	ND	0.0031	0.038		mg/Kg	1	11/1/2016 3:38:01 PM	S38379
1,4-Dichlorobenzene	ND	0.0047	0.038		mg/Kg	1	11/1/2016 3:38:01 PM	S38379
Dichlorodifluoromethane	ND	0.012	0.038		mg/Kg	1	11/1/2016 3:38:01 PM	S38379
1,1-Dichloroethane	ND	0.0021	0.038		mg/Kg	1	11/1/2016 3:38:01 PM	S38379
1,1-Dichloroethene	ND	0.012	0.038		mg/Kg	1	11/1/2016 3:38:01 PM	S38379
1,2-Dichloropropane	ND	0.0032	0.038		mg/Kg	1	11/1/2016 3:38:01 PM	S38379
1,3-Dichloropropane	ND	0.0043	0.038		mg/Kg	1	11/1/2016 3:38:01 PM	S38379
2,2-Dichloropropane	ND	0.0022	0.076		mg/Kg	1	11/1/2016 3:38:01 PM	S38379
1,1-Dichloropropene	ND	0.0030	0.076		mg/Kg	1	11/1/2016 3:38:01 PM	S38379
Hexachlorobutadiene	ND	0.0047	0.076		mg/Kg	1	11/1/2016 3:38:01 PM	S38379
2-Hexanone	ND	0.021	0.38		mg/Kg	1	11/1/2016 3:38:01 PM	S38379
Isopropylbenzene	ND	0.0033	0.038		mg/Kg	1	11/1/2016 3:38:01 PM	S38379
4-Isopropyltoluene	ND	0.0034	0.038		mg/Kg	1	11/1/2016 3:38:01 PM	S38379
4-Methyl-2-pentanone	ND	0.011	0.38		mg/Kg	1	11/1/2016 3:38:01 PM	S38379

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Intera, Inc. **Client Sample ID:** SB-30 (0-5)
Project: COA Railyards **Collection Date:** 10/27/2016 11:46:00 AM
Lab ID: 1610E23-030 **Matrix:** MEOH (SOIL) **Received Date:** 10/28/2016 10:11:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Methylene chloride	0.012	0.011	0.11	J	mg/Kg	1	11/1/2016 3:38:01 PM	S38379
n-Butylbenzene	ND	0.0034	0.11		mg/Kg	1	11/1/2016 3:38:01 PM	S38379
n-Propylbenzene	ND	0.0029	0.038		mg/Kg	1	11/1/2016 3:38:01 PM	S38379
sec-Butylbenzene	ND	0.0053	0.038		mg/Kg	1	11/1/2016 3:38:01 PM	S38379
Styrene	ND	0.0034	0.038		mg/Kg	1	11/1/2016 3:38:01 PM	S38379
tert-Butylbenzene	ND	0.0032	0.038		mg/Kg	1	11/1/2016 3:38:01 PM	S38379
1,1,1,2-Tetrachloroethane	ND	0.0037	0.038		mg/Kg	1	11/1/2016 3:38:01 PM	S38379
1,1,2,2-Tetrachloroethane	ND	0.0062	0.038		mg/Kg	1	11/1/2016 3:38:01 PM	S38379
Tetrachloroethene (PCE)	ND	0.0032	0.038		mg/Kg	1	11/1/2016 3:38:01 PM	S38379
trans-1,2-DCE	ND	0.011	0.038		mg/Kg	1	11/1/2016 3:38:01 PM	S38379
trans-1,3-Dichloropropene	ND	0.0056	0.038		mg/Kg	1	11/1/2016 3:38:01 PM	S38379
1,2,3-Trichlorobenzene	ND	0.0057	0.076		mg/Kg	1	11/1/2016 3:38:01 PM	S38379
1,2,4-Trichlorobenzene	ND	0.0041	0.038		mg/Kg	1	11/1/2016 3:38:01 PM	S38379
1,1,1-Trichloroethane	ND	0.0023	0.038		mg/Kg	1	11/1/2016 3:38:01 PM	S38379
1,1,2-Trichloroethane	ND	0.0045	0.038		mg/Kg	1	11/1/2016 3:38:01 PM	S38379
Trichloroethene (TCE)	ND	0.0041	0.038		mg/Kg	1	11/1/2016 3:38:01 PM	S38379
Trichlorofluoromethane	ND	0.0029	0.038		mg/Kg	1	11/1/2016 3:38:01 PM	S38379
1,2,3-Trichloropropane	ND	0.0066	0.076		mg/Kg	1	11/1/2016 3:38:01 PM	S38379
Vinyl chloride	ND	0.0031	0.038		mg/Kg	1	11/1/2016 3:38:01 PM	S38379
Xylenes, Total	0.047	0.0072	0.076	J	mg/Kg	1	11/1/2016 3:38:01 PM	S38379
Surr: Dibromofluoromethane	99.5		70-130		%Rec	1	11/1/2016 3:38:01 PM	S38379
Surr: 1,2-Dichloroethane-d4	92.4		70-130		%Rec	1	11/1/2016 3:38:01 PM	S38379
Surr: Toluene-d8	95.4		70-130		%Rec	1	11/1/2016 3:38:01 PM	S38379
Surr: 4-Bromofluorobenzene	98.6		70-130		%Rec	1	11/1/2016 3:38:01 PM	S38379
EPA METHOD 8015D MOD: GASOLINE RANGE							Analyst: **DJF**	
Gasoline Range Organics (GRO)	ND	0.57	3.8		mg/Kg	1	11/1/2016 3:38:01 PM	G38379
Surr: BFB	101	0	70-130		%Rec	1	11/1/2016 3:38:01 PM	G38379

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Intera, Inc. **Client Sample ID:** SB-31 (0-5)
Project: COA Railyards **Collection Date:** 10/27/2016 12:50:00 PM
Lab ID: 1610E23-031 **Matrix:** MEOH (SOIL) **Received Date:** 10/28/2016 10:11:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	1.8	9.6		mg/Kg	1	11/2/2016 6:13:51 AM	28375
Motor Oil Range Organics (MRO)	ND	48	48		mg/Kg	1	11/2/2016 6:13:51 AM	28375
Surr: DNOP	91.0	0	70-130		%Rec	1	11/2/2016 6:13:51 AM	28375
EPA METHOD 8310: PAHS							Analyst: **SCC**	
Naphthalene	ND	0.035	0.25		mg/Kg	1	11/7/2016 10:08:03 AM	28417
1-Methylnaphthalene	ND	0.037	0.25		mg/Kg	1	11/7/2016 10:08:03 AM	28417
2-Methylnaphthalene	ND	0.035	0.25		mg/Kg	1	11/7/2016 10:08:03 AM	28417
Acenaphthylene	ND	0.034	0.25		mg/Kg	1	11/7/2016 10:08:03 AM	28417
Acenaphthene	ND	0.031	0.25		mg/Kg	1	11/7/2016 10:08:03 AM	28417
Fluorene	ND	0.0033	0.030		mg/Kg	1	11/7/2016 10:08:03 AM	28417
Phenanthrene	0.0023	0.0016	0.015	J	mg/Kg	1	11/7/2016 10:08:03 AM	28417
Anthracene	ND	0.0024	0.015		mg/Kg	1	11/7/2016 10:08:03 AM	28417
Fluoranthene	ND	0.0033	0.020		mg/Kg	1	11/7/2016 10:08:03 AM	28417
Pyrene	ND	0.0034	0.025		mg/Kg	1	11/7/2016 10:08:03 AM	28417
Benz(a)anthracene	0.00050	0.00050	0.010	J	mg/Kg	1	11/7/2016 10:08:03 AM	28417
Chrysene	ND	0.0014	0.010		mg/Kg	1	11/7/2016 10:08:03 AM	28417
Benzo(b)fluoranthene	ND	0.00071	0.010		mg/Kg	1	11/7/2016 10:08:03 AM	28417
Benzo(k)fluoranthene	ND	0.00040	0.010		mg/Kg	1	11/7/2016 10:08:03 AM	28417
Benzo(a)pyrene	0.00050	0.00040	0.010	J	mg/Kg	1	11/7/2016 10:08:03 AM	28417
Dibenz(a,h)anthracene	ND	0.00050	0.010		mg/Kg	1	11/7/2016 10:08:03 AM	28417
Benzo(g,h,i)perylene	ND	0.00060	0.010		mg/Kg	1	11/7/2016 10:08:03 AM	28417
Indeno(1,2,3-cd)pyrene	0.0020	0.00081	0.010	J	mg/Kg	1	11/7/2016 10:08:03 AM	28417
Surr: Benzo(e)pyrene	63.2	0	27.4-110		%Rec	1	11/7/2016 10:08:03 AM	28417
EPA METHOD 6010B: SOIL METALS							Analyst: **MED**	
Antimony	ND	0.98	2.4		mg/Kg	1	11/2/2016 12:29:38 PM	28364
Arsenic	3.7	0.87	2.4		mg/Kg	1	11/2/2016 12:29:38 PM	28364
Chromium	5.9	0.092	0.29		mg/Kg	1	11/2/2016 12:29:38 PM	28364
Iron	9300	74	240		mg/Kg	100	11/2/2016 11:09:30 AM	28364
Lead	4.8	0.17	0.24		mg/Kg	1	11/2/2016 12:29:38 PM	28364
Manganese	280	0.10	0.20		mg/Kg	2	11/2/2016 12:31:22 PM	28364
Thallium	ND	0.75	2.4		mg/Kg	1	11/2/2016 12:29:38 PM	28364
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Benzene	ND	0.015	0.019		mg/Kg	1	11/1/2016 4:06:51 PM	S38379
Toluene	ND	0.0022	0.037		mg/Kg	1	11/1/2016 4:06:51 PM	S38379
Ethylbenzene	ND	0.0031	0.037		mg/Kg	1	11/1/2016 4:06:51 PM	S38379
Methyl tert-butyl ether (MTBE)	ND	0.012	0.037		mg/Kg	1	11/1/2016 4:06:51 PM	S38379
1,2,4-Trimethylbenzene	ND	0.0028	0.037		mg/Kg	1	11/1/2016 4:06:51 PM	S38379
1,3,5-Trimethylbenzene	ND	0.0027	0.037		mg/Kg	1	11/1/2016 4:06:51 PM	S38379

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Intera, Inc. **Client Sample ID:** SB-31 (0-5)
Project: COA Railyards **Collection Date:** 10/27/2016 12:50:00 PM
Lab ID: 1610E23-031 **Matrix:** MEOH (SOIL) **Received Date:** 10/28/2016 10:11:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
1,2-Dichloroethane (EDC)	ND	0.0098	0.037		mg/Kg	1	11/1/2016 4:06:51 PM	S38379
1,2-Dibromoethane (EDB)	ND	0.0027	0.037		mg/Kg	1	11/1/2016 4:06:51 PM	S38379
Naphthalene	ND	0.0059	0.075		mg/Kg	1	11/1/2016 4:06:51 PM	S38379
1-Methylnaphthalene	ND	0.0083	0.15		mg/Kg	1	11/1/2016 4:06:51 PM	S38379
2-Methylnaphthalene	ND	0.0080	0.15		mg/Kg	1	11/1/2016 4:06:51 PM	S38379
Acetone	0.057	0.048	0.56	J	mg/Kg	1	11/1/2016 4:06:51 PM	S38379
Bromobenzene	ND	0.0030	0.037		mg/Kg	1	11/1/2016 4:06:51 PM	S38379
Bromodichloromethane	ND	0.0022	0.037		mg/Kg	1	11/1/2016 4:06:51 PM	S38379
Bromoform	ND	0.0046	0.037		mg/Kg	1	11/1/2016 4:06:51 PM	S38379
Bromomethane	ND	0.014	0.11		mg/Kg	1	11/1/2016 4:06:51 PM	S38379
2-Butanone	ND	0.021	0.37		mg/Kg	1	11/1/2016 4:06:51 PM	S38379
Carbon disulfide	ND	0.012	0.37		mg/Kg	1	11/1/2016 4:06:51 PM	S38379
Carbon tetrachloride	ND	0.0025	0.037		mg/Kg	1	11/1/2016 4:06:51 PM	S38379
Chlorobenzene	ND	0.0030	0.037		mg/Kg	1	11/1/2016 4:06:51 PM	S38379
Chloroethane	ND	0.0075	0.075		mg/Kg	1	11/1/2016 4:06:51 PM	S38379
Chloroform	ND	0.0028	0.037		mg/Kg	1	11/1/2016 4:06:51 PM	S38379
Chloromethane	ND	0.0033	0.11		mg/Kg	1	11/1/2016 4:06:51 PM	S38379
2-Chlorotoluene	ND	0.0028	0.037		mg/Kg	1	11/1/2016 4:06:51 PM	S38379
4-Chlorotoluene	ND	0.0033	0.037		mg/Kg	1	11/1/2016 4:06:51 PM	S38379
cis-1,2-DCE	ND	0.0022	0.037		mg/Kg	1	11/1/2016 4:06:51 PM	S38379
cis-1,3-Dichloropropene	ND	0.0035	0.037		mg/Kg	1	11/1/2016 4:06:51 PM	S38379
1,2-Dibromo-3-chloropropane	ND	0.011	0.075		mg/Kg	1	11/1/2016 4:06:51 PM	S38379
Dibromochloromethane	ND	0.0034	0.037		mg/Kg	1	11/1/2016 4:06:51 PM	S38379
Dibromomethane	ND	0.0032	0.037		mg/Kg	1	11/1/2016 4:06:51 PM	S38379
1,2-Dichlorobenzene	ND	0.0033	0.037		mg/Kg	1	11/1/2016 4:06:51 PM	S38379
1,3-Dichlorobenzene	ND	0.0031	0.037		mg/Kg	1	11/1/2016 4:06:51 PM	S38379
1,4-Dichlorobenzene	ND	0.0046	0.037		mg/Kg	1	11/1/2016 4:06:51 PM	S38379
Dichlorodifluoromethane	ND	0.012	0.037		mg/Kg	1	11/1/2016 4:06:51 PM	S38379
1,1-Dichloroethane	ND	0.0020	0.037		mg/Kg	1	11/1/2016 4:06:51 PM	S38379
1,1-Dichloroethene	ND	0.012	0.037		mg/Kg	1	11/1/2016 4:06:51 PM	S38379
1,2-Dichloropropane	ND	0.0031	0.037		mg/Kg	1	11/1/2016 4:06:51 PM	S38379
1,3-Dichloropropane	ND	0.0042	0.037		mg/Kg	1	11/1/2016 4:06:51 PM	S38379
2,2-Dichloropropane	ND	0.0021	0.075		mg/Kg	1	11/1/2016 4:06:51 PM	S38379
1,1-Dichloropropene	ND	0.0030	0.075		mg/Kg	1	11/1/2016 4:06:51 PM	S38379
Hexachlorobutadiene	ND	0.0046	0.075		mg/Kg	1	11/1/2016 4:06:51 PM	S38379
2-Hexanone	ND	0.020	0.37		mg/Kg	1	11/1/2016 4:06:51 PM	S38379
Isopropylbenzene	ND	0.0032	0.037		mg/Kg	1	11/1/2016 4:06:51 PM	S38379
4-Isopropyltoluene	ND	0.0034	0.037		mg/Kg	1	11/1/2016 4:06:51 PM	S38379
4-Methyl-2-pentanone	ND	0.011	0.37		mg/Kg	1	11/1/2016 4:06:51 PM	S38379

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Intera, Inc. **Client Sample ID:** SB-31 (0-5)
Project: COA Railyards **Collection Date:** 10/27/2016 12:50:00 PM
Lab ID: 1610E23-031 **Matrix:** MEOH (SOIL) **Received Date:** 10/28/2016 10:11:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Methylene chloride	0.012	0.011	0.11	J	mg/Kg	1	11/1/2016 4:06:51 PM	S38379
n-Butylbenzene	ND	0.0033	0.11		mg/Kg	1	11/1/2016 4:06:51 PM	S38379
n-Propylbenzene	ND	0.0029	0.037		mg/Kg	1	11/1/2016 4:06:51 PM	S38379
sec-Butylbenzene	ND	0.0052	0.037		mg/Kg	1	11/1/2016 4:06:51 PM	S38379
Styrene	ND	0.0033	0.037		mg/Kg	1	11/1/2016 4:06:51 PM	S38379
tert-Butylbenzene	ND	0.0031	0.037		mg/Kg	1	11/1/2016 4:06:51 PM	S38379
1,1,1,2-Tetrachloroethane	ND	0.0036	0.037		mg/Kg	1	11/1/2016 4:06:51 PM	S38379
1,1,2,2-Tetrachloroethane	ND	0.0061	0.037		mg/Kg	1	11/1/2016 4:06:51 PM	S38379
Tetrachloroethene (PCE)	ND	0.0031	0.037		mg/Kg	1	11/1/2016 4:06:51 PM	S38379
trans-1,2-DCE	ND	0.010	0.037		mg/Kg	1	11/1/2016 4:06:51 PM	S38379
trans-1,3-Dichloropropene	ND	0.0055	0.037		mg/Kg	1	11/1/2016 4:06:51 PM	S38379
1,2,3-Trichlorobenzene	ND	0.0056	0.075		mg/Kg	1	11/1/2016 4:06:51 PM	S38379
1,2,4-Trichlorobenzene	ND	0.0040	0.037		mg/Kg	1	11/1/2016 4:06:51 PM	S38379
1,1,1-Trichloroethane	ND	0.0023	0.037		mg/Kg	1	11/1/2016 4:06:51 PM	S38379
1,1,2-Trichloroethane	ND	0.0044	0.037		mg/Kg	1	11/1/2016 4:06:51 PM	S38379
Trichloroethene (TCE)	ND	0.0040	0.037		mg/Kg	1	11/1/2016 4:06:51 PM	S38379
Trichlorofluoromethane	ND	0.0028	0.037		mg/Kg	1	11/1/2016 4:06:51 PM	S38379
1,2,3-Trichloropropane	ND	0.0065	0.075		mg/Kg	1	11/1/2016 4:06:51 PM	S38379
Vinyl chloride	ND	0.0031	0.037		mg/Kg	1	11/1/2016 4:06:51 PM	S38379
Xylenes, Total	ND	0.0071	0.075		mg/Kg	1	11/1/2016 4:06:51 PM	S38379
Surr: Dibromofluoromethane	100		70-130		%Rec	1	11/1/2016 4:06:51 PM	S38379
Surr: 1,2-Dichloroethane-d4	92.2		70-130		%Rec	1	11/1/2016 4:06:51 PM	S38379
Surr: Toluene-d8	94.9		70-130		%Rec	1	11/1/2016 4:06:51 PM	S38379
Surr: 4-Bromofluorobenzene	97.7		70-130		%Rec	1	11/1/2016 4:06:51 PM	S38379
EPA METHOD 8015D MOD: GASOLINE RANGE							Analyst: **DJF**	
Gasoline Range Organics (GRO)	ND	0.56	3.7		mg/Kg	1	11/1/2016 4:06:51 PM	G38379
Surr: BFB	100	0	70-130		%Rec	1	11/1/2016 4:06:51 PM	G38379

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Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Intera, Inc. **Client Sample ID:** SB-32 (0-3)
Project: COA Railyards **Collection Date:** 10/27/2016 1:05:00 PM
Lab ID: 1610E23-032 **Matrix:** MEOH (SOIL) **Received Date:** 10/28/2016 10:11:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: **TOM**	
Diesel Range Organics (DRO)	24	1.8	9.5		mg/Kg	1	11/3/2016 3:18:51 AM	28375
Motor Oil Range Organics (MRO)	69	48	48		mg/Kg	1	11/3/2016 3:18:51 AM	28375
Surr: DNOP	0	0	70-130	S	%Rec	1	11/3/2016 3:18:51 AM	28375
EPA METHOD 8310: PAHS							Analyst: **SCC**	
Naphthalene	ND	3.5	25	D	mg/Kg	10	11/7/2016 11:06:30 AM	28417
1-Methylnaphthalene	ND	3.7	25	D	mg/Kg	10	11/7/2016 11:06:30 AM	28417
2-Methylnaphthalene	ND	3.5	25	D	mg/Kg	10	11/7/2016 11:06:30 AM	28417
Acenaphthylene	ND	3.3	25	D	mg/Kg	10	11/7/2016 11:06:30 AM	28417
Acenaphthene	ND	3.0	25	D	mg/Kg	10	11/7/2016 11:06:30 AM	28417
Fluorene	ND	0.33	3.0	D	mg/Kg	10	11/7/2016 11:06:30 AM	28417
Phenanthrene	8.5	0.16	1.5	D	mg/Kg	10	11/7/2016 11:06:30 AM	28417
Anthracene	0.97	0.24	1.5	JD	mg/Kg	10	11/7/2016 11:06:30 AM	28417
Fluoranthene	16	0.33	2.0	D	mg/Kg	10	11/7/2016 11:06:30 AM	28417
Pyrene	15	0.34	2.5	D	mg/Kg	10	11/7/2016 11:06:30 AM	28417
Benz(a)anthracene	6.5	0.25	5.0	D	mg/Kg	50	11/7/2016 4:57:48 PM	28417
Chrysene	4.7	0.14	0.99	D	mg/Kg	10	11/7/2016 11:06:30 AM	28417
Benzo(b)fluoranthene	4.4	0.14	2.0	D	mg/Kg	20	11/7/2016 4:28:36 PM	28417
Benzo(k)fluoranthene	3.2	0.080	2.0	D	mg/Kg	20	11/7/2016 4:28:36 PM	28417
Benzo(a)pyrene	7.1	0.20	5.0	D	mg/Kg	50	11/7/2016 4:57:48 PM	28417
Dibenz(a,h)anthracene	0.40	0.050	0.99	JD	mg/Kg	10	11/7/2016 11:06:30 AM	28417
Benzo(g,h,i)perylene	4.3	0.12	2.0	D	mg/Kg	20	11/7/2016 4:28:36 PM	28417
Indeno(1,2,3-cd)pyrene	1.5	0.080	0.99	D	mg/Kg	10	11/7/2016 11:06:30 AM	28417
Surr: Benzo(e)pyrene	0	0	27.4-110	SD	%Rec	10	11/7/2016 11:06:30 AM	28417
EPA METHOD 6010B: SOIL METALS							Analyst: **MED**	
Antimony	3.6	0.97	2.4		mg/Kg	1	11/2/2016 12:33:02 PM	28364
Arsenic	17	0.86	2.4		mg/Kg	1	11/2/2016 12:33:02 PM	28364
Chromium	12	0.091	0.29		mg/Kg	1	11/2/2016 12:33:02 PM	28364
Iron	18000	73	240		mg/Kg	100	11/2/2016 11:17:20 AM	28364
Lead	210	0.84	1.2		mg/Kg	5	11/4/2016 10:35:46 AM	28364
Manganese	390	0.10	0.19		mg/Kg	2	11/2/2016 12:34:54 PM	28364
Thallium	ND	0.74	2.4		mg/Kg	1	11/2/2016 12:33:02 PM	28364
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Benzene	ND	0.012	0.015		mg/Kg	1	11/1/2016 1:43:43 PM	S38379
Toluene	0.0045	0.0018	0.030	J	mg/Kg	1	11/1/2016 1:43:43 PM	S38379
Ethylbenzene	ND	0.0025	0.030		mg/Kg	1	11/1/2016 1:43:43 PM	S38379
Methyl tert-butyl ether (MTBE)	ND	0.0095	0.030		mg/Kg	1	11/1/2016 1:43:43 PM	S38379
1,2,4-Trimethylbenzene	0.0026	0.0022	0.030	J	mg/Kg	1	11/1/2016 1:43:43 PM	S38379
1,3,5-Trimethylbenzene	ND	0.0022	0.030		mg/Kg	1	11/1/2016 1:43:43 PM	S38379

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Intera, Inc. **Client Sample ID:** SB-32 (0-3)
Project: COA Railyards **Collection Date:** 10/27/2016 1:05:00 PM
Lab ID: 1610E23-032 **Matrix:** MEOH (SOIL) **Received Date:** 10/28/2016 10:11:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
1,2-Dichloroethane (EDC)	ND	0.0079	0.030		mg/Kg	1	11/1/2016 1:43:43 PM	S38379
1,2-Dibromoethane (EDB)	ND	0.0022	0.030		mg/Kg	1	11/1/2016 1:43:43 PM	S38379
Naphthalene	0.0057	0.0047	0.061	J	mg/Kg	1	11/1/2016 1:43:43 PM	S38379
1-Methylnaphthalene	ND	0.0067	0.12		mg/Kg	1	11/1/2016 1:43:43 PM	S38379
2-Methylnaphthalene	0.0095	0.0065	0.12	J	mg/Kg	1	11/1/2016 1:43:43 PM	S38379
Acetone	0.094	0.039	0.45	J	mg/Kg	1	11/1/2016 1:43:43 PM	S38379
Bromobenzene	ND	0.0024	0.030		mg/Kg	1	11/1/2016 1:43:43 PM	S38379
Bromodichloromethane	ND	0.0018	0.030		mg/Kg	1	11/1/2016 1:43:43 PM	S38379
Bromoform	ND	0.0037	0.030		mg/Kg	1	11/1/2016 1:43:43 PM	S38379
Bromomethane	ND	0.011	0.091		mg/Kg	1	11/1/2016 1:43:43 PM	S38379
2-Butanone	ND	0.017	0.30		mg/Kg	1	11/1/2016 1:43:43 PM	S38379
Carbon disulfide	ND	0.010	0.30		mg/Kg	1	11/1/2016 1:43:43 PM	S38379
Carbon tetrachloride	ND	0.0020	0.030		mg/Kg	1	11/1/2016 1:43:43 PM	S38379
Chlorobenzene	ND	0.0025	0.030		mg/Kg	1	11/1/2016 1:43:43 PM	S38379
Chloroethane	ND	0.0060	0.061		mg/Kg	1	11/1/2016 1:43:43 PM	S38379
Chloroform	0.024	0.0023	0.030	J	mg/Kg	1	11/1/2016 1:43:43 PM	S38379
Chloromethane	ND	0.0027	0.091		mg/Kg	1	11/1/2016 1:43:43 PM	S38379
2-Chlorotoluene	ND	0.0022	0.030		mg/Kg	1	11/1/2016 1:43:43 PM	S38379
4-Chlorotoluene	ND	0.0027	0.030		mg/Kg	1	11/1/2016 1:43:43 PM	S38379
cis-1,2-DCE	ND	0.0018	0.030		mg/Kg	1	11/1/2016 1:43:43 PM	S38379
cis-1,3-Dichloropropene	ND	0.0028	0.030		mg/Kg	1	11/1/2016 1:43:43 PM	S38379
1,2-Dibromo-3-chloropropane	ND	0.0093	0.061		mg/Kg	1	11/1/2016 1:43:43 PM	S38379
Dibromochloromethane	ND	0.0027	0.030		mg/Kg	1	11/1/2016 1:43:43 PM	S38379
Dibromomethane	ND	0.0026	0.030		mg/Kg	1	11/1/2016 1:43:43 PM	S38379
1,2-Dichlorobenzene	ND	0.0026	0.030		mg/Kg	1	11/1/2016 1:43:43 PM	S38379
1,3-Dichlorobenzene	ND	0.0025	0.030		mg/Kg	1	11/1/2016 1:43:43 PM	S38379
1,4-Dichlorobenzene	ND	0.0038	0.030		mg/Kg	1	11/1/2016 1:43:43 PM	S38379
Dichlorodifluoromethane	ND	0.0094	0.030		mg/Kg	1	11/1/2016 1:43:43 PM	S38379
1,1-Dichloroethane	ND	0.0016	0.030		mg/Kg	1	11/1/2016 1:43:43 PM	S38379
1,1-Dichloroethene	ND	0.0099	0.030		mg/Kg	1	11/1/2016 1:43:43 PM	S38379
1,2-Dichloropropane	ND	0.0025	0.030		mg/Kg	1	11/1/2016 1:43:43 PM	S38379
1,3-Dichloropropane	ND	0.0034	0.030		mg/Kg	1	11/1/2016 1:43:43 PM	S38379
2,2-Dichloropropane	ND	0.0017	0.061		mg/Kg	1	11/1/2016 1:43:43 PM	S38379
1,1-Dichloropropene	ND	0.0024	0.061		mg/Kg	1	11/1/2016 1:43:43 PM	S38379
Hexachlorobutadiene	ND	0.0037	0.061		mg/Kg	1	11/1/2016 1:43:43 PM	S38379
2-Hexanone	ND	0.016	0.30		mg/Kg	1	11/1/2016 1:43:43 PM	S38379
Isopropylbenzene	ND	0.0026	0.030		mg/Kg	1	11/1/2016 1:43:43 PM	S38379
4-Isopropyltoluene	ND	0.0027	0.030		mg/Kg	1	11/1/2016 1:43:43 PM	S38379
4-Methyl-2-pentanone	0.015	0.0088	0.30	J	mg/Kg	1	11/1/2016 1:43:43 PM	S38379

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Intera, Inc. **Client Sample ID:** SB-32 (0-3)
Project: COA Railyards **Collection Date:** 10/27/2016 1:05:00 PM
Lab ID: 1610E23-032 **Matrix:** MEOH (SOIL) **Received Date:** 10/28/2016 10:11:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Methylene chloride	0.0088	0.0087	0.091	J	mg/Kg	1	11/1/2016 1:43:43 PM	S38379
n-Butylbenzene	ND	0.0027	0.091		mg/Kg	1	11/1/2016 1:43:43 PM	S38379
n-Propylbenzene	ND	0.0023	0.030		mg/Kg	1	11/1/2016 1:43:43 PM	S38379
sec-Butylbenzene	ND	0.0042	0.030		mg/Kg	1	11/1/2016 1:43:43 PM	S38379
Styrene	ND	0.0027	0.030		mg/Kg	1	11/1/2016 1:43:43 PM	S38379
tert-Butylbenzene	ND	0.0025	0.030		mg/Kg	1	11/1/2016 1:43:43 PM	S38379
1,1,1,2-Tetrachloroethane	ND	0.0029	0.030		mg/Kg	1	11/1/2016 1:43:43 PM	S38379
1,1,2,2-Tetrachloroethane	ND	0.0049	0.030		mg/Kg	1	11/1/2016 1:43:43 PM	S38379
Tetrachloroethene (PCE)	ND	0.0025	0.030		mg/Kg	1	11/1/2016 1:43:43 PM	S38379
trans-1,2-DCE	ND	0.0085	0.030		mg/Kg	1	11/1/2016 1:43:43 PM	S38379
trans-1,3-Dichloropropene	ND	0.0044	0.030		mg/Kg	1	11/1/2016 1:43:43 PM	S38379
1,2,3-Trichlorobenzene	ND	0.0045	0.061		mg/Kg	1	11/1/2016 1:43:43 PM	S38379
1,2,4-Trichlorobenzene	ND	0.0032	0.030		mg/Kg	1	11/1/2016 1:43:43 PM	S38379
1,1,1-Trichloroethane	ND	0.0018	0.030		mg/Kg	1	11/1/2016 1:43:43 PM	S38379
1,1,2-Trichloroethane	ND	0.0036	0.030		mg/Kg	1	11/1/2016 1:43:43 PM	S38379
Trichloroethene (TCE)	ND	0.0032	0.030		mg/Kg	1	11/1/2016 1:43:43 PM	S38379
Trichlorofluoromethane	ND	0.0023	0.030		mg/Kg	1	11/1/2016 1:43:43 PM	S38379
1,2,3-Trichloropropane	ND	0.0052	0.061		mg/Kg	1	11/1/2016 1:43:43 PM	S38379
Vinyl chloride	ND	0.0025	0.030		mg/Kg	1	11/1/2016 1:43:43 PM	S38379
Xylenes, Total	ND	0.0057	0.061		mg/Kg	1	11/1/2016 1:43:43 PM	S38379
Surr: Dibromofluoromethane	99.3		70-130		%Rec	1	11/1/2016 1:43:43 PM	S38379
Surr: 1,2-Dichloroethane-d4	91.9		70-130		%Rec	1	11/1/2016 1:43:43 PM	S38379
Surr: Toluene-d8	96.3		70-130		%Rec	1	11/1/2016 1:43:43 PM	S38379
Surr: 4-Bromofluorobenzene	95.3		70-130		%Rec	1	11/1/2016 1:43:43 PM	S38379
EPA METHOD 8015D MOD: GASOLINE RANGE							Analyst: **DJF**	
Gasoline Range Organics (GRO)	0.70	0.46	3.0	J	mg/Kg	1	11/1/2016 1:43:43 PM	G38379
Surr: BFB	99.5	0	70-130		%Rec	1	11/1/2016 1:43:43 PM	G38379

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Intera, Inc. **Client Sample ID:** MEOH BLANK
Project: COA Railyards **Collection Date:**
Lab ID: 1610E23-033 **Matrix:** MEOH BLAN **Received Date:** 10/28/2016 10:11:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Benzene	ND	0.020	0.025		mg/Kg	1	11/1/2016 4:35:34 PM	S38379
Toluene	ND	0.0030	0.050		mg/Kg	1	11/1/2016 4:35:34 PM	S38379
Ethylbenzene	ND	0.0041	0.050		mg/Kg	1	11/1/2016 4:35:34 PM	S38379
Methyl tert-butyl ether (MTBE)	ND	0.016	0.050		mg/Kg	1	11/1/2016 4:35:34 PM	S38379
1,2,4-Trimethylbenzene	ND	0.0037	0.050		mg/Kg	1	11/1/2016 4:35:34 PM	S38379
1,3,5-Trimethylbenzene	ND	0.0036	0.050		mg/Kg	1	11/1/2016 4:35:34 PM	S38379
1,2-Dichloroethane (EDC)	ND	0.013	0.050		mg/Kg	1	11/1/2016 4:35:34 PM	S38379
1,2-Dibromoethane (EDB)	ND	0.0036	0.050		mg/Kg	1	11/1/2016 4:35:34 PM	S38379
Naphthalene	ND	0.0078	0.10		mg/Kg	1	11/1/2016 4:35:34 PM	S38379
1-Methylnaphthalene	ND	0.011	0.20		mg/Kg	1	11/1/2016 4:35:34 PM	S38379
2-Methylnaphthalene	ND	0.011	0.20		mg/Kg	1	11/1/2016 4:35:34 PM	S38379
Acetone	ND	0.065	0.75		mg/Kg	1	11/1/2016 4:35:34 PM	S38379
Bromobenzene	ND	0.0040	0.050		mg/Kg	1	11/1/2016 4:35:34 PM	S38379
Bromodichloromethane	ND	0.0029	0.050		mg/Kg	1	11/1/2016 4:35:34 PM	S38379
Bromoform	ND	0.0061	0.050		mg/Kg	1	11/1/2016 4:35:34 PM	S38379
Bromomethane	ND	0.018	0.15		mg/Kg	1	11/1/2016 4:35:34 PM	S38379
2-Butanone	ND	0.029	0.50		mg/Kg	1	11/1/2016 4:35:34 PM	S38379
Carbon disulfide	ND	0.017	0.50		mg/Kg	1	11/1/2016 4:35:34 PM	S38379
Carbon tetrachloride	ND	0.0033	0.050		mg/Kg	1	11/1/2016 4:35:34 PM	S38379
Chlorobenzene	ND	0.0041	0.050		mg/Kg	1	11/1/2016 4:35:34 PM	S38379
Chloroethane	ND	0.010	0.10		mg/Kg	1	11/1/2016 4:35:34 PM	S38379
Chloroform	ND	0.0038	0.050		mg/Kg	1	11/1/2016 4:35:34 PM	S38379
Chloromethane	0.017	0.0044	0.15	J	mg/Kg	1	11/1/2016 4:35:34 PM	S38379
2-Chlorotoluene	ND	0.0037	0.050		mg/Kg	1	11/1/2016 4:35:34 PM	S38379
4-Chlorotoluene	ND	0.0044	0.050		mg/Kg	1	11/1/2016 4:35:34 PM	S38379
cis-1,2-DCE	ND	0.0029	0.050		mg/Kg	1	11/1/2016 4:35:34 PM	S38379
cis-1,3-Dichloropropene	ND	0.0046	0.050		mg/Kg	1	11/1/2016 4:35:34 PM	S38379
1,2-Dibromo-3-chloropropane	ND	0.015	0.10		mg/Kg	1	11/1/2016 4:35:34 PM	S38379
Dibromochloromethane	ND	0.0045	0.050		mg/Kg	1	11/1/2016 4:35:34 PM	S38379
Dibromomethane	ND	0.0043	0.050		mg/Kg	1	11/1/2016 4:35:34 PM	S38379
1,2-Dichlorobenzene	ND	0.0044	0.050		mg/Kg	1	11/1/2016 4:35:34 PM	S38379
1,3-Dichlorobenzene	ND	0.0041	0.050		mg/Kg	1	11/1/2016 4:35:34 PM	S38379
1,4-Dichlorobenzene	ND	0.0062	0.050		mg/Kg	1	11/1/2016 4:35:34 PM	S38379
Dichlorodifluoromethane	ND	0.015	0.050		mg/Kg	1	11/1/2016 4:35:34 PM	S38379
1,1-Dichloroethane	ND	0.0027	0.050		mg/Kg	1	11/1/2016 4:35:34 PM	S38379
1,1-Dichloroethene	ND	0.016	0.050		mg/Kg	1	11/1/2016 4:35:34 PM	S38379
1,2-Dichloropropane	ND	0.0042	0.050		mg/Kg	1	11/1/2016 4:35:34 PM	S38379
1,3-Dichloropropane	ND	0.0057	0.050		mg/Kg	1	11/1/2016 4:35:34 PM	S38379
2,2-Dichloropropane	ND	0.0029	0.10		mg/Kg	1	11/1/2016 4:35:34 PM	S38379

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Intera, Inc. **Client Sample ID:** MEOH BLANK
Project: COA Railyards **Collection Date:**
Lab ID: 1610E23-033 **Matrix:** MEOH BLAN **Received Date:** 10/28/2016 10:11:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
1,1-Dichloropropene	ND	0.0040	0.10		mg/Kg	1	11/1/2016 4:35:34 PM	S38379
Hexachlorobutadiene	ND	0.0061	0.10		mg/Kg	1	11/1/2016 4:35:34 PM	S38379
2-Hexanone	ND	0.027	0.50		mg/Kg	1	11/1/2016 4:35:34 PM	S38379
Isopropylbenzene	ND	0.0043	0.050		mg/Kg	1	11/1/2016 4:35:34 PM	S38379
4-Isopropyltoluene	ND	0.0045	0.050		mg/Kg	1	11/1/2016 4:35:34 PM	S38379
4-Methyl-2-pentanone	ND	0.015	0.50		mg/Kg	1	11/1/2016 4:35:34 PM	S38379
Methylene chloride	0.017	0.014	0.15	J	mg/Kg	1	11/1/2016 4:35:34 PM	S38379
n-Butylbenzene	ND	0.0044	0.15		mg/Kg	1	11/1/2016 4:35:34 PM	S38379
n-Propylbenzene	ND	0.0038	0.050		mg/Kg	1	11/1/2016 4:35:34 PM	S38379
sec-Butylbenzene	ND	0.0069	0.050		mg/Kg	1	11/1/2016 4:35:34 PM	S38379
Styrene	ND	0.0045	0.050		mg/Kg	1	11/1/2016 4:35:34 PM	S38379
tert-Butylbenzene	ND	0.0041	0.050		mg/Kg	1	11/1/2016 4:35:34 PM	S38379
1,1,1,2-Tetrachloroethane	ND	0.0048	0.050		mg/Kg	1	11/1/2016 4:35:34 PM	S38379
1,1,2,2-Tetrachloroethane	ND	0.0081	0.050		mg/Kg	1	11/1/2016 4:35:34 PM	S38379
Tetrachloroethene (PCE)	ND	0.0041	0.050		mg/Kg	1	11/1/2016 4:35:34 PM	S38379
trans-1,2-DCE	ND	0.014	0.050		mg/Kg	1	11/1/2016 4:35:34 PM	S38379
trans-1,3-Dichloropropene	ND	0.0073	0.050		mg/Kg	1	11/1/2016 4:35:34 PM	S38379
1,2,3-Trichlorobenzene	ND	0.0075	0.10		mg/Kg	1	11/1/2016 4:35:34 PM	S38379
1,2,4-Trichlorobenzene	ND	0.0053	0.050		mg/Kg	1	11/1/2016 4:35:34 PM	S38379
1,1,1-Trichloroethane	ND	0.0031	0.050		mg/Kg	1	11/1/2016 4:35:34 PM	S38379
1,1,2-Trichloroethane	ND	0.0059	0.050		mg/Kg	1	11/1/2016 4:35:34 PM	S38379
Trichloroethene (TCE)	ND	0.0054	0.050		mg/Kg	1	11/1/2016 4:35:34 PM	S38379
Trichlorofluoromethane	ND	0.0037	0.050		mg/Kg	1	11/1/2016 4:35:34 PM	S38379
1,2,3-Trichloropropane	ND	0.0086	0.10		mg/Kg	1	11/1/2016 4:35:34 PM	S38379
Vinyl chloride	ND	0.0041	0.050		mg/Kg	1	11/1/2016 4:35:34 PM	S38379
Xylenes, Total	ND	0.0095	0.10		mg/Kg	1	11/1/2016 4:35:34 PM	S38379
Surr: Dibromofluoromethane	102		70-130		%Rec	1	11/1/2016 4:35:34 PM	S38379
Surr: 1,2-Dichloroethane-d4	97.0		70-130		%Rec	1	11/1/2016 4:35:34 PM	S38379
Surr: Toluene-d8	96.1		70-130		%Rec	1	11/1/2016 4:35:34 PM	S38379
Surr: 4-Bromofluorobenzene	98.2		70-130		%Rec	1	11/1/2016 4:35:34 PM	S38379

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1610E23**

22-Nov-16

Client: Intera, Inc.

Project: COA Railyards

Sample ID	**1610E23-018AMS**	SampType:	**MS**		TestCode:	**EPA Method 8015M/D: Diesel Range Organics**				
Client ID:	**SB-18 (3-6)**	Batch ID:	**28375**		RunNo:	**38355**				
Prep Date:	**10/31/2016**	Analysis Date:	**11/1/2016**		SeqNo:	**1198166**	Units:	**mg/Kg**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	46	10	50.20	3.258	86.1	33.9	141			
Surr: DNOP	4.4		5.020		86.9	70	130			

Sample ID	**1610E23-018AMSD**	SampType:	**MSD**		TestCode:	**EPA Method 8015M/D: Diesel Range Organics**				
Client ID:	**SB-18 (3-6)**	Batch ID:	**28375**		RunNo:	**38355**				
Prep Date:	**10/31/2016**	Analysis Date:	**11/2/2016**		SeqNo:	**1198167**	Units:	**mg/Kg**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	49	10	50.45	3.258	90.9	33.9	141	5.47	20	
Surr: DNOP	4.6		5.045		91.0	70	130	0	0	

Sample ID	**LCS-28372**	SampType:	**LCS**		TestCode:	**EPA Method 8015M/D: Diesel Range Organics**				
Client ID:	**LCSS**	Batch ID:	**28372**		RunNo:	**38355**				
Prep Date:	**10/31/2016**	Analysis Date:	**11/1/2016**		SeqNo:	**1198183**	Units:	**mg/Kg**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	45	10	50.00	0	90.0	62.6	124			
Surr: DNOP	4.0		5.000		79.6	70	130			

Sample ID	**LCS-28375**	SampType:	**LCS**		TestCode:	**EPA Method 8015M/D: Diesel Range Organics**				
Client ID:	**LCSS**	Batch ID:	**28375**		RunNo:	**38355**				
Prep Date:	**10/31/2016**	Analysis Date:	**11/1/2016**		SeqNo:	**1198184**	Units:	**mg/Kg**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	48	10	50.00	0	95.9	62.6	124			
Surr: DNOP	4.4		5.000		87.3	70	130			

Sample ID	**MB-28372**	SampType:	**MBLK**		TestCode:	**EPA Method 8015M/D: Diesel Range Organics**				
Client ID:	**PBS**	Batch ID:	**28372**		RunNo:	**38355**				
Prep Date:	**10/31/2016**	Analysis Date:	**11/1/2016**		SeqNo:	**1198185**	Units:	**mg/Kg**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	8.9		10.00		89.1	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1610E23**

22-Nov-16

Client: Intera, Inc.

Project: COA Railyards

Sample ID	**MB-28375**	SampType:	**MBLK**	TestCode:	**EPA Method 8015M/D: Diesel Range Organics**
Client ID:	**PBS**	Batch ID:	**28375**	RunNo:	**38355**
Prep Date:	**10/31/2016**	Analysis Date:	**11/1/2016**	SeqNo:	**1198186** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	9.2		10.00		92.3	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1610E23**

22-Nov-16

Client: Intera, Inc.

Project: COA Railyards

Sample ID **rb**	SampType: **MBLK**	TestCode: **EPA Method 8260B: Volatiles**
Client ID: **PBS**	Batch ID: **S38351**	RunNo: **38351**
Prep Date:	Analysis Date: **10/31/2016**	SeqNo: **1197175** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Methyl tert-butyl ether (MTBE)	ND	0.050								
1,2,4-Trimethylbenzene	ND	0.050								
1,3,5-Trimethylbenzene	ND	0.050								
1,2-Dichloroethane (EDC)	ND	0.050								
1,2-Dibromoethane (EDB)	ND	0.050								
Naphthalene	ND	0.10								
1-Methylnaphthalene	ND	0.20								
2-Methylnaphthalene	ND	0.20								
Acetone	ND	0.75								
Bromobenzene	ND	0.050								
Bromodichloromethane	ND	0.050								
Bromoform	ND	0.050								
Bromomethane	ND	0.15								
2-Butanone	0.046	0.50								J
Carbon disulfide	ND	0.50								
Carbon tetrachloride	ND	0.050								
Chlorobenzene	ND	0.050								
Chloroethane	ND	0.10								
Chloroform	ND	0.050								
Chloromethane	0.016	0.15								J
2-Chlorotoluene	ND	0.050								
4-Chlorotoluene	ND	0.050								
cis-1,2-DCE	ND	0.050								
cis-1,3-Dichloropropene	ND	0.050								
1,2-Dibromo-3-chloropropane	ND	0.10								
Dibromochloromethane	ND	0.050								
Dibromomethane	ND	0.050								
1,2-Dichlorobenzene	ND	0.050								
1,3-Dichlorobenzene	ND	0.050								
1,4-Dichlorobenzene	ND	0.050								
Dichlorodifluoromethane	ND	0.050								
1,1-Dichloroethane	ND	0.050								
1,1-Dichloroethene	ND	0.050								
1,2-Dichloropropane	ND	0.050								
1,3-Dichloropropane	ND	0.050								
2,2-Dichloropropane	ND	0.10								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1610E23**

22-Nov-16

Client: Intera, Inc.

Project: COA Railyards

Sample ID **rb**	SampType: **MBLK**	TestCode: **EPA Method 8260B: Volatiles**
Client ID: **PBS**	Batch ID: **S38351**	RunNo: **38351**
Prep Date:	Analysis Date: **10/31/2016**	SeqNo: **1197175** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1-Dichloropropene	ND	0.10								
Hexachlorobutadiene	ND	0.10								
2-Hexanone	ND	0.50								
Isopropylbenzene	ND	0.050								
4-Isopropyltoluene	ND	0.050								
4-Methyl-2-pentanone	ND	0.50								
Methylene chloride	0.018	0.15								J
n-Butylbenzene	ND	0.15								
n-Propylbenzene	ND	0.050								
sec-Butylbenzene	ND	0.050								
Styrene	ND	0.050								
tert-Butylbenzene	ND	0.050								
1,1,1,2-Tetrachloroethane	ND	0.050								
1,1,2,2-Tetrachloroethane	ND	0.050								
Tetrachloroethene (PCE)	ND	0.050								
trans-1,2-DCE	ND	0.050								
trans-1,3-Dichloropropene	ND	0.050								
1,2,3-Trichlorobenzene	ND	0.10								
1,2,4-Trichlorobenzene	ND	0.050								
1,1,1-Trichloroethane	ND	0.050								
1,1,2-Trichloroethane	ND	0.050								
Trichloroethene (TCE)	ND	0.050								
Trichlorofluoromethane	ND	0.050								
1,2,3-Trichloropropane	ND	0.10								
Vinyl chloride	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: Dibromofluoromethane	0.50		0.5000		101	70	130			
Surr: 1,2-Dichloroethane-d4	0.49		0.5000		97.8	70	130			
Surr: Toluene-d8	0.47		0.5000		94.6	70	130			
Surr: 4-Bromofluorobenzene	0.50		0.5000		100	70	130			

Sample ID **100NG LCS**	SampType: **LCS**	TestCode: **EPA Method 8260B: Volatiles**
Client ID: **LCSS**	Batch ID: **S38351**	RunNo: **38351**
Prep Date:	Analysis Date: **10/31/2016**	SeqNo: **1197178** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.96	0.025	1.000	0	96.1	70	130			
Toluene	1.0	0.050	1.000	0	102	70	130			
Chlorobenzene	1.0	0.050	1.000	0	100	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1610E23**

22-Nov-16

Client: Intera, Inc.

Project: COA Railyards

Sample ID **100NG LCS**	SampType: **LCS**	TestCode: **EPA Method 8260B: Volatiles**
Client ID: **LCSS**	Batch ID: **S38351**	RunNo: **38351**
Prep Date:	Analysis Date: **10/31/2016**	SeqNo: **1197178** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1-Dichloroethene	1.0	0.050	1.000	0	102	72	146			
Trichloroethene (TCE)	0.97	0.050	1.000	0	96.8	70	130			
Surr: Dibromofluoromethane	0.47		0.5000		94.2	70	130			
Surr: 1,2-Dichloroethane-d4	0.47		0.5000		94.0	70	130			
Surr: Toluene-d8	0.49		0.5000		98.2	70	130			
Surr: 4-Bromofluorobenzene	0.49		0.5000		97.4	70	130			

Sample ID **1610e23-001ams**	SampType: **MS**	TestCode: **EPA Method 8260B: Volatiles**
Client ID: **SB-1 (9-10)**	Batch ID: **S38351**	RunNo: **38351**
Prep Date:	Analysis Date: **10/31/2016**	SeqNo: **1197182** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.87	0.019	0.7710	0	112	49.2	155			
Toluene	0.81	0.039	0.7710	0	105	52	154			
Chlorobenzene	0.80	0.039	0.7710	0	104	53.2	150			
1,1-Dichloroethene	1.2	0.039	0.7710	0	151	34.2	163			
Trichloroethene (TCE)	0.90	0.039	0.7710	0	117	48.2	151			
Surr: Dibromofluoromethane	0.40		0.3855		104	70	130			
Surr: 1,2-Dichloroethane-d4	0.39		0.3855		101	70	130			
Surr: Toluene-d8	0.36		0.3855		92.8	70	130			
Surr: 4-Bromofluorobenzene	0.36		0.3855		94.4	70	130			

Sample ID **1610e23-001amsd**	SampType: **MSD**	TestCode: **EPA Method 8260B: Volatiles**
Client ID: **SB-1 (9-10)**	Batch ID: **S38351**	RunNo: **38351**
Prep Date:	Analysis Date: **10/31/2016**	SeqNo: **1197183** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.79	0.019	0.7710	0	103	49.2	155	8.97	20	
Toluene	0.79	0.039	0.7710	0	102	52	154	2.25	20	
Chlorobenzene	0.79	0.039	0.7710	0	102	53.2	150	1.93	20	
1,1-Dichloroethene	1.0	0.039	0.7710	0	131	34.2	163	13.9	20	
Trichloroethene (TCE)	0.82	0.039	0.7710	0	107	48.2	151	9.17	20	
Surr: Dibromofluoromethane	0.39		0.3855		101	70	130	0	0	
Surr: 1,2-Dichloroethane-d4	0.39		0.3855		100	70	130	0	0	
Surr: Toluene-d8	0.36		0.3855		94.6	70	130	0	0	
Surr: 4-Bromofluorobenzene	0.37		0.3855		95.5	70	130	0	0	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1610E23**
22-Nov-16

Client: Intera, Inc.
Project: COA Railyards

Sample ID **rb1**	SampType: **MBLK**	TestCode: **EPA Method 8260B: Volatiles**
Client ID: **PBS**	Batch ID: **T38351**	RunNo: **38351**
Prep Date:	Analysis Date: **11/1/2016**	SeqNo: **1197203** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Methyl tert-butyl ether (MTBE)	ND	0.050								
1,2,4-Trimethylbenzene	ND	0.050								
1,3,5-Trimethylbenzene	ND	0.050								
1,2-Dichloroethane (EDC)	ND	0.050								
1,2-Dibromoethane (EDB)	ND	0.050								
Naphthalene	ND	0.10								
1-Methylnaphthalene	ND	0.20								
2-Methylnaphthalene	ND	0.20								
Acetone	ND	0.75								
Bromobenzene	ND	0.050								
Bromodichloromethane	ND	0.050								
Bromoform	ND	0.050								
Bromomethane	ND	0.15								
2-Butanone	ND	0.50								
Carbon disulfide	ND	0.50								
Carbon tetrachloride	ND	0.050								
Chlorobenzene	ND	0.050								
Chloroethane	ND	0.10								
Chloroform	ND	0.050								
Chloromethane	ND	0.15								
2-Chlorotoluene	ND	0.050								
4-Chlorotoluene	ND	0.050								
cis-1,2-DCE	ND	0.050								
cis-1,3-Dichloropropene	ND	0.050								
1,2-Dibromo-3-chloropropane	ND	0.10								
Dibromochloromethane	ND	0.050								
Dibromomethane	ND	0.050								
1,2-Dichlorobenzene	ND	0.050								
1,3-Dichlorobenzene	ND	0.050								
1,4-Dichlorobenzene	ND	0.050								
Dichlorodifluoromethane	ND	0.050								
1,1-Dichloroethane	ND	0.050								
1,1-Dichloroethene	ND	0.050								
1,2-Dichloropropane	ND	0.050								
1,3-Dichloropropane	ND	0.050								
2,2-Dichloropropane	ND	0.10								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1610E23**

22-Nov-16

Client: Intera, Inc.

Project: COA Railyards

Sample ID **rb1**	SampType: **MBLK**	TestCode: **EPA Method 8260B: Volatiles**
Client ID: **PBS**	Batch ID: **T38351**	RunNo: **38351**
Prep Date:	Analysis Date: **11/1/2016**	SeqNo: **1197203** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1-Dichloropropene	ND	0.10								
Hexachlorobutadiene	ND	0.10								
2-Hexanone	ND	0.50								
Isopropylbenzene	ND	0.050								
4-Isopropyltoluene	ND	0.050								
4-Methyl-2-pentanone	ND	0.50								
Methylene chloride	0.022	0.15								J
n-Butylbenzene	ND	0.15								
n-Propylbenzene	ND	0.050								
sec-Butylbenzene	ND	0.050								
Styrene	ND	0.050								
tert-Butylbenzene	ND	0.050								
1,1,1,2-Tetrachloroethane	ND	0.050								
1,1,2,2-Tetrachloroethane	ND	0.050								
Tetrachloroethene (PCE)	ND	0.050								
trans-1,2-DCE	ND	0.050								
trans-1,3-Dichloropropene	ND	0.050								
1,2,3-Trichlorobenzene	ND	0.10								
1,2,4-Trichlorobenzene	ND	0.050								
1,1,1-Trichloroethane	ND	0.050								
1,1,2-Trichloroethane	ND	0.050								
Trichloroethene (TCE)	ND	0.050								
Trichlorofluoromethane	ND	0.050								
1,2,3-Trichloropropane	ND	0.10								
Vinyl chloride	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: Dibromofluoromethane	0.50		0.5000		101	70	130			
Surr: 1,2-Dichloroethane-d4	0.47		0.5000		94.3	70	130			
Surr: Toluene-d8	0.48		0.5000		95.1	70	130			
Surr: 4-Bromofluorobenzene	0.49		0.5000		98.5	70	130			

Sample ID **100ng lcs2**	SampType: **LCS**	TestCode: **EPA Method 8260B: Volatiles**
Client ID: **LCSS**	Batch ID: **T38351**	RunNo: **38351**
Prep Date:	Analysis Date: **11/1/2016**	SeqNo: **1197204** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.1	0.025	1.000	0	107	70	130			
Toluene	1.1	0.050	1.000	0	106	70	130			
Chlorobenzene	1.0	0.050	1.000	0	103	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1610E23**

22-Nov-16

Client: Intera, Inc.

Project: COA Railyards

Sample ID **100ng lcs2**	SampType: **LCS**	TestCode: **EPA Method 8260B: Volatiles**
Client ID: **LCSS**	Batch ID: **T38351**	RunNo: **38351**
Prep Date:	Analysis Date: **11/1/2016**	SeqNo: **1197204** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1-Dichloroethene	1.1	0.050	1.000	0	109	72	146			
Trichloroethene (TCE)	1.1	0.050	1.000	0	106	70	130			
Surr: Dibromofluoromethane	0.49		0.5000		98.9	70	130			
Surr: 1,2-Dichloroethane-d4	0.47		0.5000		94.8	70	130			
Surr: Toluene-d8	0.48		0.5000		95.1	70	130			
Surr: 4-Bromofluorobenzene	0.47		0.5000		93.7	70	130			

Sample ID **1610e23-021ams2**	SampType: **MS**	TestCode: **EPA Method 8260B: Volatiles**
Client ID: **SB-21 (0-5)**	Batch ID: **T38351**	RunNo: **38351**
Prep Date:	Analysis Date: **11/1/2016**	SeqNo: **1197208** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.61	0.015	0.6068	0	101	49.2	155			
Toluene	0.67	0.030	0.6068	0	110	52	154			
Chlorobenzene	0.65	0.030	0.6068	0	107	53.2	150			
1,1-Dichloroethene	0.70	0.030	0.6068	0	115	34.2	163			
Trichloroethene (TCE)	0.65	0.030	0.6068	0	108	48.2	151			
Surr: Dibromofluoromethane	0.30		0.3034		100	70	130			
Surr: 1,2-Dichloroethane-d4	0.29		0.3034		94.1	70	130			
Surr: Toluene-d8	0.29		0.3034		96.5	70	130			
Surr: 4-Bromofluorobenzene	0.29		0.3034		96.0	70	130			

Sample ID **1610e23-021amsd2**	SampType: **MSD**	TestCode: **EPA Method 8260B: Volatiles**
Client ID: **SB-21 (0-5)**	Batch ID: **T38351**	RunNo: **38351**
Prep Date:	Analysis Date: **11/1/2016**	SeqNo: **1197209** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.60	0.015	0.6068	0	99.7	49.2	155	1.02	20	
Toluene	0.62	0.030	0.6068	0	101	52	154	8.30	20	
Chlorobenzene	0.61	0.030	0.6068	0	100	53.2	150	6.34	20	
1,1-Dichloroethene	0.68	0.030	0.6068	0	111	34.2	163	3.14	20	
Trichloroethene (TCE)	0.64	0.030	0.6068	0	106	48.2	151	2.17	20	
Surr: Dibromofluoromethane	0.30		0.3034		99.3	70	130	0	0	
Surr: 1,2-Dichloroethane-d4	0.28		0.3034		92.9	70	130	0	0	
Surr: Toluene-d8	0.28		0.3034		93.5	70	130	0	0	
Surr: 4-Bromofluorobenzene	0.29		0.3034		96.5	70	130	0	0	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1610E23**

22-Nov-16

Client: Intera, Inc.

Project: COA Railyards

Sample ID **rb2**	SampType: **MBLK**	TestCode: **EPA Method 8260B: Volatiles**
Client ID: **PBS**	Batch ID: **S38379**	RunNo: **38379**
Prep Date:	Analysis Date: **11/1/2016**	SeqNo: **1198239** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Methyl tert-butyl ether (MTBE)	ND	0.050								
1,2,4-Trimethylbenzene	ND	0.050								
1,3,5-Trimethylbenzene	ND	0.050								
1,2-Dichloroethane (EDC)	ND	0.050								
1,2-Dibromoethane (EDB)	ND	0.050								
Naphthalene	ND	0.10								
1-Methylnaphthalene	ND	0.20								
2-Methylnaphthalene	ND	0.20								
Acetone	ND	0.75								
Bromobenzene	ND	0.050								
Bromodichloromethane	ND	0.050								
Bromoform	ND	0.050								
Bromomethane	ND	0.15								
2-Butanone	ND	0.50								
Carbon disulfide	ND	0.50								
Carbon tetrachloride	ND	0.050								
Chlorobenzene	ND	0.050								
Chloroethane	ND	0.10								
Chloroform	ND	0.050								
Chloromethane	ND	0.15								
2-Chlorotoluene	ND	0.050								
4-Chlorotoluene	ND	0.050								
cis-1,2-DCE	ND	0.050								
cis-1,3-Dichloropropene	ND	0.050								
1,2-Dibromo-3-chloropropane	ND	0.10								
Dibromochloromethane	ND	0.050								
Dibromomethane	ND	0.050								
1,2-Dichlorobenzene	ND	0.050								
1,3-Dichlorobenzene	ND	0.050								
1,4-Dichlorobenzene	ND	0.050								
Dichlorodifluoromethane	ND	0.050								
1,1-Dichloroethane	ND	0.050								
1,1-Dichloroethene	ND	0.050								
1,2-Dichloropropane	ND	0.050								
1,3-Dichloropropane	ND	0.050								
2,2-Dichloropropane	ND	0.10								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1610E23**

22-Nov-16

Client: Intera, Inc.

Project: COA Railyards

Sample ID **rb2**	SampType: **MBLK**	TestCode: **EPA Method 8260B: Volatiles**
Client ID: **PBS**	Batch ID: **S38379**	RunNo: **38379**
Prep Date:	Analysis Date: **11/1/2016**	SeqNo: **1198239** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1-Dichloropropene	ND	0.10								
Hexachlorobutadiene	ND	0.10								
2-Hexanone	ND	0.50								
Isopropylbenzene	ND	0.050								
4-Isopropyltoluene	ND	0.050								
4-Methyl-2-pentanone	ND	0.50								
Methylene chloride	0.015	0.15								J
n-Butylbenzene	ND	0.15								
n-Propylbenzene	ND	0.050								
sec-Butylbenzene	ND	0.050								
Styrene	ND	0.050								
tert-Butylbenzene	ND	0.050								
1,1,1,2-Tetrachloroethane	ND	0.050								
1,1,2,2-Tetrachloroethane	ND	0.050								
Tetrachloroethene (PCE)	ND	0.050								
trans-1,2-DCE	ND	0.050								
trans-1,3-Dichloropropene	ND	0.050								
1,2,3-Trichlorobenzene	ND	0.10								
1,2,4-Trichlorobenzene	0.0065	0.050								J
1,1,1-Trichloroethane	ND	0.050								
1,1,2-Trichloroethane	ND	0.050								
Trichloroethene (TCE)	ND	0.050								
Trichlorofluoromethane	ND	0.050								
1,2,3-Trichloropropane	ND	0.10								
Vinyl chloride	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: Dibromofluoromethane	0.49		0.5000		97.4	70	130			
Surr: 1,2-Dichloroethane-d4	0.47		0.5000		93.5	70	130			
Surr: Toluene-d8	0.47		0.5000		94.0	70	130			
Surr: 4-Bromofluorobenzene	0.48		0.5000		96.6	70	130			

Sample ID **100ng lcs2**	SampType: **LCS**	TestCode: **EPA Method 8260B: Volatiles**
Client ID: **LCSS**	Batch ID: **S38379**	RunNo: **38379**
Prep Date:	Analysis Date: **11/1/2016**	SeqNo: **1198240** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.0	0.025	1.000	0	103	70	130			
Toluene	1.1	0.050	1.000	0	107	70	130			
Chlorobenzene	1.1	0.050	1.000	0	106	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1610E23**

22-Nov-16

Client: Intera, Inc.

Project: COA Railyards

Sample ID **100ng lcs2**	SampType: **LCS**	TestCode: **EPA Method 8260B: Volatiles**
Client ID: **LCSS**	Batch ID: **S38379**	RunNo: **38379**
Prep Date:	Analysis Date: **11/1/2016**	SeqNo: **1198240** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1-Dichloroethene	1.0	0.050	1.000	0	104	72	146			
Trichloroethene (TCE)	1.0	0.050	1.000	0	104	70	130			
Surr: Dibromofluoromethane	0.48		0.5000		95.8	70	130			
Surr: 1,2-Dichloroethane-d4	0.46		0.5000		92.8	70	130			
Surr: Toluene-d8	0.48		0.5000		95.1	70	130			
Surr: 4-Bromofluorobenzene	0.47		0.5000		94.5	70	130			

Sample ID **1610e23-025ams**	SampType: **MS**	TestCode: **EPA Method 8260B: Volatiles**
Client ID: **SB-25 (0-3)**	Batch ID: **S38379**	RunNo: **38379**
Prep Date:	Analysis Date: **11/1/2016**	SeqNo: **1198244** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.80	0.020	0.7806	0	102	49.2	155			
Toluene	0.83	0.039	0.7806	0	106	52	154			
Chlorobenzene	0.81	0.039	0.7806	0	104	53.2	150			
1,1-Dichloroethene	0.89	0.039	0.7806	0	114	34.2	163			
Trichloroethene (TCE)	0.83	0.039	0.7806	0	107	48.2	151			
Surr: Dibromofluoromethane	0.36		0.3903		92.7	70	130			
Surr: 1,2-Dichloroethane-d4	0.36		0.3903		91.7	70	130			
Surr: Toluene-d8	0.37		0.3903		94.6	70	130			
Surr: 4-Bromofluorobenzene	0.37		0.3903		94.0	70	130			

Sample ID **1610e23-025amsd**	SampType: **MSD**	TestCode: **EPA Method 8260B: Volatiles**
Client ID: **SB-25 (0-3)**	Batch ID: **S38379**	RunNo: **38379**
Prep Date:	Analysis Date: **11/1/2016**	SeqNo: **1198245** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.77	0.020	0.7806	0	98.6	49.2	155	3.39	20	
Toluene	0.83	0.039	0.7806	0	107	52	154	0.410	20	
Chlorobenzene	0.81	0.039	0.7806	0	104	53.2	150	0.587	20	
1,1-Dichloroethene	0.87	0.039	0.7806	0	112	34.2	163	1.65	20	
Trichloroethene (TCE)	0.81	0.039	0.7806	0	104	48.2	151	2.70	20	
Surr: Dibromofluoromethane	0.38		0.3903		96.3	70	130	0	0	
Surr: 1,2-Dichloroethane-d4	0.35		0.3903		90.5	70	130	0	0	
Surr: Toluene-d8	0.37		0.3903		93.6	70	130	0	0	
Surr: 4-Bromofluorobenzene	0.37		0.3903		94.9	70	130	0	0	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1610E23**

22-Nov-16

Client: Intera, Inc.

Project: COA Railyards

Sample ID **MB-28374**	SampType: **MBLK**	TestCode: **EPA Method 8310: PAHs**
Client ID: **PBS**	Batch ID: **28374**	RunNo: **38471**
Prep Date: **10/31/2016**	Analysis Date: **11/6/2016**	SeqNo: **1201307** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Naphthalene	ND	0.25								
1-Methylnaphthalene	ND	0.25								
2-Methylnaphthalene	ND	0.25								
Acenaphthylene	ND	0.25								
Acenaphthene	ND	0.25								
Fluorene	ND	0.030								
Phenanthrene	ND	0.015								
Anthracene	ND	0.015								
Fluoranthene	ND	0.020								
Pyrene	ND	0.025								
Benz(a)anthracene	ND	0.010								
Chrysene	ND	0.010								
Benzo(b)fluoranthene	0.0010	0.010								J
Benzo(k)fluoranthene	0.00075	0.010								J
Benzo(a)pyrene	ND	0.010								
Dibenz(a,h)anthracene	ND	0.010								
Benzo(g,h,i)perylene	ND	0.010								
Indeno(1,2,3-cd)pyrene	0.0015	0.010								J
Surr: Benzo(e)pyrene	0.20		0.5000		40.6	27.4	110			

Sample ID **LCS-28374**	SampType: **LCS**	TestCode: **EPA Method 8310: PAHs**
Client ID: **LCSS**	Batch ID: **28374**	RunNo: **38471**
Prep Date: **10/31/2016**	Analysis Date: **11/6/2016**	SeqNo: **1201308** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Naphthalene	1.1	0.25	2.000	0	56.5	38.1	121			
1-Methylnaphthalene	1.2	0.25	2.000	0	57.7	39.8	121			
2-Methylnaphthalene	1.1	0.25	2.000	0	57.1	38.6	119			
Acenaphthylene	1.2	0.25	2.000	0	59.4	56.9	119			
Acenaphthene	1.2	0.25	2.000	0	58.7	39.1	121			
Fluorene	0.12	0.030	0.2000	0	60.8	35.8	116			
Phenanthrene	0.064	0.015	0.1006	0	63.4	34.3	126			
Anthracene	0.057	0.015	0.1006	0	56.7	31.2	117			
Fluoranthene	0.13	0.020	0.2006	0	64.1	31.2	136			
Pyrene	0.13	0.025	0.2000	0	66.4	40.8	128			
Benz(a)anthracene	0.013	0.010	0.02000	0	63.8	25.7	136			
Chrysene	0.065	0.010	0.1006	0	64.6	34.2	129			
Benzo(b)fluoranthene	0.016	0.010	0.02500	0	63.0	33.2	121			
Benzo(k)fluoranthene	0.0082	0.010	0.01250	0	66.0	35.7	130			J

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1610E23**

22-Nov-16

Client: Intera, Inc.

Project: COA Railyards

Sample ID **LCS-28374**	SampType: **LCS**	TestCode: **EPA Method 8310: PAHs**
Client ID: **LCSS**	Batch ID: **28374**	RunNo: **38471**
Prep Date: **10/31/2016**	Analysis Date: **11/6/2016**	SeqNo: **1201308** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzo(a)pyrene	0.0075	0.010	0.01250	0	60.0	27	131			J
Dibenz(a,h)anthracene	0.016	0.010	0.02500	0	65.0	29.4	131			
Benzo(g,h,i)perylene	0.016	0.010	0.02500	0	66.0	32.9	130			
Indeno(1,2,3-cd)pyrene	0.030	0.010	0.05002	0	60.5	28.2	135			
Surr: Benzo(e)pyrene	0.28		0.5000		55.2	27.4	110			

Sample ID **MB-28398**	SampType: **MBLK**	TestCode: **EPA Method 8310: PAHs**
Client ID: **PBS**	Batch ID: **28398**	RunNo: **38471**
Prep Date: **11/1/2016**	Analysis Date: **11/6/2016**	SeqNo: **1201309** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Naphthalene	ND	0.25								
1-Methylnaphthalene	ND	0.25								
2-Methylnaphthalene	ND	0.25								
Acenaphthylene	ND	0.25								
Acenaphthene	ND	0.25								
Fluorene	ND	0.030								
Phenanthrene	ND	0.015								
Anthracene	ND	0.015								
Fluoranthene	ND	0.020								
Pyrene	ND	0.025								
Benz(a)anthracene	ND	0.010								
Chrysene	ND	0.010								
Benzo(b)fluoranthene	ND	0.010								
Benzo(k)fluoranthene	ND	0.010								
Benzo(a)pyrene	ND	0.010								
Dibenz(a,h)anthracene	ND	0.010								
Benzo(g,h,i)perylene	ND	0.010								
Indeno(1,2,3-cd)pyrene	ND	0.010								
Surr: Benzo(e)pyrene	0.26		0.5000		51.9	27.4	110			

Sample ID **LCS-28398**	SampType: **LCS**	TestCode: **EPA Method 8310: PAHs**
Client ID: **LCSS**	Batch ID: **28398**	RunNo: **38471**
Prep Date: **11/1/2016**	Analysis Date: **11/6/2016**	SeqNo: **1201310** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Naphthalene	1.4	0.25	2.000	0	68.4	38.1	121			
1-Methylnaphthalene	1.4	0.25	2.000	0	72.3	39.8	121			
2-Methylnaphthalene	1.4	0.25	2.000	0	71.0	38.6	119			
Acenaphthylene	1.5	0.25	2.000	0	74.4	56.9	119			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1610E23**

22-Nov-16

Client: Intera, Inc.

Project: COA Railyards

Sample ID **LCS-28398**	SampType: **LCS**	TestCode: **EPA Method 8310: PAHs**
Client ID: **LCSS**	Batch ID: **28398**	RunNo: **38471**
Prep Date: **11/1/2016**	Analysis Date: **11/6/2016**	SeqNo: **1201310** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	1.5	0.25	2.000	0	75.5	39.1	121			
Fluorene	0.15	0.030	0.2000	0	77.4	35.8	116			
Phenanthrene	0.082	0.015	0.1006	0	81.5	34.3	126			
Anthracene	0.074	0.015	0.1006	0	73.8	31.2	117			
Fluoranthene	0.17	0.020	0.2006	0	83.5	31.2	136			
Pyrene	0.17	0.025	0.2000	0	87.2	40.8	128			
Benz(a)anthracene	0.016	0.010	0.02000	0	82.5	25.7	136			
Chrysene	0.085	0.010	0.1006	0	84.2	34.2	129			
Benzo(b)fluoranthene	0.020	0.010	0.02500	0	81.0	33.2	121			
Benzo(k)fluoranthene	0.011	0.010	0.01250	0	84.0	35.7	130			
Benzo(a)pyrene	0.0098	0.010	0.01250	0	78.0	27	131			J
Dibenz(a,h)anthracene	0.020	0.010	0.02500	0	82.0	29.4	131			
Benzo(g,h,i)perylene	0.021	0.010	0.02500	0	84.0	32.9	130			
Indeno(1,2,3-cd)pyrene	0.039	0.010	0.05002	0	77.5	28.2	135			
Surr: Benzo(e)pyrene	0.41		0.5000		81.5	27.4	110			

Sample ID **MB-28417**	SampType: **MBLK**	TestCode: **EPA Method 8310: PAHs**
Client ID: **PBS**	Batch ID: **28417**	RunNo: **38471**
Prep Date: **11/2/2016**	Analysis Date: **11/6/2016**	SeqNo: **1201315** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Naphthalene	ND	0.25								
1-Methylnaphthalene	ND	0.25								
2-Methylnaphthalene	ND	0.25								
Acenaphthylene	ND	0.25								
Acenaphthene	ND	0.25								
Fluorene	ND	0.030								
Phenanthrene	0.0032	0.015								J
Anthracene	ND	0.015								
Fluoranthene	0.0088	0.020								J
Pyrene	0.0072	0.025								J
Benz(a)anthracene	0.0038	0.010								J
Chrysene	0.0060	0.010								J
Benzo(b)fluoranthene	0.0032	0.010								J
Benzo(k)fluoranthene	0.0018	0.010								J
Benzo(a)pyrene	0.0032	0.010								J
Dibenz(a,h)anthracene	0.0012	0.010								J
Benzo(g,h,i)perylene	0.0030	0.010								J
Indeno(1,2,3-cd)pyrene	0.0025	0.010								J

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1610E23**

22-Nov-16

Client: Intera, Inc.

Project: COA Railyards

Sample ID **MB-28417**	SampType: **MBLK**	TestCode: **EPA Method 8310: PAHs**
Client ID: **PBS**	Batch ID: **28417**	RunNo: **38471**
Prep Date: **11/2/2016**	Analysis Date: **11/6/2016**	SeqNo: **1201315** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: Benzo(e)pyrene	0.33		0.5000		65.3	27.4	110			

Sample ID **LCS-28417**	SampType: **LCS**	TestCode: **EPA Method 8310: PAHs**
Client ID: **LCSS**	Batch ID: **28417**	RunNo: **38471**
Prep Date: **11/2/2016**	Analysis Date: **11/6/2016**	SeqNo: **1201316** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Naphthalene	1.3	0.25	2.000	0	64.3	38.1	121			
1-Methylnaphthalene	1.4	0.25	2.000	0	69.4	39.8	121			
2-Methylnaphthalene	1.4	0.25	2.000	0	68.0	38.6	119			
Acenaphthylene	1.5	0.25	2.000	0	73.6	56.9	119			
Acenaphthene	1.5	0.25	2.000	0	75.5	39.1	121			
Fluorene	0.16	0.030	0.2000	0	78.0	35.8	116			
Phenanthrene	0.085	0.015	0.1006	0	84.5	34.3	126			
Anthracene	0.079	0.015	0.1006	0	78.3	31.2	117			
Fluoranthene	0.17	0.020	0.2006	0	85.7	31.2	136			
Pyrene	0.18	0.025	0.2000	0	90.5	40.8	128			
Benz(a)anthracene	0.017	0.010	0.02000	0	86.2	25.7	136			
Chrysene	0.089	0.010	0.1006	0	88.2	34.2	129			
Benzo(b)fluoranthene	0.020	0.010	0.02500	0	82.0	33.2	121			
Benzo(k)fluoranthene	0.011	0.010	0.01250	0	86.0	35.7	130			
Benzo(a)pyrene	0.011	0.010	0.01250	0	84.0	27	131			
Dibenz(a,h)anthracene	0.021	0.010	0.02500	0	85.0	29.4	131			
Benzo(g,h,i)perylene	0.022	0.010	0.02500	0	89.0	32.9	130			
Indeno(1,2,3-cd)pyrene	0.040	0.010	0.05002	0	80.5	28.2	135			
Surr: Benzo(e)pyrene	0.38		0.5000		75.1	27.4	110			

Sample ID **1610E23-010AMS**	SampType: **MS**	TestCode: **EPA Method 8310: PAHs**
Client ID: **SB-10 (5-10)**	Batch ID: **28398**	RunNo: **38471**
Prep Date: **11/1/2016**	Analysis Date: **11/6/2016**	SeqNo: **1201341** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Naphthalene	1.1	0.25	1.969	0	58.4	24.8	102			
1-Methylnaphthalene	1.2	0.25	1.969	0	60.8	25.2	100			
2-Methylnaphthalene	1.2	0.25	1.969	0	60.5	23.7	98.4			
Acenaphthylene	1.2	0.25	1.969	0	59.1	29.2	112			
Acenaphthene	1.2	0.25	1.969	0	60.1	21.8	102			
Fluorene	0.12	0.030	0.1969	0	59.8	21	102			
Phenanthrene	0.062	0.015	0.09906	0	62.4	23.3	109			
Anthracene	0.060	0.015	0.09906	0	60.6	26.3	101			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1610E23**

22-Nov-16

Client: Intera, Inc.

Project: COA Railyards

Sample ID **1610E23-010AMS**	SampType: **MS**	TestCode: **EPA Method 8310: PAHs**
Client ID: **SB-10 (5-10)**	Batch ID: **28398**	RunNo: **38471**
Prep Date: **11/1/2016**	Analysis Date: **11/6/2016**	SeqNo: **1201341** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoranthene	0.12	0.020	0.1975	0	61.2	30.6	104			
Pyrene	0.12	0.025	0.1969	0	62.5	32.2	106			
Benz(a)anthracene	0.012	0.0098	0.01969	0	62.5	16.2	111			
Chrysene	0.061	0.0098	0.09906	0	61.1	28.6	104			
Benzo(b)fluoranthene	0.015	0.0098	0.02462	0	60.0	25.5	96.5			
Benzo(k)fluoranthene	0.0076	0.0098	0.01231	0	62.0	26.5	107			J
Benzo(a)pyrene	0.0076	0.0098	0.01231	0	62.0	26.1	105			J
Dibenz(a,h)anthracene	0.015	0.0098	0.02462	0	60.0	25.7	109			
Benzo(g,h,i)perylene	0.015	0.0098	0.02462	0	59.0	20.3	111			
Indeno(1,2,3-cd)pyrene	0.027	0.0098	0.04926	0	55.0	28.7	103			
Surr: Benzo(e)pyrene	0.24		0.4924		49.2	27.4	110			

Sample ID **1610E23-010AMSD**	SampType: **MSD**	TestCode: **EPA Method 8310: PAHs**
Client ID: **SB-10 (5-10)**	Batch ID: **28398**	RunNo: **38471**
Prep Date: **11/1/2016**	Analysis Date: **11/6/2016**	SeqNo: **1201342** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Naphthalene	1.2	0.25	1.984	0	61.2	24.8	102	5.55	29.3	
1-Methylnaphthalene	1.2	0.25	1.984	0	62.4	25.2	100	3.38	20	
2-Methylnaphthalene	1.2	0.25	1.984	0	62.0	23.7	98.4	3.25	20	
Acenaphthylene	1.2	0.25	1.984	0	62.2	29.2	112	5.83	22.6	
Acenaphthene	1.3	0.25	1.984	0	63.6	21.8	102	6.40	20	
Fluorene	0.12	0.030	0.1984	0	62.8	21	102	5.64	20	
Phenanthrene	0.064	0.015	0.09980	0	64.6	23.3	109	4.26	27.6	
Anthracene	0.063	0.015	0.09980	0	63.4	26.3	101	5.15	29.2	
Fluoranthene	0.13	0.020	0.1990	0	63.9	30.6	104	5.12	29.2	
Pyrene	0.13	0.025	0.1984	0	64.9	32.2	106	4.47	28.6	
Benz(a)anthracene	0.013	0.0099	0.01984	0	65.0	16.2	111	4.66	26.1	
Chrysene	0.063	0.0099	0.09980	0	63.4	28.6	104	4.33	26.6	
Benzo(b)fluoranthene	0.015	0.0099	0.02480	0	60.0	25.5	96.5	0.741	27.9	
Benzo(k)fluoranthene	0.0079	0.0099	0.01240	0	64.0	26.5	107	3.92	27.7	J
Benzo(a)pyrene	0.0077	0.0099	0.01240	0	62.0	26.1	105	0.741	28.3	J
Dibenz(a,h)anthracene	0.016	0.0099	0.02480	0	63.0	25.7	109	5.62	28.8	
Benzo(g,h,i)perylene	0.015	0.0099	0.02480	0	62.0	20.3	111	5.70	28.7	
Indeno(1,2,3-cd)pyrene	0.029	0.0099	0.04962	0	58.0	28.7	103	6.05	29.3	
Surr: Benzo(e)pyrene	0.25		0.4960		50.6	27.4	110	0	20	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1610E23**

22-Nov-16

Client: Intera, Inc.

Project: COA Railyards

Sample ID	**MB-28363**	SampType:	**MBLK**	TestCode:	**EPA Method 6010B: Soil Metals**
Client ID:	**PBS**	Batch ID:	**28363**	RunNo:	**38332**
Prep Date:	**10/30/2016**	Analysis Date:	**10/31/2016**	SeqNo:	**1196518** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	ND	2.5								
Arsenic	ND	2.5								
Chromium	ND	0.30								
Iron	0.91	2.5								J
Lead	ND	0.25								
Manganese	ND	0.10								

Sample ID	**LCS-28363**	SampType:	**LCS**	TestCode:	**EPA Method 6010B: Soil Metals**
Client ID:	**LCSS**	Batch ID:	**28363**	RunNo:	**38332**
Prep Date:	**10/30/2016**	Analysis Date:	**10/31/2016**	SeqNo:	**1196519** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	24	2.5	25.00	0	94.7	80	120			
Arsenic	25	2.5	25.00	0	99.5	80	120			
Chromium	24	0.30	25.00	0	97.7	80	120			
Iron	26	2.5	25.00	0	104	80	120			
Lead	24	0.25	25.00	0	96.7	80	120			
Manganese	25	0.10	25.00	0	98.9	80	120			

Sample ID	**MB-28364**	SampType:	**MBLK**	TestCode:	**EPA Method 6010B: Soil Metals**
Client ID:	**PBS**	Batch ID:	**28364**	RunNo:	**38386**
Prep Date:	**10/30/2016**	Analysis Date:	**11/2/2016**	SeqNo:	**1198612** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	ND	2.5								
Arsenic	ND	2.5								
Chromium	0.28	0.30								J
Iron	2.1	2.5								J
Lead	ND	0.25								
Manganese	0.079	0.10								J

Sample ID	**LCS-28364**	SampType:	**LCS**	TestCode:	**EPA Method 6010B: Soil Metals**
Client ID:	**LCSS**	Batch ID:	**28364**	RunNo:	**38386**
Prep Date:	**10/30/2016**	Analysis Date:	**11/2/2016**	SeqNo:	**1198613** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	24	2.5	25.00	0	95.2	80	120			
Arsenic	24	2.5	25.00	0	94.3	80	120			
Chromium	24	0.30	25.00	0	95.0	80	120			
Iron	26	2.5	25.00	0	103	80	120			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1610E23**

22-Nov-16

Client: Intera, Inc.

Project: COA Railyards

Sample ID	**LCS-28364**	SampType:	**LCS**		TestCode:	**EPA Method 6010B: Soil Metals**				
Client ID:	**LCSS**	Batch ID:	**28364**		RunNo:	**38386**				
Prep Date:	**10/30/2016**	Analysis Date:	**11/2/2016**		SeqNo:	**1198613**	Units:	**mg/Kg**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	23	0.25	25.00	0	91.3	80	120			
Manganese	24	0.10	25.00	0	95.0	80	120			

Sample ID	**MB-28363**	SampType:	**MBLK**		TestCode:	**EPA Method 6010B: Soil Metals**				
Client ID:	**PBS**	Batch ID:	**28363**		RunNo:	**38869**				
Prep Date:	**10/30/2016**	Analysis Date:	**10/31/2016**		SeqNo:	**1214605**	Units:	**mg/Kg**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Thallium	ND	2.5								

Sample ID	**LCS-28363**	SampType:	**LCS**		TestCode:	**EPA Method 6010B: Soil Metals**				
Client ID:	**LCSS**	Batch ID:	**28363**		RunNo:	**38869**				
Prep Date:	**10/30/2016**	Analysis Date:	**10/31/2016**		SeqNo:	**1214606**	Units:	**mg/Kg**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Thallium	24	2.5	25.00	0	95.9	80	120			

Sample ID	**MB-28364**	SampType:	**MBLK**		TestCode:	**EPA Method 6010B: Soil Metals**				
Client ID:	**PBS**	Batch ID:	**28364**		RunNo:	**38869**				
Prep Date:	**10/30/2016**	Analysis Date:	**11/2/2016**		SeqNo:	**1214958**	Units:	**mg/Kg**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Thallium	ND	2.5								

Sample ID	**LCS-28364**	SampType:	**LCS**		TestCode:	**EPA Method 6010B: Soil Metals**				
Client ID:	**LCSS**	Batch ID:	**28364**		RunNo:	**38869**				
Prep Date:	**10/30/2016**	Analysis Date:	**11/2/2016**		SeqNo:	**1214959**	Units:	**mg/Kg**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Thallium	23	2.5	25.00	0	92.5	80	120			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1610E23**

22-Nov-16

Client: Intera, Inc.

Project: COA Railyards

Sample ID **rb**	SampType: **MBLK**	TestCode: **EPA Method 8015D Mod: Gasoline Range**
Client ID: **PBS**	Batch ID: **GS38351**	RunNo: **38351**
Prep Date:	Analysis Date: **10/31/2016**	SeqNo: **1197228** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	500		500.0		99.8	70	130			

Sample ID **2.5UG GRO LCS**	SampType: **LCS**	TestCode: **EPA Method 8015D Mod: Gasoline Range**
Client ID: **LCSS**	Batch ID: **GS38351**	RunNo: **38351**
Prep Date:	Analysis Date: **10/31/2016**	SeqNo: **1197229** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	27	5.0	25.00	0	107	62.9	123			
Surr: BFB	520		500.0		104	70	130			

Sample ID **1610e23-002ams**	SampType: **MS**	TestCode: **EPA Method 8015D Mod: Gasoline Range**
Client ID: **SB-2 (8.5-10)**	Batch ID: **GS38351**	RunNo: **38351**
Prep Date:	Analysis Date: **10/31/2016**	SeqNo: **1197232** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	20	3.8	19.17	0	105	52.3	132			
Surr: BFB	390		383.4		102	70	130			

Sample ID **1610e23-002amsd**	SampType: **MSD**	TestCode: **EPA Method 8015D Mod: Gasoline Range**
Client ID: **SB-2 (8.5-10)**	Batch ID: **GS38351**	RunNo: **38351**
Prep Date:	Analysis Date: **10/31/2016**	SeqNo: **1197233** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	20	3.8	19.17	0	103	52.3	132	2.27	20	
Surr: BFB	380		383.4		99.3	70	130	0	0	

Sample ID **rb1**	SampType: **MBLK**	TestCode: **EPA Method 8015D Mod: Gasoline Range**
Client ID: **PBS**	Batch ID: **GT38351**	RunNo: **38351**
Prep Date:	Analysis Date: **11/1/2016**	SeqNo: **1197266** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	510		500.0		101	70	130			

Sample ID **2.5UG GRO LCS 2**	SampType: **LCS**	TestCode: **EPA Method 8015D Mod: Gasoline Range**
Client ID: **LCSS**	Batch ID: **GT38351**	RunNo: **38351**
Prep Date:	Analysis Date: **10/31/2016**	SeqNo: **1197269** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1610E23**

22-Nov-16

Client: Intera, Inc.

Project: COA Railyards

Sample ID	**2.5UG GRO LCS 2**	SampType:	**LCS**		TestCode:	**EPA Method 8015D Mod: Gasoline Range**				
Client ID:	**LCSS**	Batch ID:	**GT38351**		RunNo:	**38351**				
Prep Date:		Analysis Date:	**10/31/2016**		SeqNo:	**1197269**	Units:	**mg/Kg**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	26	5.0	25.00	0	104	62.9	123			
Surr: BFB	510		500.0		102	70	130			

Sample ID	**1610e23-022ams2**	SampType:	**MS**		TestCode:	**EPA Method 8015D Mod: Gasoline Range**				
Client ID:	**SB-22 (3-6)**	Batch ID:	**GT38351**		RunNo:	**38351**				
Prep Date:		Analysis Date:	**11/1/2016**		SeqNo:	**1197272**	Units:	**mg/Kg**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	18	3.6	17.96	0	101	52.3	132			
Surr: BFB	360		359.2		101	70	130			

Sample ID	**1610e23-022amsd2**	SampType:	**MSD**		TestCode:	**EPA Method 8015D Mod: Gasoline Range**				
Client ID:	**SB-22 (3-6)**	Batch ID:	**GT38351**		RunNo:	**38351**				
Prep Date:		Analysis Date:	**11/1/2016**		SeqNo:	**1197273**	Units:	**mg/Kg**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	17	3.6	17.96	0	94.9	52.3	132	5.89	20	
Surr: BFB	360		359.2		99.1	70	130	0	0	

Sample ID	**rb**	SampType:	**MBLK**		TestCode:	**EPA Method 8015D Mod: Gasoline Range**				
Client ID:	**PBS**	Batch ID:	**G38379**		RunNo:	**38379**				
Prep Date:		Analysis Date:	**11/1/2016**		SeqNo:	**1198269**	Units:	**mg/Kg**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	500		500.0		99.9	70	130			

Sample ID	**2.5ug gro lcs**	SampType:	**LCS**		TestCode:	**EPA Method 8015D Mod: Gasoline Range**				
Client ID:	**LCSS**	Batch ID:	**G38379**		RunNo:	**38379**				
Prep Date:		Analysis Date:	**11/1/2016**		SeqNo:	**1198270**	Units:	**mg/Kg**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	27	5.0	25.00	0	109	62.9	123			
Surr: BFB	530		500.0		106	70	130			

Sample ID	**1610e23-026ams**	SampType:	**MS**		TestCode:	**EPA Method 8015D Mod: Gasoline Range**				
Client ID:	**SB-26 (10-15)**	Batch ID:	**G38379**		RunNo:	**38379**				
Prep Date:		Analysis Date:	**11/1/2016**		SeqNo:	**1198274**	Units:	**mg/Kg**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1610E23**

22-Nov-16

Client: Intera, Inc.

Project: COA Railyards

Sample ID	**1610e23-026ams**	SampType:	**MS**		TestCode:	**EPA Method 8015D Mod: Gasoline Range**					
Client ID:	**SB-26 (10-15)**	Batch ID:	**G38379**		RunNo:	**38379**					
Prep Date:		Analysis Date:	**11/1/2016**		SeqNo:	**1198274**	Units:	**mg/Kg**			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)		15	2.9	14.26	0	102	52.3	132			
Surr: BFB		290		285.2		102	70	130			

Sample ID	**1610e23-026amsd**	SampType:	**MSD**		TestCode:	**EPA Method 8015D Mod: Gasoline Range**					
Client ID:	**SB-26 (10-15)**	Batch ID:	**G38379**		RunNo:	**38379**					
Prep Date:		Analysis Date:	**11/1/2016**		SeqNo:	**1198275**	Units:	**mg/Kg**			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)		14	2.9	14.26	0	99.4	52.3	132	2.42	20	
Surr: BFB		290		285.2		101	70	130	0	0	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: INT | Work Order Number: 1610E23 | RcptNo: 1

Received by/date: AG 10/28/16

Logged By: Ashley Gallegos 10/28/2016 10:11:00 AM AG

Completed By: Ashley Gallegos 10/28/2016 12:26:24 PM AG

Reviewed By: 10/28/16

Chain of Custody

1. Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
2. Is Chain of Custody complete?	Yes ☑	No ☐	Not Present ☐
3. How was the sample delivered?	Client		

Log In

4. Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
5. Were all samples received at a temperature of >0° C to 6.0°C	Yes ☑	No ☐	NA ☐
6. Sample(s) in proper container(s)?	Yes ☑	No ☐	
7. Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
8. Are samples (except VOA and ONG) properly preserved?	Yes ☑	No ☐	
9. Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
10. VOA vials have zero headspace?	Yes ☐	No ☐	No VOA Vials ☑
11. Were any sample containers received broken?	Yes ☐	No ☑	
12. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ☑	No ☐	
13. Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	
14. Is it clear what analyses were requested?	Yes ☑	No ☐	
15. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes ☑	No ☐	

# of preserved bottles checked for pH: _____ (<2 or >12 unless noted)

Adjusted? _____

Checked by: _____

Special Handling (if applicable)

16. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified: _____ Date _____

By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: _____

Client Instructions: _____

17. Additional remarks:

18. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	3.0	Good	Not Present			

Chain-of-Custody Record

Client: INTERA

Mailing Address: 6000 Uptown Blvd NE
Abq, NM

Phone #: 505·246·1600

Email or Fax#: jtracy@intera.com

QA/QC Package: emarcillo@intera.com
☒ Standard ☐ Level 4 (Full Validation)

Accreditation
NELAP ☐ Other _____

EDD (Type) _____

Turn-Around Time:
☒ Standard ☐ Rush _____

Project Name: COA Railyards

Project #: COALB1M005.0C95 NTP 17

Project Manager: Joe Tracy

Sampler: LP/MS

On Ice: ☒ Yes ☐ No

Sample Temperature: 3.0

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1610E23	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	Metals via 8015 ★				Air Bubbles (Y or N)
24/16	1510	S	SB-1 (9-10)	2-4oz jars 1 Metn Kit	Methanol + ice	-001			X			X				X		X				
4/16	1535	S	SB-2 (8.5-10)	2-4oz jars 1 Metn Kit		-002			X			X				X		X				
4/16	1600	S	SB-3 (8.5-10)	2-4oz jars 1 Metn Kit		-003			X			X				X		X				
24/16	1630	S	SB-4 (10-12)	2-4oz jars 1 Metn Kit		-004			X			X				X		X				
25/16	0840	S	SB-5 (6-10)	2-4oz jars 1 Metn Kit		-005			X			X				X		X				
5/16	1157	S	SB-6 (5-10)	2-4oz jass 1 Metn Kit		-006			X			X				X		X				
5/16	1220	S	SB-7 (5-10)	2-4oz jass 1 Metn Kit		-007			X			X				X		X				
5/16	1356	S	SB-8 (5-10)	2-4oz jass 1 Metn Kit		-008			X			X				X		X				
25/16	1613	S	SB-9 (5-10)	2-4oz jass 1 Metn Kit		-009			X			X				X		X				
25/16	1755	S	SB-10 (5-10)	2-4oz jass 1 Metn Kit		-010			X			X				X		X				
6/16	0802	S	SB-11 (0-5)	2-4oz jass 1 Metn Kit		011			X			X				X		X				
26/16	0852	S	SB-12 (0-5)	2-4oz jass 1 Metn Kit		-012			X			X				X		X				

Date	Time	Relinquished by:	Received by:	Date	Time
8/16	1011			10/28/16	1011
		Relinquished by:	Received by:		

Remarks:
★ Metals = Antimony, arsenic, chromium, iron, lead, manganese, and thallium

Chain-of-Custody Record

Client: INTERA

Mailing Address: 6000 Uptown Blvd NE Suite 220 Abq NM

Phone #: 505-246-1600

Email or Fax#: jtracy@intera.com ematcillo@intera.com

QA/QC Package: ☒ Standard ☐ Level 4 (Full Validation)

Accreditation: ☒ NELAP ☐ Other

EDD (Type)

Turn-Around Time: ☒ Standard ☐ Rush

Project Name: COA Railyards

Project #: COALB.M005.0055 NTP17

Project Manager: Joe Tracy

Sampler: LP/MS

On Ice: ☒ Yes ☐ No

Sample Temperature: 3.0

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

Tel. 505-345-3975 Fax 505-345-4107

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No.	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions ($F, Cl, NO_3, NO_2, PO_4, SO_4$)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	Metals via 8015 ☆				Air Bubbles (Y or N)
26/16	0930	S	SB-13 (10-15)	2-4oz jars 1 Metn Kit	Methanol & Ice	-013			X			X				X		X				
26/16	1003	S	SB-14 (5-10)	2-4oz jars 1 Metn Kit		-014			X			X				X		X				
26/16	1035	S	SB-15 (3-6)	2-4oz jars 1 Metn Kit		-015			X			X				X		X				
26/16	1106	S	SB-16 (5-10)	2-4oz jars 1 Metn Kit		-016			X			X				X		X				
26/16	1140	S	SB-17 (3-6)	2-4oz jars 1 Metn Kit		-017			X			X				X		X				
26/16	1202	S	SB-18 (3-6)	2-4oz jars 1 Metn Kit		-018			X			X				X		X				
26/16	1217	S	SB-19 (5-10)	2-4oz jars 1 Metn Kit		-019			X			X				X		X				
26/16	1232	S	SB-20 (3-6)	2-4oz jars 1 Metn Kit		-020			X			X				X		X				
27/16	0815	S	SB-21 (0-5)	2-4oz jars 1 Metn Kit		-021			X			X				X		X				
27/16	0835	S	SB-22 (3-6)	2-4oz jars 1 Metn Kit		-022			X			X				X		X				
27/16	0858	S	SB-23 (0-5)	2-4oz jars 1 Metn Kit		-023			X			X				X		X				
27/16	0920	S	SB-24 (0-5)	2-4oz jars 1 Metn Kit		-024			X			X				X		X				

Date	Time	Relinquished by:	Received by:	Date	Time
28/16	1011			10/28/16	1011

Remarks: ☆ See page 1 for info

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

Chain-of-Custody Record

Client: INTERA

Mailing Address: 6000 Uptown Blvd NE
Abq, NM

Phone #: 505-246-1600

Email or Fax#: jtracy@intera.com

QA/QC Package: emarcillo@intera.com
☒ Standard ☐ Level 4 (Full Validation)

Accreditation
☐ NELAP ☐ Other _____

EDD (Type) _____

Turn-Around Time:
☒ Standard ☐ Rush _____

Project Name:
COA Railyards

Project #:
COALB.M005.0CS5 NTP 17

Project Manager:
Joe Tracy

Sampler: LP/MS

On Ice: ☒ Yes ☐ No

Sample Temperature: 3.0

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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4901 Hawkins NE - Albuquerque, NM 87109

Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1610E23	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	Metals via 8015 ★				Air Bubbles (Y or N)
27/16	0945	S	SB-25 (0-3)	2-4oz jars 1 Metn Kit	Methanol	-025			X			X				X		X				
27/16	1002	S	SB-26 (10-15)	2-4oz jars 1 Metn Kit		-026			X			X				X		X				
27/16	1038	S	SB-27 (0-5)	2-4oz jars 1 Metn Kit		-027			X			X				X		X				
27/16	1057	S	SB-28 (0-5)	2-4 oz jars 1 Metn Kit		-028			X			X				X		X				
27/16	1122	S	SB-29 (0-5)	2-4 oz jars 1 Metn Kit		-029			X			X				X		X				
27/16	1140	S	SB-30 (0-5)	2-4 oz jars 1 Metn Kit		-030			X			X				X		X				
27/16	1250	S	SB-31 (0-5)	2-4oz jars 1 Metn Kit		-0031			X			X				X		X				
27/16	1305	S	SB-32 (0-3)	2-4oz jars 1 Metn Kit		-032			X			X				X		X				
			MeOH Blank	3-Blanks												X						

Date	Time	Relinquished by:	Received by:	Date	Time
8/16	1011			10/28/16	1011
		Relinquished by:	Received by:	Date	Time

Remarks:
★ see page 1 for info

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

Appendix C

Laboratory Analytical Report and Maps for Soil Vapor

BEACON ENVIRONMENTAL SERVICES, INC.

The Leaders in Soil Gas Surveys and Vapor Intrusion Monitoring

Client: Vista GeoScience
130 Capital Drive, Suite C
Golden, CO 80401
Attn: Mr. Mike Martin

Soil-Gas Samples -- Analytical Report

Date: December 12, 2016
Beacon Project No. 3588 Rev1

Project Reference:	Albuquerque Railyards, Albuquerque, NM
Sampling Date:	October 25 through November 3, 2016
Samples Received:	November 4 and 8, 2016
Analyses Completed:	November 10, 2016

Results for the following samples are included in this data package:

Sample ID	Matrix	Analysis
SV-03 A (HO234823)	Air	TO-17
SV-04 A (GO119804)	Air	TO-17
SV-06 A (HO234809)	Air	TO-17
SV-07 A (HO199678)	Air	TO-17
SV-08 A (1049238)	Air	TO-17
SV-09 A (GO177458)	Air	TO-17
SV-10 A (GO177407)	Air	TO-17
SV-11 A (GO164559)	Air	TO-17
SV-12 A (HO200253)	Air	TO-17
SV-14 A (GO115947)	Air	TO-17
SV-16 A (HO199673)	Air	TO-17
SV-17 A (HO232690)	Air	TO-17
SV-21 A (HO199664)	Air	TO-17
SV-23 A (HO200288)	Air	TO-17
SV-27 A (1049249)	Air	TO-17
SV-28 A (1100863)	Air	TO-17
SV-29 A (HO200227)	Air	TO-17
SV-30 A (GO167057)	Air	TO-17
SV-31 A (HO200236)	Air	TO-17
SV-32 A (GO164954)	Air	TO-17
SV-03-01 (HO234875)	Soil Gas	TO-17
SV-03-02 (GO178581)	Soil Gas	TO-17
SV-03-03 (HO234580)	Soil Gas	TO-17
SV-05-01 (1100817)	Soil Gas	TO-17
SV-05-02 (1049459)	Soil Gas	TO-17
SV-05-03 (1049520)	Soil Gas	TO-17
SV-05-04 (HO231898)	Soil Gas	TO-17
SV-05-05 (GO177980)	Soil Gas	TO-17
SV-05-06 (1101163)	Soil Gas	TO-17
SV-07-01 (HO238242)	Soil Gas	TO-17
SV-07-02 (HO234516)	Soil Gas	TO-17
SV-07-03 (GO115955)	Soil Gas	TO-17

Sample ID	Matrix	Analysis
SV-07-04 (GO115976)	Soil Gas	TO-17
SV-08-01 (GO164999)	Soil Gas	TO-17
SV-08-02 (1101399)	Soil Gas	TO-17
SV-08-03 (HO199622)	Soil Gas	TO-17
SV-08-04 (HO199658)	Soil Gas	TO-17
SV-08-05 (GO166889)	Soil Gas	TO-17
SV-08-06 (HO232630)	Soil Gas	TO-17
SV-08-07 (GO164568)	Soil Gas	TO-17
SV-08-08 (HO234589)	Soil Gas	TO-17
SV-08-09 (HO234844)	Soil Gas	TO-17
SV-08-10 (GO177969)	Soil Gas	TO-17

Sample Collection
Beacon Environmental provided Vista GeoScience with thermally conditioned multi-bed stainless steel tubes to target a custom list of analytes. Soil gas was drawn through each tube for five (5) minutes with a flowrate of 200 mL/min and the resulting mass of target analytes captured on each sampler was reported as a concentration.

U. S. EPA Method TO-17
All samples were analyzed for a custom target compound list following U.S. EPA Method TO-17. The analytical results are reported in **Table 1**, with results reported in µg/m^3 and pppv based on the measured mass and volume of gas sampled (one liter).

Reporting Limits (RLs) for EPA Method TO-17
The lowest point in the calibration curve and the limit of quantitation (LOQ) is 10 nanograms (ng), which is the RL; however, when reporting concentration data in Table 1, the values are provided in micrograms per meter cubed (µg/m^3) and ppbv. The RLs represent a baseline above which results exceed laboratory-determined limits of precision and accuracy. For 1,1,2,2-Tetrachloroethane; 1,2,3-Trichloropropane; and Naphthalene, estimated measurements below the LOQ but above the detection limit (DL) of 2.5 ng are reported to meet project reporting limit requirements. Furthermore, per Vista GeoScience's request, samples were reviewed for measurements of 1,1,2-Trichloroethane that are above 2.0 ng to meet project reporting requirements. Non-detects of this compound above 2.0 ng are reported with high confidence. All reported measurements below the LOQ are estimates and are qualified with a J flag.

Calibration Verification
The initial laboratory control sample (LCS) also serves as the calibration verification and values for the analytes were all within ±30% of the true values as defined by the initial five-point calibration and met the requirements specified in Beacon Environmental's Quality Manual. Both the LCS and the laboratory control duplicate (LCSD) are spiked at 50 ng and percentage of recovery is calculated and reported. Acceptance criteria for surrogate and analyte recoveries are 70 to 130 percent; all surrogates and analytes were within the acceptance criteria.

Internal Standards and Surrogates
Internal standards and surrogates are spiked on each field and QC sample at 100 ng and 50 ng, respectively, and the percentage of recovery is calculated. Acceptance criteria for internal standards are 60 to 140 percent and surrogate recoveries are 70 to 130 percent; all internal standards and surrogates were within the acceptance criteria.

Blank Contamination
No targeted compounds above the limit of detection (LOD) for each compound were observed in the Laboratory Method Blanks (LB_161108a and LB_161109a). For comparison to field sample results, one liter was used as the volume to calculate the LOQs for the blanks.

Discussion
Forty (40) sorbent tubes were received on November 4, 2016, and forty-six (46) sorbent tubes were received on November 8, 2016. All samples were collected at each location following U.S. EPA Method TO-17; at the request of the client, only one (1) sample from each location was reported. Sampling start and stop times, as well as flowrates, can be found in the Chain of Custody (**Attachment 1**).

Demonstrated Linear Range of the GC-MS Instrumentation (EPA Method TO-17)
An initial five-point calibration is performed on the instrumentation from 10 to 200 ng per analyte.

Attachments:
-**1**- Chain of Custody

ALL DATA MEET REQUIREMENTS AS SPECIFIED IN THE BEACON ENVIRONMENTAL SERVICES, INC. QUALITY MANUAL AND THE RESULTS RELATE ONLY TO THE SAMPLES REPORTED. BEACON ENVIRONMENTAL SERVICES IS ACCREDITED TO ISO/IEC 17025:2005, AND THE WORK PERFORMED WAS IN ACCORDANCE WITH ISO/IEC 17025 REQUIREMENTS, WITH THE EXCEPTION WITH THE EXCEPTION THAT SAMPLES WERE ANALYZED WITHIN A 24-HOUR TUNE WINDOW AND 2-METHYLNAPHTHALENE IS NOT INCLUDED IN BEACON'S SCOPE OF ACCREDITATION. THIS REPORT SHALL NOT BE REPRODUCED EXCEPT IN FULL, WITHOUT THE WRITTEN APPROVAL OF THE LABORATORY. RELEASE OF THE DATA HAS BEEN AUTHORIZED BY THE LABORATORY DIRECTOR OR HIS SIGNEE, AS VERIFIED BY THE FOLLOWING SIGNATURES:

Steven C. Thornley — Laboratory Director

Patti J. Riggs — Quality Manager

Date: December 12, 2016

Table 1

Beacon Environmental Services, Inc.
2203A Commerce Road Suite 1
Forest Hill, MD 21050 USA
Analysis by EPA Method TO-17

Client:
Vista GeoScience
130 Capital Drive, Suite C
Golden, CO

Lab File ID:	A16110802
Beacon Sample ID:	LCS_161108a
Client ID/Sampling Location:	
Date Time Collected:	
Matrix:	
Dilution Factor:	1.0
Sample Volume in Liters:	1.00
Date Received:	
Analysis Date:	11/8/2016
Analysis Time:	10:30:00 AM
Beacon Job Number:	

	Results	Units	Completed	Limits
COMPOUNDS				
Vinyl Chloride	**82%**	%REC	11/8/16 10:30	80-120
1,1-Dichloroethene	**100%**	%REC	11/8/16 10:30	80-120
1,1,2-Trichlorotrifluoroethane (Fr.113)	**86%**	%REC	11/8/16 10:30	80-120
trans-1,2-Dichloroethene	**103%**	%REC	11/8/16 10:30	80-120
Methyl-t-butyl ether	**94%**	%REC	11/8/16 10:30	80-120
1,1-Dichloroethane	**100%**	%REC	11/8/16 10:30	80-120
cis-1,2-Dichloroethene	**102%**	%REC	11/8/16 10:30	80-120
Chloroform	**101%**	%REC	11/8/16 10:30	80-120
1,2-Dichloroethane	**98%**	%REC	11/8/16 10:30	80-120
1,1,1-Trichloroethane	**96%**	%REC	11/8/16 10:30	80-120
Carbon Tetrachloride	**96%**	%REC	11/8/16 10:30	80-120
Benzene	**100%**	%REC	11/8/16 10:30	80-120
Trichloroethene	**108%**	%REC	11/8/16 10:30	80-120
1,4-Dioxane	**110%**	%REC	11/8/16 10:30	80-120
1,1,2-Trichloroethane	**110%**	%REC	11/8/16 10:30	80-120
Toluene	**118%**	%REC	11/8/16 10:30	80-120
1,2-Dibromoethane (EDB)	**110%**	%REC	11/8/16 10:30	80-120
Tetrachloroethene	**94%**	%REC	11/8/16 10:30	80-120
1,1,1,2-Tetrachloroethane	**103%**	%REC	11/8/16 10:30	80-120
Chlorobenzene	**102%**	%REC	11/8/16 10:30	80-120
Ethylbenzene	**106%**	%REC	11/8/16 10:30	80-120
p & m-Xylene	**108%**	%REC	11/8/16 10:30	80-120
1,1,2,2-Tetrachloroethane	**99%**	%REC	11/8/16 10:30	80-120
o-Xylene	**101%**	%REC	11/8/16 10:30	80-120
1,2,3-Trichloropropane	**97%**	%REC	11/8/16 10:30	80-120
Isopropylbenzene	**101%**	%REC	11/8/16 10:30	80-120
1,3,5-Trimethylbenzene	**110%**	%REC	11/8/16 10:30	80-120
1,2,4-Trimethylbenzene	**102%**	%REC	11/8/16 10:30	80-120
1,3-Dichlorobenzene	**103%**	%REC	11/8/16 10:30	80-120
1,4-Dichlorobenzene	**103%**	%REC	11/8/16 10:30	80-120
1,2-Dichlorobenzene	**103%**	%REC	11/8/16 10:30	80-120
1,2,4-Trichlorobenzene	**111%**	%REC	11/8/16 10:30	80-120
Naphthalene	**107%**	%REC	11/8/16 10:30	80-120
1,2,3-Trichlorobenzene	**104%**	%REC	11/8/16 10:30	80-120
2-Methylnaphthalene	**102%**	%REC	11/8/16 10:30	80-120
SURROGATES	Percent Recovery	Limits	Completed	Lab File ID
1,2-DCA-d4	**104**	70-130	11/8/16 10:30	A16110802
Toluene-d8	**105**	70-130	11/8/16 10:30	A16110802
Bromofluorobenzene	**107**	70-130	11/8/16 10:30	A16110802

U = Not detected or below Reporting Limit (RL).; J = Estimated value below the RL.; E = Measurement exceeded upper calibration range of instrument.

Table 1

Beacon Environmental Services, Inc.
2203A Commerce Road Suite 1
Forest Hill, MD 21050 USA
Analysis by EPA Method TO-17

Client:
Vista GeoScience
130 Capital Drive, Suite C
Golden, CO

Lab File ID:	A16110803
Beacon Sample ID:	LB_161108a
Client ID/Sampling Location:	
Date Time Collected:	
Matrix:	
Dilution Factor:	1.0
Sample Volume in Liters:	1.00
Date Received:	
Analysis Date:	11/8/2016
Analysis Time:	10:53:00 AM
Beacon Job Number:	

	Results	LOQ	Results	LOQ	
COMPOUNDS	ug/m3	ug/m3	ppbv	ppbv	Completed
Vinyl Chloride	U	10.00	U	3.91	11/8/16 10:53
1,1-Dichloroethene	U	10.00	U	2.52	11/8/16 10:53
1,1,2-Trichlorotrifluoroethane (Fr.113)	U	10.00	U	1.30	11/8/16 10:53
trans-1,2-Dichloroethene	U	10.00	U	2.52	11/8/16 10:53
Methyl-t-butyl ether	U	10.00	U	2.77	11/8/16 10:53
1,1-Dichloroethane	U	10.00	U	2.47	11/8/16 10:53
cis-1,2-Dichloroethene	U	10.00	U	2.52	11/8/16 10:53
Chloroform	U	10.00	U	2.05	11/8/16 10:53
1,2-Dichloroethane	U	10.00	U	2.47	11/8/16 10:53
1,1,1-Trichloroethane	U	10.00	U	1.83	11/8/16 10:53
Carbon Tetrachloride	U	10.00	U	1.59	11/8/16 10:53
Benzene	U	10.00	U	3.13	11/8/16 10:53
Trichloroethene	U	10.00	U	1.86	11/8/16 10:53
1,4-Dioxane	U	10.00	U	2.77	11/8/16 10:53
1,1,2-Trichloroethane	U	10.00	U	1.83	11/8/16 10:53
Toluene	U	10.00	U	2.65	11/8/16 10:53
1,2-Dibromoethane (EDB)	U	10.00	U	1.30	11/8/16 10:53
Tetrachloroethene	U	10.00	U	1.47	11/8/16 10:53
1,1,1,2-Tetrachloroethane	U	10.00	U	1.46	11/8/16 10:53
Chlorobenzene	U	10.00	U	2.17	11/8/16 10:53
Ethylbenzene	U	10.00	U	2.30	11/8/16 10:53
p & m-Xylene	U	10.00	U	2.30	11/8/16 10:53
1,1,2,2-Tetrachloroethane	U	10.00	U	1.46	11/8/16 10:53
o-Xylene	U	10.00	U	2.30	11/8/16 10:53
1,2,3-Trichloropropane	U	10.00	U	1.66	11/8/16 10:53
Isopropylbenzene	U	10.00	U	2.03	11/8/16 10:53
1,3,5-Trimethylbenzene	U	10.00	U	2.03	11/8/16 10:53
1,2,4-Trimethylbenzene	U	10.00	U	2.03	11/8/16 10:53
1,3-Dichlorobenzene	U	10.00	U	1.66	11/8/16 10:53
1,4-Dichlorobenzene	U	10.00	U	1.66	11/8/16 10:53
1,2-Dichlorobenzene	U	10.00	U	1.66	11/8/16 10:53
1,2,4-Trichlorobenzene	U	10.00	U	1.35	11/8/16 10:53
Naphthalene	U	10.00	U	1.91	11/8/16 10:53
1,2,3-Trichlorobenzene	U	10.00	U	1.35	11/8/16 10:53
2-Methylnaphthalene	U	10.00	U	1.72	11/8/16 10:53

SURROGATES	Percent Recovery	Limits	Lab File ID	Completed
1,2-DCA-d4	**102**	70-130	A16110803	11/8/16 10:53
Toluene-d8	**107**	70-130	A16110803	11/8/16 10:53
Bromofluorobenzene	**102**	70-130	A16110803	11/8/16 10:53

U = Not detected or below Reporting Limit (RL).; J = Estimated value below the RL.; E = Measurement exceeded upper calibration range of instrument.

Table 1

Beacon Environmental Services, Inc.
2203A Commerce Road Suite 1
Forest Hill, MD 21050 USA
Analysis by EPA Method TO-17

Client:
Vista GeoScience
130 Capital Drive, Suite C
Golden, CO

Lab File ID:	A16110804
Beacon Sample ID:	LCSD_161108a
Client ID/Sampling Location:	
Date Time Collected:	
Matrix:	
Dilution Factor:	1.0
Sample Volume in Liters:	1.00
Date Received:	
Analysis Date:	11/8/2016
Analysis Time:	11:16:00 AM
Beacon Job Number:	

	Results	Units	Completed	Limits
COMPOUNDS				
Vinyl Chloride	**80%**	%REC	11/8/16 11:16	70-130
1,1-Dichloroethene	**87%**	%REC	11/8/16 11:16	70-130
1,1,2-Trichlorotrifluoroethane (Fr.113)	**80%**	%REC	11/8/16 11:16	70-130
trans-1,2-Dichloroethene	**101%**	%REC	11/8/16 11:16	70-130
Methyl-t-butyl ether	**84%**	%REC	11/8/16 11:16	70-130
1,1-Dichloroethane	**104%**	%REC	11/8/16 11:16	70-130
cis-1,2-Dichloroethene	**104%**	%REC	11/8/16 11:16	70-130
Chloroform	**103%**	%REC	11/8/16 11:16	70-130
1,2-Dichloroethane	**98%**	%REC	11/8/16 11:16	70-130
1,1,1-Trichloroethane	**88%**	%REC	11/8/16 11:16	70-130
Carbon Tetrachloride	**88%**	%REC	11/8/16 11:16	70-130
Benzene	**100%**	%REC	11/8/16 11:16	70-130
Trichloroethene	**106%**	%REC	11/8/16 11:16	70-130
1,4-Dioxane	**108%**	%REC	11/8/16 11:16	70-130
1,1,2-Trichloroethane	**105%**	%REC	11/8/16 11:16	70-130
Toluene	**111%**	%REC	11/8/16 11:16	70-130
1,2-Dibromoethane (EDB)	**112%**	%REC	11/8/16 11:16	70-130
Tetrachloroethene	**95%**	%REC	11/8/16 11:16	70-130
1,1,1,2-Tetrachloroethane	**99%**	%REC	11/8/16 11:16	70-130
Chlorobenzene	**101%**	%REC	11/8/16 11:16	70-130
Ethylbenzene	**99%**	%REC	11/8/16 11:16	70-130
p & m-Xylene	**99%**	%REC	11/8/16 11:16	70-130
1,1,2,2-Tetrachloroethane	**99%**	%REC	11/8/16 11:16	70-130
o-Xylene	**96%**	%REC	11/8/16 11:16	70-130
1,2,3-Trichloropropane	**95%**	%REC	11/8/16 11:16	70-130
Isopropylbenzene	**98%**	%REC	11/8/16 11:16	70-130
1,3,5-Trimethylbenzene	**108%**	%REC	11/8/16 11:16	70-130
1,2,4-Trimethylbenzene	**100%**	%REC	11/8/16 11:16	70-130
1,3-Dichlorobenzene	**101%**	%REC	11/8/16 11:16	70-130
1,4-Dichlorobenzene	**103%**	%REC	11/8/16 11:16	70-130
1,2-Dichlorobenzene	**102%**	%REC	11/8/16 11:16	70-130
1,2,4-Trichlorobenzene	**111%**	%REC	11/8/16 11:16	70-130
Naphthalene	**108%**	%REC	11/8/16 11:16	70-130
1,2,3-Trichlorobenzene	**104%**	%REC	11/8/16 11:16	70-130
2-Methylnaphthalene	**96%**	%REC	11/8/16 11:16	70-130

SURROGATES	Percent Recovery	Limits	Completed	Lab File ID
1,2-DCA-d4	**99**	70-130	11/8/16 11:16	A16110804
Toluene-d8	**108**	70-130	11/8/16 11:16	A16110804
Bromofluorobenzene	**102**	70-130	11/8/16 11:16	A16110804

U = Not detected or below Reporting Limit (RL).; J = Estimated value below the RL.; E = Measurement exceeded upper calibration range of instrument.

Table 1

Beacon Environmental Services, Inc.
2203A Commerce Road Suite 1
Forest Hill, MD 21050 USA
Analysis by EPA Method TO-17

Client:
Vista GeoScience
130 Capital Drive, Suite C
Golden, CO

Lab File ID:	A16110806
Beacon Sample ID:	HO234823
Client ID/Sampling Location:	SV-03A
Date Time Collected:	10/26/16 3:01 PM
Matrix:	Soil Gas
Dilution Factor:	1.0
Sample Volume in Liters:	1.00
Date Received:	11/4/2016
Analysis Date:	11/8/2016
Analysis Time:	12:26:00 PM
Beacon Job Number:	3588

	Results	LOQ	Results	LOQ	
COMPOUNDS	ug/m3	ug/m3	ppbv	ppbv	Completed
Vinyl Chloride	U	10.00	U	3.91	11/8/16 12:26
1,1-Dichloroethene	U	10.00	U	2.52	11/8/16 12:26
1,1,2-Trichlorotrifluoroethane (Fr.113)	U	10.00	U	1.30	11/8/16 12:26
trans-1,2-Dichloroethene	U	10.00	U	2.52	11/8/16 12:26
Methyl-t-butyl ether	U	10.00	U	2.77	11/8/16 12:26
1,1-Dichloroethane	U	10.00	U	2.47	11/8/16 12:26
cis-1,2-Dichloroethene	U	10.00	U	2.52	11/8/16 12:26
Chloroform	U	10.00	U	2.05	11/8/16 12:26
1,2-Dichloroethane	U	10.00	U	2.47	11/8/16 12:26
1,1,1-Trichloroethane	U	10.00	U	1.83	11/8/16 12:26
Carbon Tetrachloride	U	10.00	U	1.59	11/8/16 12:26
Benzene	U	10.00	U	3.13	11/8/16 12:26
Trichloroethene	U	10.00	U	1.86	11/8/16 12:26
1,4-Dioxane	U	10.00	U	2.77	11/8/16 12:26
1,1,2-Trichloroethane	U	10.00	U	1.83	11/8/16 12:26
Toluene	**44.57**	10.00	**11.83**	2.65	11/8/16 12:26
1,2-Dibromoethane (EDB)	U	10.00	U	1.30	11/8/16 12:26
Tetrachloroethene	U	10.00	U	1.47	11/8/16 12:26
1,1,1,2-Tetrachloroethane	U	10.00	U	1.46	11/8/16 12:26
Chlorobenzene	U	10.00	U	2.17	11/8/16 12:26
Ethylbenzene	U	10.00	U	2.30	11/8/16 12:26
p & m-Xylene	**27.43**	10.00	**6.32**	2.30	11/8/16 12:26
1,1,2,2-Tetrachloroethane	U	10.00	U	1.46	11/8/16 12:26
o-Xylene	U	10.00	U	2.30	11/8/16 12:26
1,2,3-Trichloropropane	U	10.00	U	1.66	11/8/16 12:26
Isopropylbenzene	U	10.00	U	2.03	11/8/16 12:26
1,3,5-Trimethylbenzene	U	10.00	U	2.03	11/8/16 12:26
1,2,4-Trimethylbenzene	U	10.00	U	2.03	11/8/16 12:26
1,3-Dichlorobenzene	U	10.00	U	1.66	11/8/16 12:26
1,4-Dichlorobenzene	U	10.00	U	1.66	11/8/16 12:26
1,2-Dichlorobenzene	U	10.00	U	1.66	11/8/16 12:26
1,2,4-Trichlorobenzene	U	10.00	U	1.35	11/8/16 12:26
Naphthalene	**19.56**	10.00	**3.73**	1.91	11/8/16 12:26
1,2,3-Trichlorobenzene	U	10.00	U	1.35	11/8/16 12:26
2-Methylnaphthalene	U	10.00	U	1.72	11/8/16 12:26

SURROGATES	Percent Recovery	Limits	Lab File ID	Completed
1,2-DCA-d4	**96**	70-130	A16110806	11/8/16 12:26
Toluene-d8	**103**	70-130	A16110806	11/8/16 12:26
Bromofluorobenzene	**108**	70-130	A16110806	11/8/16 12:26

U = Not detected or below Reporting Limit (RL).; J = Estimated value below the RL.; E = Measurement exceeded upper calibration range of instrument.

Table 1

Beacon Environmental Services, Inc.
2203A Commerce Road Suite 1
Forest Hill, MD 21050 USA
Analysis by EPA Method TO-17

Client:
Vista GeoScience
130 Capital Drive, Suite C
Golden, CO

Lab File ID:	A16110808
Beacon Sample ID:	GO119804
Client ID/Sampling Location:	SV-04A
Date Time Collected:	10/26/16 4:10 PM
Matrix:	Soil Gas
Dilution Factor:	1.0
Sample Volume in Liters:	1.00
Date Received:	11/4/2016
Analysis Date:	11/8/2016
Analysis Time:	1:13:00 PM
Beacon Job Number:	3588

	Results	LOQ	Results	LOQ	
COMPOUNDS	ug/m3	ug/m3	ppbv	ppbv	Completed
Vinyl Chloride	U	10.00	U	3.91	11/8/16 13:13
1,1-Dichloroethene	U	10.00	U	2.52	11/8/16 13:13
1,1,2-Trichlorotrifluoroethane (Fr.113)	U	10.00	U	1.30	11/8/16 13:13
trans-1,2-Dichloroethene	U	10.00	U	2.52	11/8/16 13:13
Methyl-t-butyl ether	U	10.00	U	2.77	11/8/16 13:13
1,1-Dichloroethane	U	10.00	U	2.47	11/8/16 13:13
cis-1,2-Dichloroethene	U	10.00	U	2.52	11/8/16 13:13
Chloroform	U	10.00	U	2.05	11/8/16 13:13
1,2-Dichloroethane	U	10.00	U	2.47	11/8/16 13:13
1,1,1-Trichloroethane	U	10.00	U	1.83	11/8/16 13:13
Carbon Tetrachloride	U	10.00	U	1.59	11/8/16 13:13
Benzene	U	10.00	U	3.13	11/8/16 13:13
Trichloroethene	U	10.00	U	1.86	11/8/16 13:13
1,4-Dioxane	U	10.00	U	2.77	11/8/16 13:13
1,1,2-Trichloroethane	U	10.00	U	1.83	11/8/16 13:13
Toluene	**13.25**	10.00	**3.52**	2.65	11/8/16 13:13
1,2-Dibromoethane (EDB)	U	10.00	U	1.30	11/8/16 13:13
Tetrachloroethene	U	10.00	U	1.47	11/8/16 13:13
1,1,1,2-Tetrachloroethane	U	10.00	U	1.46	11/8/16 13:13
Chlorobenzene	U	10.00	U	2.17	11/8/16 13:13
Ethylbenzene	U	10.00	U	2.30	11/8/16 13:13
p & m-Xylene	U	10.00	U	2.30	11/8/16 13:13
1,1,2,2-Tetrachloroethane	U	10.00	U	1.46	11/8/16 13:13
o-Xylene	U	10.00	U	2.30	11/8/16 13:13
1,2,3-Trichloropropane	U	10.00	U	1.66	11/8/16 13:13
Isopropylbenzene	U	10.00	U	2.03	11/8/16 13:13
1,3,5-Trimethylbenzene	U	10.00	U	2.03	11/8/16 13:13
1,2,4-Trimethylbenzene	U	10.00	U	2.03	11/8/16 13:13
1,3-Dichlorobenzene	U	10.00	U	1.66	11/8/16 13:13
1,4-Dichlorobenzene	U	10.00	U	1.66	11/8/16 13:13
1,2-Dichlorobenzene	U	10.00	U	1.66	11/8/16 13:13
1,2,4-Trichlorobenzene	U	10.00	U	1.35	11/8/16 13:13
Naphthalene	U	10.00	U	1.91	11/8/16 13:13
1,2,3-Trichlorobenzene	U	10.00	U	1.35	11/8/16 13:13
2-Methylnaphthalene	U	10.00	U	1.72	11/8/16 13:13

SURROGATES	Percent Recovery	Limits	Lab File ID	Completed
1,2-DCA-d4	**99**	70-130	A16110808	11/8/16 13:13
Toluene-d8	**106**	70-130	A16110808	11/8/16 13:13
Bromofluorobenzene	**105**	70-130	A16110808	11/8/16 13:13

U = Not detected or below Reporting Limit (RL).; J = Estimated value below the RL.; E = Measurement exceeded upper calibration range of instrument.

Table 1

Beacon Environmental Services, Inc.
2203A Commerce Road Suite 1
Forest Hill, MD 21050 USA
Analysis by EPA Method TO-17

Client:
Vista GeoScience
130 Capital Drive, Suite C
Golden, CO

Lab File ID:	A16110810
Beacon Sample ID:	HO234809
Client ID/Sampling Location:	SV-06A
Date Time Collected:	10/25/16 11:33 AM
Matrix:	Soil Gas
Dilution Factor:	1.0
Sample Volume in Liters:	1.00
Date Received:	11/4/2016
Analysis Date:	11/8/2016
Analysis Time:	1:59:00 PM
Beacon Job Number:	3588

	Results	LOQ	Results	LOQ	
COMPOUNDS	ug/m3	ug/m3	ppbv	ppbv	Completed
Vinyl Chloride	U	10.00	U	3.91	11/8/16 13:59
1,1-Dichloroethene	U	10.00	U	2.52	11/8/16 13:59
1,1,2-Trichlorotrifluoroethane (Fr.113)	U	10.00	U	1.30	11/8/16 13:59
trans-1,2-Dichloroethene	U	10.00	U	2.52	11/8/16 13:59
Methyl-t-butyl ether	U	10.00	U	2.77	11/8/16 13:59
1,1-Dichloroethane	U	10.00	U	2.47	11/8/16 13:59
cis-1,2-Dichloroethene	U	10.00	U	2.52	11/8/16 13:59
Chloroform	U	10.00	U	2.05	11/8/16 13:59
1,2-Dichloroethane	U	10.00	U	2.47	11/8/16 13:59
1,1,1-Trichloroethane	U	10.00	U	1.83	11/8/16 13:59
Carbon Tetrachloride	U	10.00	U	1.59	11/8/16 13:59
Benzene	U	10.00	U	3.13	11/8/16 13:59
Trichloroethene	U	10.00	U	1.86	11/8/16 13:59
1,4-Dioxane	U	10.00	U	2.77	11/8/16 13:59
1,1,2-Trichloroethane	U	10.00	U	1.83	11/8/16 13:59
Toluene	U	10.00	U	2.65	11/8/16 13:59
1,2-Dibromoethane (EDB)	U	10.00	U	1.30	11/8/16 13:59
Tetrachloroethene	U	10.00	U	1.47	11/8/16 13:59
1,1,1,2-Tetrachloroethane	U	10.00	U	1.46	11/8/16 13:59
Chlorobenzene	U	10.00	U	2.17	11/8/16 13:59
Ethylbenzene	U	10.00	U	2.30	11/8/16 13:59
p & m-Xylene	U	10.00	U	2.30	11/8/16 13:59
1,1,2,2-Tetrachloroethane	U	10.00	U	1.46	11/8/16 13:59
o-Xylene	U	10.00	U	2.30	11/8/16 13:59
1,2,3-Trichloropropane	U	10.00	U	1.66	11/8/16 13:59
Isopropylbenzene	U	10.00	U	2.03	11/8/16 13:59
1,3,5-Trimethylbenzene	U	10.00	U	2.03	11/8/16 13:59
1,2,4-Trimethylbenzene	U	10.00	U	2.03	11/8/16 13:59
1,3-Dichlorobenzene	U	10.00	U	1.66	11/8/16 13:59
1,4-Dichlorobenzene	U	10.00	U	1.66	11/8/16 13:59
1,2-Dichlorobenzene	U	10.00	U	1.66	11/8/16 13:59
1,2,4-Trichlorobenzene	U	10.00	U	1.35	11/8/16 13:59
Naphthalene	U	10.00	U	1.91	11/8/16 13:59
1,2,3-Trichlorobenzene	U	10.00	U	1.35	11/8/16 13:59
2-Methylnaphthalene	U	10.00	U	1.72	11/8/16 13:59

SURROGATES	Percent Recovery	Limits	Lab File ID	Completed
1,2-DCA-d4	**98**	70-130	A16110810	11/8/16 13:59
Toluene-d8	**107**	70-130	A16110810	11/8/16 13:59
Bromofluorobenzene	**104**	70-130	A16110810	11/8/16 13:59

U = Not detected or below Reporting Limit (RL).; J = Estimated value below the RL.; E = Measurement exceeded upper calibration range of instrument.

Table 1

Beacon Environmental Services, Inc.
2203A Commerce Road Suite 1
Forest Hill, MD 21050 USA
Analysis by EPA Method TO-17

Client:
Vista GeoScience
130 Capital Drive, Suite C
Golden, CO

Lab File ID:	A16110812
Beacon Sample ID:	HO199678
Client ID/Sampling Location:	SV-07A
Date Time Collected:	10/25/16 1:40 PM
Matrix:	Soil Gas
Dilution Factor:	1.0
Sample Volume in Liters:	1.00
Date Received:	11/4/2016
Analysis Date:	11/8/2016
Analysis Time:	2:45:00 PM
Beacon Job Number:	3588

	Results	LOQ	Results	LOQ	
COMPOUNDS	ug/m3	ug/m3	ppbv	ppbv	Completed
Vinyl Chloride	U	10.00	U	3.91	11/8/16 14:45
1,1-Dichloroethene	U	10.00	U	2.52	11/8/16 14:45
1,1,2-Trichlorotrifluoroethane (Fr.113)	U	10.00	U	1.30	11/8/16 14:45
trans-1,2-Dichloroethene	U	10.00	U	2.52	11/8/16 14:45
Methyl-t-butyl ether	U	10.00	U	2.77	11/8/16 14:45
1,1-Dichloroethane	U	10.00	U	2.47	11/8/16 14:45
cis-1,2-Dichloroethene	U	10.00	U	2.52	11/8/16 14:45
Chloroform	U	10.00	U	2.05	11/8/16 14:45
1,2-Dichloroethane	U	10.00	U	2.47	11/8/16 14:45
1,1,1-Trichloroethane	U	10.00	U	1.83	11/8/16 14:45
Carbon Tetrachloride	U	10.00	U	1.59	11/8/16 14:45
Benzene	U	10.00	U	3.13	11/8/16 14:45
Trichloroethene	U	10.00	U	1.86	11/8/16 14:45
1,4-Dioxane	U	10.00	U	2.77	11/8/16 14:45
1,1,2-Trichloroethane	U	10.00	U	1.83	11/8/16 14:45
Toluene	U	10.00	U	2.65	11/8/16 14:45
1,2-Dibromoethane (EDB)	U	10.00	U	1.30	11/8/16 14:45
Tetrachloroethene	U	10.00	U	1.47	11/8/16 14:45
1,1,1,2-Tetrachloroethane	U	10.00	U	1.46	11/8/16 14:45
Chlorobenzene	U	10.00	U	2.17	11/8/16 14:45
Ethylbenzene	U	10.00	U	2.30	11/8/16 14:45
p & m-Xylene	U	10.00	U	2.30	11/8/16 14:45
1,1,2,2-Tetrachloroethane	U	10.00	U	1.46	11/8/16 14:45
o-Xylene	U	10.00	U	2.30	11/8/16 14:45
1,2,3-Trichloropropane	U	10.00	U	1.66	11/8/16 14:45
Isopropylbenzene	U	10.00	U	2.03	11/8/16 14:45
1,3,5-Trimethylbenzene	U	10.00	U	2.03	11/8/16 14:45
1,2,4-Trimethylbenzene	U	10.00	U	2.03	11/8/16 14:45
1,3-Dichlorobenzene	U	10.00	U	1.66	11/8/16 14:45
1,4-Dichlorobenzene	U	10.00	U	1.66	11/8/16 14:45
1,2-Dichlorobenzene	U	10.00	U	1.66	11/8/16 14:45
1,2,4-Trichlorobenzene	U	10.00	U	1.35	11/8/16 14:45
Naphthalene	U	10.00	U	1.91	11/8/16 14:45
1,2,3-Trichlorobenzene	U	10.00	U	1.35	11/8/16 14:45
2-Methylnaphthalene	U	10.00	U	1.72	11/8/16 14:45

SURROGATES	Percent Recovery	Limits	Lab File ID	Completed
1,2-DCA-d4	**96**	70-130	A16110812	11/8/16 14:45
Toluene-d8	**103**	70-130	A16110812	11/8/16 14:45
Bromofluorobenzene	**104**	70-130	A16110812	11/8/16 14:45

U = Not detected or below Reporting Limit (RL).; J = Estimated value below the RL.; E = Measurement exceeded upper calibration range of instrument.

Table 1

Beacon Environmental Services, Inc.
2203A Commerce Road Suite 1
Forest Hill, MD 21050 USA
Analysis by EPA Method TO-17

Client:
Vista GeoScience
130 Capital Drive, Suite C
Golden, CO

Lab File ID:	A16110814
Beacon Sample ID:	1049238
Client ID/Sampling Location:	SV-08A
Date Time Collected:	10/25/16 3:42 PM
Matrix:	Soil Gas
Dilution Factor:	1.0
Sample Volume in Liters:	1.00
Date Received:	11/4/2016
Analysis Date:	11/8/2016
Analysis Time:	3:31:00 PM
Beacon Job Number:	3588

	Results	LOQ	Results	LOQ	
COMPOUNDS	ug/m3	ug/m3	ppbv	ppbv	Completed
Vinyl Chloride	U	10.00	U	3.91	11/8/16 15:31
1,1-Dichloroethene	U	10.00	U	2.52	11/8/16 15:31
1,1,2-Trichlorotrifluoroethane (Fr.113)	U	10.00	U	1.30	11/8/16 15:31
trans-1,2-Dichloroethene	U	10.00	U	2.52	11/8/16 15:31
Methyl-t-butyl ether	U	10.00	U	2.77	11/8/16 15:31
1,1-Dichloroethane	U	10.00	U	2.47	11/8/16 15:31
cis-1,2-Dichloroethene	U	10.00	U	2.52	11/8/16 15:31
Chloroform	U	10.00	U	2.05	11/8/16 15:31
1,2-Dichloroethane	U	10.00	U	2.47	11/8/16 15:31
1,1,1-Trichloroethane	U	10.00	U	1.83	11/8/16 15:31
Carbon Tetrachloride	U	10.00	U	1.59	11/8/16 15:31
Benzene	U	10.00	U	3.13	11/8/16 15:31
Trichloroethene	U	10.00	U	1.86	11/8/16 15:31
1,4-Dioxane	U	10.00	U	2.77	11/8/16 15:31
1,1,2-Trichloroethane	U	10.00	U	1.83	11/8/16 15:31
Toluene	U	10.00	U	2.65	11/8/16 15:31
1,2-Dibromoethane (EDB)	U	10.00	U	1.30	11/8/16 15:31
Tetrachloroethene	U	10.00	U	1.47	11/8/16 15:31
1,1,1,2-Tetrachloroethane	U	10.00	U	1.46	11/8/16 15:31
Chlorobenzene	U	10.00	U	2.17	11/8/16 15:31
Ethylbenzene	U	10.00	U	2.30	11/8/16 15:31
p & m-Xylene	U	10.00	U	2.30	11/8/16 15:31
1,1,2,2-Tetrachloroethane	U	10.00	U	1.46	11/8/16 15:31
o-Xylene	U	10.00	U	2.30	11/8/16 15:31
1,2,3-Trichloropropane	U	10.00	U	1.66	11/8/16 15:31
Isopropylbenzene	U	10.00	U	2.03	11/8/16 15:31
1,3,5-Trimethylbenzene	U	10.00	U	2.03	11/8/16 15:31
1,2,4-Trimethylbenzene	U	10.00	U	2.03	11/8/16 15:31
1,3-Dichlorobenzene	U	10.00	U	1.66	11/8/16 15:31
1,4-Dichlorobenzene	U	10.00	U	1.66	11/8/16 15:31
1,2-Dichlorobenzene	U	10.00	U	1.66	11/8/16 15:31
1,2,4-Trichlorobenzene	U	10.00	U	1.35	11/8/16 15:31
Naphthalene	U	10.00	U	1.91	11/8/16 15:31
1,2,3-Trichlorobenzene	U	10.00	U	1.35	11/8/16 15:31
2-Methylnaphthalene	U	10.00	U	1.72	11/8/16 15:31

SURROGATES	Percent Recovery	Limits	Lab File ID	Completed
1,2-DCA-d4	**97**	70-130	A16110814	11/8/16 15:31
Toluene-d8	**107**	70-130	A16110814	11/8/16 15:31
Bromofluorobenzene	**102**	70-130	A16110814	11/8/16 15:31

U = Not detected or below Reporting Limit (RL).; J = Estimated value below the RL.; E = Measurement exceeded upper calibration range of instrument.

Table 1

Beacon Environmental Services, Inc.
2203A Commerce Road Suite 1
Forest Hill, MD 21050 USA
Analysis by EPA Method TO-17

Client:
Vista GeoScience
130 Capital Drive, Suite C
Golden, CO

Lab File ID:	A16110816
Beacon Sample ID:	GO177458
Client ID/Sampling Location:	SV-09A
Date Time Collected:	10/25/16 5:23 PM
Matrix:	Soil Gas
Dilution Factor:	1.0
Sample Volume in Liters:	1.00
Date Received:	11/4/2016
Analysis Date:	11/8/2016
Analysis Time:	4:18:00 PM
Beacon Job Number:	3588

	Results	LOQ	Results	LOQ	
COMPOUNDS	ug/m3	ug/m3	ppbv	ppbv	Completed
Vinyl Chloride	U	10.00	U	3.91	11/8/16 16:18
1,1-Dichloroethene	U	10.00	U	2.52	11/8/16 16:18
1,1,2-Trichlorotrifluoroethane (Fr.113)	U	10.00	U	1.30	11/8/16 16:18
trans-1,2-Dichloroethene	U	10.00	U	2.52	11/8/16 16:18
Methyl-t-butyl ether	U	10.00	U	2.77	11/8/16 16:18
1,1-Dichloroethane	U	10.00	U	2.47	11/8/16 16:18
cis-1,2-Dichloroethene	U	10.00	U	2.52	11/8/16 16:18
Chloroform	U	10.00	U	2.05	11/8/16 16:18
1,2-Dichloroethane	U	10.00	U	2.47	11/8/16 16:18
1,1,1-Trichloroethane	U	10.00	U	1.83	11/8/16 16:18
Carbon Tetrachloride	U	10.00	U	1.59	11/8/16 16:18
Benzene	U	10.00	U	3.13	11/8/16 16:18
Trichloroethene	U	10.00	U	1.86	11/8/16 16:18
1,4-Dioxane	U	10.00	U	2.77	11/8/16 16:18
1,1,2-Trichloroethane	U	10.00	U	1.83	11/8/16 16:18
Toluene	U	10.00	U	2.65	11/8/16 16:18
1,2-Dibromoethane (EDB)	U	10.00	U	1.30	11/8/16 16:18
Tetrachloroethene	U	10.00	U	1.47	11/8/16 16:18
1,1,1,2-Tetrachloroethane	U	10.00	U	1.46	11/8/16 16:18
Chlorobenzene	U	10.00	U	2.17	11/8/16 16:18
Ethylbenzene	U	10.00	U	2.30	11/8/16 16:18
p & m-Xylene	U	10.00	U	2.30	11/8/16 16:18
1,1,2,2-Tetrachloroethane	U	10.00	U	1.46	11/8/16 16:18
o-Xylene	U	10.00	U	2.30	11/8/16 16:18
1,2,3-Trichloropropane	U	10.00	U	1.66	11/8/16 16:18
Isopropylbenzene	U	10.00	U	2.03	11/8/16 16:18
1,3,5-Trimethylbenzene	U	10.00	U	2.03	11/8/16 16:18
1,2,4-Trimethylbenzene	U	10.00	U	2.03	11/8/16 16:18
1,3-Dichlorobenzene	U	10.00	U	1.66	11/8/16 16:18
1,4-Dichlorobenzene	U	10.00	U	1.66	11/8/16 16:18
1,2-Dichlorobenzene	U	10.00	U	1.66	11/8/16 16:18
1,2,4-Trichlorobenzene	U	10.00	U	1.35	11/8/16 16:18
Naphthalene	U	10.00	U	1.91	11/8/16 16:18
1,2,3-Trichlorobenzene	U	10.00	U	1.35	11/8/16 16:18
2-Methylnaphthalene	U	10.00	U	1.72	11/8/16 16:18

SURROGATES	Percent Recovery	Limits	Lab File ID	Completed
1,2-DCA-d4	**99**	70-130	A16110816	11/8/16 16:18
Toluene-d8	**106**	70-130	A16110816	11/8/16 16:18
Bromofluorobenzene	**107**	70-130	A16110816	11/8/16 16:18

U = Not detected or below Reporting Limit (RL).; J = Estimated value below the RL.; E = Measurement exceeded upper calibration range of instrument.

Table 1

Beacon Environmental Services, Inc.
2203A Commerce Road Suite 1
Forest Hill, MD 21050 USA
Analysis by EPA Method TO-17

Client:
Vista GeoScience
130 Capital Drive, Suite C
Golden, CO

Lab File ID:	A16110818
Beacon Sample ID:	GO177407
Client ID/Sampling Location:	SV-10A
Date Time Collected:	10/26/16 5:54 PM
Matrix:	Soil Gas
Dilution Factor:	1.0
Sample Volume in Liters:	1.00
Date Received:	11/4/2016
Analysis Date:	11/8/2016
Analysis Time:	5:04:00 PM
Beacon Job Number:	3588

	Results	LOQ	Results	LOQ	
COMPOUNDS	ug/m3	ug/m3	ppbv	ppbv	Completed
Vinyl Chloride	U	10.00	U	3.91	11/8/16 17:04
1,1-Dichloroethene	U	10.00	U	2.52	11/8/16 17:04
1,1,2-Trichlorotrifluoroethane (Fr.113)	U	10.00	U	1.30	11/8/16 17:04
trans-1,2-Dichloroethene	U	10.00	U	2.52	11/8/16 17:04
Methyl-t-butyl ether	U	10.00	U	2.77	11/8/16 17:04
1,1-Dichloroethane	U	10.00	U	2.47	11/8/16 17:04
cis-1,2-Dichloroethene	U	10.00	U	2.52	11/8/16 17:04
Chloroform	U	10.00	U	2.05	11/8/16 17:04
1,2-Dichloroethane	U	10.00	U	2.47	11/8/16 17:04
1,1,1-Trichloroethane	U	10.00	U	1.83	11/8/16 17:04
Carbon Tetrachloride	U	10.00	U	1.59	11/8/16 17:04
Benzene	U	10.00	U	3.13	11/8/16 17:04
Trichloroethene	U	10.00	U	1.86	11/8/16 17:04
1,4-Dioxane	U	10.00	U	2.77	11/8/16 17:04
1,1,2-Trichloroethane	U	10.00	U	1.83	11/8/16 17:04
Toluene	**17.5**	10.00	**4.64**	2.65	11/8/16 17:04
1,2-Dibromoethane (EDB)	U	10.00	U	1.30	11/8/16 17:04
Tetrachloroethene	U	10.00	U	1.47	11/8/16 17:04
1,1,1,2-Tetrachloroethane	U	10.00	U	1.46	11/8/16 17:04
Chlorobenzene	U	10.00	U	2.17	11/8/16 17:04
Ethylbenzene	U	10.00	U	2.30	11/8/16 17:04
p & m-Xylene	U	10.00	U	2.30	11/8/16 17:04
1,1,2,2-Tetrachloroethane	U	10.00	U	1.46	11/8/16 17:04
o-Xylene	U	10.00	U	2.30	11/8/16 17:04
1,2,3-Trichloropropane	U	10.00	U	1.66	11/8/16 17:04
Isopropylbenzene	U	10.00	U	2.03	11/8/16 17:04
1,3,5-Trimethylbenzene	U	10.00	U	2.03	11/8/16 17:04
1,2,4-Trimethylbenzene	U	10.00	U	2.03	11/8/16 17:04
1,3-Dichlorobenzene	U	10.00	U	1.66	11/8/16 17:04
1,4-Dichlorobenzene	U	10.00	U	1.66	11/8/16 17:04
1,2-Dichlorobenzene	U	10.00	U	1.66	11/8/16 17:04
1,2,4-Trichlorobenzene	U	10.00	U	1.35	11/8/16 17:04
Naphthalene	U	10.00	U	1.91	11/8/16 17:04
1,2,3-Trichlorobenzene	U	10.00	U	1.35	11/8/16 17:04
2-Methylnaphthalene	U	10.00	U	1.72	11/8/16 17:04

SURROGATES	Percent Recovery	Limits	Lab File ID	Completed
1,2-DCA-d4	**96**	70-130	A16110818	11/8/16 17:04
Toluene-d8	**106**	70-130	A16110818	11/8/16 17:04
Bromofluorobenzene	**105**	70-130	A16110818	11/8/16 17:04

U = Not detected or below Reporting Limit (RL).; J = Estimated value below the RL.; E = Measurement exceeded upper calibration range of instrument.

Table 1

Beacon Environmental Services, Inc.
2203A Commerce Road Suite 1
Forest Hill, MD 21050 USA
Analysis by EPA Method TO-17

Client:
Vista GeoScience
130 Capital Drive, Suite C
Golden, CO

Lab File ID:	A16110820
Beacon Sample ID:	GO164559
Client ID/Sampling Location:	SV-11A
Date Time Collected:	10/26/16 5:21 PM
Matrix:	Soil Gas
Dilution Factor:	1.0
Sample Volume in Liters:	1.00
Date Received:	11/4/2016
Analysis Date:	11/8/2016
Analysis Time:	5:51:00 PM
Beacon Job Number:	3588

	Results	LOQ	Results	LOQ	
COMPOUNDS	ug/m3	ug/m3	ppbv	ppbv	Completed
Vinyl Chloride	U	10.00	U	3.91	11/8/16 17:51
1,1-Dichloroethene	U	10.00	U	2.52	11/8/16 17:51
1,1,2-Trichlorotrifluoroethane (Fr.113)	U	10.00	U	1.30	11/8/16 17:51
trans-1,2-Dichloroethene	U	10.00	U	2.52	11/8/16 17:51
Methyl-t-butyl ether	U	10.00	U	2.77	11/8/16 17:51
1,1-Dichloroethane	U	10.00	U	2.47	11/8/16 17:51
cis-1,2-Dichloroethene	U	10.00	U	2.52	11/8/16 17:51
Chloroform	U	10.00	U	2.05	11/8/16 17:51
1,2-Dichloroethane	U	10.00	U	2.47	11/8/16 17:51
1,1,1-Trichloroethane	U	10.00	U	1.83	11/8/16 17:51
Carbon Tetrachloride	U	10.00	U	1.59	11/8/16 17:51
Benzene	U	10.00	U	3.13	11/8/16 17:51
Trichloroethene	U	10.00	U	1.86	11/8/16 17:51
1,4-Dioxane	U	10.00	U	2.77	11/8/16 17:51
1,1,2-Trichloroethane	U	10.00	U	1.83	11/8/16 17:51
Toluene	**17.44**	10.00	**4.63**	2.65	11/8/16 17:51
1,2-Dibromoethane (EDB)	U	10.00	U	1.30	11/8/16 17:51
Tetrachloroethene	U	10.00	U	1.47	11/8/16 17:51
1,1,1,2-Tetrachloroethane	U	10.00	U	1.46	11/8/16 17:51
Chlorobenzene	U	10.00	U	2.17	11/8/16 17:51
Ethylbenzene	U	10.00	U	2.30	11/8/16 17:51
p & m-Xylene	U	10.00	U	2.30	11/8/16 17:51
1,1,2,2-Tetrachloroethane	U	10.00	U	1.46	11/8/16 17:51
o-Xylene	U	10.00	U	2.30	11/8/16 17:51
1,2,3-Trichloropropane	U	10.00	U	1.66	11/8/16 17:51
Isopropylbenzene	U	10.00	U	2.03	11/8/16 17:51
1,3,5-Trimethylbenzene	U	10.00	U	2.03	11/8/16 17:51
1,2,4-Trimethylbenzene	U	10.00	U	2.03	11/8/16 17:51
1,3-Dichlorobenzene	U	10.00	U	1.66	11/8/16 17:51
1,4-Dichlorobenzene	U	10.00	U	1.66	11/8/16 17:51
1,2-Dichlorobenzene	U	10.00	U	1.66	11/8/16 17:51
1,2,4-Trichlorobenzene	U	10.00	U	1.35	11/8/16 17:51
Naphthalene	U	10.00	U	1.91	11/8/16 17:51
1,2,3-Trichlorobenzene	U	10.00	U	1.35	11/8/16 17:51
2-Methylnaphthalene	U	10.00	U	1.72	11/8/16 17:51

SURROGATES	Percent Recovery	Limits	Lab File ID	Completed
1,2-DCA-d4	**96**	70-130	A16110820	11/8/16 17:51
Toluene-d8	**108**	70-130	A16110820	11/8/16 17:51
Bromofluorobenzene	**107**	70-130	A16110820	11/8/16 17:51

U = Not detected or below Reporting Limit (RL).; J = Estimated value below the RL.; E = Measurement exceeded upper calibration range of instrument.

Table 1

Beacon Environmental Services, Inc.
2203A Commerce Road Suite 1
Forest Hill, MD 21050 USA
Analysis by EPA Method TO-17

Client:
Vista GeoScience
130 Capital Drive, Suite C
Golden, CO

Lab File ID:	A16110822
Beacon Sample ID:	HO200253
Client ID/Sampling Location:	SV-12A
Date Time Collected:	10/26/16 4:43 PM
Matrix:	Soil Gas
Dilution Factor:	1.0
Sample Volume in Liters:	1.00
Date Received:	11/4/2016
Analysis Date:	11/8/2016
Analysis Time:	6:39:00 PM
Beacon Job Number:	3588

	Results	LOQ	Results	LOQ	
COMPOUNDS	ug/m3	ug/m3	ppbv	ppbv	Completed
Vinyl Chloride	U	10.00	U	3.91	11/8/16 18:39
1,1-Dichloroethene	U	10.00	U	2.52	11/8/16 18:39
1,1,2-Trichlorotrifluoroethane (Fr.113)	U	10.00	U	1.30	11/8/16 18:39
trans-1,2-Dichloroethene	U	10.00	U	2.52	11/8/16 18:39
Methyl-t-butyl ether	U	10.00	U	2.77	11/8/16 18:39
1,1-Dichloroethane	U	10.00	U	2.47	11/8/16 18:39
cis-1,2-Dichloroethene	U	10.00	U	2.52	11/8/16 18:39
Chloroform	U	10.00	U	2.05	11/8/16 18:39
1,2-Dichloroethane	U	10.00	U	2.47	11/8/16 18:39
1,1,1-Trichloroethane	U	10.00	U	1.83	11/8/16 18:39
Carbon Tetrachloride	U	10.00	U	1.59	11/8/16 18:39
Benzene	U	10.00	U	3.13	11/8/16 18:39
Trichloroethene	U	10.00	U	1.86	11/8/16 18:39
1,4-Dioxane	U	10.00	U	2.77	11/8/16 18:39
1,1,2-Trichloroethane	U	10.00	U	1.83	11/8/16 18:39
Toluene	**14.31**	10.00	**3.8**	2.65	11/8/16 18:39
1,2-Dibromoethane (EDB)	U	10.00	U	1.30	11/8/16 18:39
Tetrachloroethene	U	10.00	U	1.47	11/8/16 18:39
1,1,1,2-Tetrachloroethane	U	10.00	U	1.46	11/8/16 18:39
Chlorobenzene	U	10.00	U	2.17	11/8/16 18:39
Ethylbenzene	U	10.00	U	2.30	11/8/16 18:39
p & m-Xylene	U	10.00	U	2.30	11/8/16 18:39
1,1,2,2-Tetrachloroethane	U	10.00	U	1.46	11/8/16 18:39
o-Xylene	U	10.00	U	2.30	11/8/16 18:39
1,2,3-Trichloropropane	U	10.00	U	1.66	11/8/16 18:39
Isopropylbenzene	U	10.00	U	2.03	11/8/16 18:39
1,3,5-Trimethylbenzene	U	10.00	U	2.03	11/8/16 18:39
1,2,4-Trimethylbenzene	U	10.00	U	2.03	11/8/16 18:39
1,3-Dichlorobenzene	U	10.00	U	1.66	11/8/16 18:39
1,4-Dichlorobenzene	U	10.00	U	1.66	11/8/16 18:39
1,2-Dichlorobenzene	U	10.00	U	1.66	11/8/16 18:39
1,2,4-Trichlorobenzene	U	10.00	U	1.35	11/8/16 18:39
Naphthalene	U	10.00	U	1.91	11/8/16 18:39
1,2,3-Trichlorobenzene	U	10.00	U	1.35	11/8/16 18:39
2-Methylnaphthalene	U	10.00	U	1.72	11/8/16 18:39

SURROGATES	Percent Recovery	Limits	Lab File ID	Completed
1,2-DCA-d4	**96**	70-130	A16110822	11/8/16 18:39
Toluene-d8	**103**	70-130	A16110822	11/8/16 18:39
Bromofluorobenzene	**106**	70-130	A16110822	11/8/16 18:39

U = Not detected or below Reporting Limit (RL).; J = Estimated value below the RL.; E = Measurement exceeded upper calibration range of instrument.

Table 1

Beacon Environmental Services, Inc.
2203A Commerce Road Suite 1
Forest Hill, MD 21050 USA
Analysis by EPA Method TO-17

Client:
Vista GeoScience
130 Capital Drive, Suite C
Golden, CO

Lab File ID:	A16110824
Beacon Sample ID:	GO115947
Client ID/Sampling Location:	SV-14A
Date Time Collected:	10/26/16 3:38 PM
Matrix:	Soil Gas
Dilution Factor:	1.0
Sample Volume in Liters:	1.00
Date Received:	11/4/2016
Analysis Date:	11/8/2016
Analysis Time:	7:25:00 PM
Beacon Job Number:	3588

	Results	LOQ	Results	LOQ	
COMPOUNDS	ug/m3	ug/m3	ppbv	ppbv	Completed
Vinyl Chloride	U	10.00	U	3.91	11/8/16 19:25
1,1-Dichloroethene	U	10.00	U	2.52	11/8/16 19:25
1,1,2-Trichlorotrifluoroethane (Fr.113)	U	10.00	U	1.30	11/8/16 19:25
trans-1,2-Dichloroethene	U	10.00	U	2.52	11/8/16 19:25
Methyl-t-butyl ether	U	10.00	U	2.77	11/8/16 19:25
1,1-Dichloroethane	U	10.00	U	2.47	11/8/16 19:25
cis-1,2-Dichloroethene	U	10.00	U	2.52	11/8/16 19:25
Chloroform	U	10.00	U	2.05	11/8/16 19:25
1,2-Dichloroethane	U	10.00	U	2.47	11/8/16 19:25
1,1,1-Trichloroethane	U	10.00	U	1.83	11/8/16 19:25
Carbon Tetrachloride	U	10.00	U	1.59	11/8/16 19:25
Benzene	U	10.00	U	3.13	11/8/16 19:25
Trichloroethene	U	10.00	U	1.86	11/8/16 19:25
1,4-Dioxane	U	10.00	U	2.77	11/8/16 19:25
1,1,2-Trichloroethane	U	10.00	U	1.83	11/8/16 19:25
Toluene	**31.71**	10.00	**8.42**	2.65	11/8/16 19:25
1,2-Dibromoethane (EDB)	U	10.00	U	1.30	11/8/16 19:25
Tetrachloroethene	U	10.00	U	1.47	11/8/16 19:25
1,1,1,2-Tetrachloroethane	U	10.00	U	1.46	11/8/16 19:25
Chlorobenzene	U	10.00	U	2.17	11/8/16 19:25
Ethylbenzene	U	10.00	U	2.30	11/8/16 19:25
p & m-Xylene	**21.31**	10.00	**4.91**	2.30	11/8/16 19:25
1,1,2,2-Tetrachloroethane	U	10.00	U	1.46	11/8/16 19:25
o-Xylene	U	10.00	U	2.30	11/8/16 19:25
1,2,3-Trichloropropane	U	10.00	U	1.66	11/8/16 19:25
Isopropylbenzene	U	10.00	U	2.03	11/8/16 19:25
1,3,5-Trimethylbenzene	U	10.00	U	2.03	11/8/16 19:25
1,2,4-Trimethylbenzene	U	10.00	U	2.03	11/8/16 19:25
1,3-Dichlorobenzene	U	10.00	U	1.66	11/8/16 19:25
1,4-Dichlorobenzene	U	10.00	U	1.66	11/8/16 19:25
1,2-Dichlorobenzene	U	10.00	U	1.66	11/8/16 19:25
1,2,4-Trichlorobenzene	U	10.00	U	1.35	11/8/16 19:25
Naphthalene	**14.05**	10.00	**2.68**	1.91	11/8/16 19:25
1,2,3-Trichlorobenzene	U	10.00	U	1.35	11/8/16 19:25
2-Methylnaphthalene	U	10.00	U	1.72	11/8/16 19:25

SURROGATES	Percent Recovery	Limits	Lab File ID	Completed
1,2-DCA-d4	**95**	70-130	A16110824	11/8/16 19:25
Toluene-d8	**107**	70-130	A16110824	11/8/16 19:25
Bromofluorobenzene	**107**	70-130	A16110824	11/8/16 19:25

U = Not detected or below Reporting Limit (RL).; J = Estimated value below the RL.; E = Measurement exceeded upper calibration range of instrument.

Table 1

Beacon Environmental Services, Inc.
2203A Commerce Road Suite 1
Forest Hill, MD 21050 USA
Analysis by EPA Method TO-17

Client:
Vista GeoScience
130 Capital Drive, Suite C
Golden, CO

Lab File ID:	A16110826
Beacon Sample ID:	HO199673
Client ID/Sampling Location:	SV-16A
Date Time Collected:	10/26/16 1:40 PM
Matrix:	Soil Gas
Dilution Factor:	1.0
Sample Volume in Liters:	1.00
Date Received:	11/4/2016
Analysis Date:	11/8/2016
Analysis Time:	8:12:00 PM
Beacon Job Number:	3588

	Results	LOQ	Results	LOQ	
COMPOUNDS	ug/m3	ug/m3	ppbv	ppbv	Completed
Vinyl Chloride	U	10.00	U	3.91	11/8/16 20:12
1,1-Dichloroethene	U	10.00	U	2.52	11/8/16 20:12
1,1,2-Trichlorotrifluoroethane (Fr.113)	U	10.00	U	1.30	11/8/16 20:12
trans-1,2-Dichloroethene	U	10.00	U	2.52	11/8/16 20:12
Methyl-t-butyl ether	U	10.00	U	2.77	11/8/16 20:12
1,1-Dichloroethane	U	10.00	U	2.47	11/8/16 20:12
cis-1,2-Dichloroethene	U	10.00	U	2.52	11/8/16 20:12
Chloroform	U	10.00	U	2.05	11/8/16 20:12
1,2-Dichloroethane	U	10.00	U	2.47	11/8/16 20:12
1,1,1-Trichloroethane	U	10.00	U	1.83	11/8/16 20:12
Carbon Tetrachloride	U	10.00	U	1.59	11/8/16 20:12
Benzene	U	10.00	U	3.13	11/8/16 20:12
Trichloroethene	U	10.00	U	1.86	11/8/16 20:12
1,4-Dioxane	U	10.00	U	2.77	11/8/16 20:12
1,1,2-Trichloroethane	U	10.00	U	1.83	11/8/16 20:12
Toluene	**55.72**	10.00	**14.79**	2.65	11/8/16 20:12
1,2-Dibromoethane (EDB)	U	10.00	U	1.30	11/8/16 20:12
Tetrachloroethene	U	10.00	U	1.47	11/8/16 20:12
1,1,1,2-Tetrachloroethane	U	10.00	U	1.46	11/8/16 20:12
Chlorobenzene	U	10.00	U	2.17	11/8/16 20:12
Ethylbenzene	**11.59**	10.00	**2.67**	2.30	11/8/16 20:12
p & m-Xylene	**39.66**	10.00	**9.13**	2.30	11/8/16 20:12
1,1,2,2-Tetrachloroethane	U	10.00	U	1.46	11/8/16 20:12
o-Xylene	**12.96**	10.00	**2.98**	2.30	11/8/16 20:12
1,2,3-Trichloropropane	U	10.00	U	1.66	11/8/16 20:12
Isopropylbenzene	U	10.00	U	2.03	11/8/16 20:12
1,3,5-Trimethylbenzene	U	10.00	U	2.03	11/8/16 20:12
1,2,4-Trimethylbenzene	U	10.00	U	2.03	11/8/16 20:12
1,3-Dichlorobenzene	U	10.00	U	1.66	11/8/16 20:12
1,4-Dichlorobenzene	U	10.00	U	1.66	11/8/16 20:12
1,2-Dichlorobenzene	U	10.00	U	1.66	11/8/16 20:12
1,2,4-Trichlorobenzene	U	10.00	U	1.35	11/8/16 20:12
Naphthalene	**24.05**	10.00	**4.59**	1.91	11/8/16 20:12
1,2,3-Trichlorobenzene	U	10.00	U	1.35	11/8/16 20:12
2-Methylnaphthalene	U	10.00	U	1.72	11/8/16 20:12

SURROGATES	Percent Recovery	Limits	Lab File ID	Completed
1,2-DCA-d4	**94**	70-130	A16110826	11/8/16 20:12
Toluene-d8	**105**	70-130	A16110826	11/8/16 20:12
Bromofluorobenzene	**109**	70-130	A16110826	11/8/16 20:12

U = Not detected or below Reporting Limit (RL).; J = Estimated value below the RL.; E = Measurement exceeded upper calibration range of instrument.

Table 1

Beacon Environmental Services, Inc.
2203A Commerce Road Suite 1
Forest Hill, MD 21050 USA
Analysis by EPA Method TO-17

Client:
Vista GeoScience
130 Capital Drive, Suite C
Golden, CO

Lab File ID:	A16110828
Beacon Sample ID:	HO232690
Client ID/Sampling Location:	SV-17A
Date Time Collected:	10/26/16 2:23 PM
Matrix:	Soil Gas
Dilution Factor:	1.0
Sample Volume in Liters:	1.00
Date Received:	11/4/2016
Analysis Date:	11/8/2016
Analysis Time:	8:59:00 PM
Beacon Job Number:	3588

	Results	LOQ	Results	LOQ	
COMPOUNDS	ug/m3	ug/m3	ppbv	ppbv	Completed
Vinyl Chloride	U	10.00	U	3.91	11/8/16 20:59
1,1-Dichloroethene	U	10.00	U	2.52	11/8/16 20:59
1,1,2-Trichlorotrifluoroethane (Fr.113)	U	10.00	U	1.30	11/8/16 20:59
trans-1,2-Dichloroethene	U	10.00	U	2.52	11/8/16 20:59
Methyl-t-butyl ether	U	10.00	U	2.77	11/8/16 20:59
1,1-Dichloroethane	U	10.00	U	2.47	11/8/16 20:59
cis-1,2-Dichloroethene	U	10.00	U	2.52	11/8/16 20:59
Chloroform	U	10.00	U	2.05	11/8/16 20:59
1,2-Dichloroethane	U	10.00	U	2.47	11/8/16 20:59
1,1,1-Trichloroethane	U	10.00	U	1.83	11/8/16 20:59
Carbon Tetrachloride	U	10.00	U	1.59	11/8/16 20:59
Benzene	U	10.00	U	3.13	11/8/16 20:59
Trichloroethene	U	10.00	U	1.86	11/8/16 20:59
1,4-Dioxane	U	10.00	U	2.77	11/8/16 20:59
1,1,2-Trichloroethane	U	10.00	U	1.83	11/8/16 20:59
Toluene	**41.0**	10.00	**10.88**	2.65	11/8/16 20:59
1,2-Dibromoethane (EDB)	U	10.00	U	1.30	11/8/16 20:59
Tetrachloroethene	U	10.00	U	1.47	11/8/16 20:59
1,1,1,2-Tetrachloroethane	U	10.00	U	1.46	11/8/16 20:59
Chlorobenzene	U	10.00	U	2.17	11/8/16 20:59
Ethylbenzene	**10.04**	10.00	**2.31**	2.30	11/8/16 20:59
p & m-Xylene	**34.11**	10.00	**7.86**	2.30	11/8/16 20:59
1,1,2,2-Tetrachloroethane	U	10.00	U	1.46	11/8/16 20:59
o-Xylene	**12.04**	10.00	**2.77**	2.30	11/8/16 20:59
1,2,3-Trichloropropane	U	10.00	U	1.66	11/8/16 20:59
Isopropylbenzene	U	10.00	U	2.03	11/8/16 20:59
1,3,5-Trimethylbenzene	U	10.00	U	2.03	11/8/16 20:59
1,2,4-Trimethylbenzene	U	10.00	U	2.03	11/8/16 20:59
1,3-Dichlorobenzene	U	10.00	U	1.66	11/8/16 20:59
1,4-Dichlorobenzene	U	10.00	U	1.66	11/8/16 20:59
1,2-Dichlorobenzene	U	10.00	U	1.66	11/8/16 20:59
1,2,4-Trichlorobenzene	U	10.00	U	1.35	11/8/16 20:59
Naphthalene	**22.73**	10.00	**4.34**	1.91	11/8/16 20:59
1,2,3-Trichlorobenzene	U	10.00	U	1.35	11/8/16 20:59
2-Methylnaphthalene	U	10.00	U	1.72	11/8/16 20:59

SURROGATES	Percent Recovery	Limits	Lab File ID	Completed
1,2-DCA-d4	**95**	70-130	A16110828	11/8/16 20:59
Toluene-d8	**104**	70-130	A16110828	11/8/16 20:59
Bromofluorobenzene	**107**	70-130	A16110828	11/8/16 20:59

U = Not detected or below Reporting Limit (RL).; J = Estimated value below the RL.; E = Measurement exceeded upper calibration range of instrument.

Table 1

Beacon Environmental Services, Inc.
2203A Commerce Road Suite 1
Forest Hill, MD 21050 USA
Analysis by EPA Method TO-17

Client:
Vista GeoScience
130 Capital Drive, Suite C
Golden, CO

Lab File ID:	A16110830
Beacon Sample ID:	HO199664
Client ID/Sampling Location:	SV-21A
Date Time Collected:	10/27/16 4:24 PM
Matrix:	Soil Gas
Dilution Factor:	1.0
Sample Volume in Liters:	1.00
Date Received:	11/4/2016
Analysis Date:	11/8/2016
Analysis Time:	9:45:00 PM
Beacon Job Number:	3588

	Results	LOQ	Results	LOQ	
COMPOUNDS	ug/m3	ug/m3	ppbv	ppbv	Completed
Vinyl Chloride	U	10.00	U	3.91	11/8/16 21:45
1,1-Dichloroethene	U	10.00	U	2.52	11/8/16 21:45
1,1,2-Trichlorotrifluoroethane (Fr.113)	U	10.00	U	1.30	11/8/16 21:45
trans-1,2-Dichloroethene	U	10.00	U	2.52	11/8/16 21:45
Methyl-t-butyl ether	U	10.00	U	2.77	11/8/16 21:45
1,1-Dichloroethane	U	10.00	U	2.47	11/8/16 21:45
cis-1,2-Dichloroethene	U	10.00	U	2.52	11/8/16 21:45
Chloroform	U	10.00	U	2.05	11/8/16 21:45
1,2-Dichloroethane	U	10.00	U	2.47	11/8/16 21:45
1,1,1-Trichloroethane	U	10.00	U	1.83	11/8/16 21:45
Carbon Tetrachloride	U	10.00	U	1.59	11/8/16 21:45
Benzene	U	10.00	U	3.13	11/8/16 21:45
Trichloroethene	U	10.00	U	1.86	11/8/16 21:45
1,4-Dioxane	**14.72**	10.00	**4.08**	2.77	11/8/16 21:45
1,1,2-Trichloroethane	U	10.00	U	1.83	11/8/16 21:45
Toluene	**36.29**	10.00	**9.63**	2.65	11/8/16 21:45
1,2-Dibromoethane (EDB)	U	10.00	U	1.30	11/8/16 21:45
Tetrachloroethene	U	10.00	U	1.47	11/8/16 21:45
1,1,1,2-Tetrachloroethane	U	10.00	U	1.46	11/8/16 21:45
Chlorobenzene	U	10.00	U	2.17	11/8/16 21:45
Ethylbenzene	U	10.00	U	2.30	11/8/16 21:45
p & m-Xylene	U	10.00	U	2.30	11/8/16 21:45
1,1,2,2-Tetrachloroethane	U	10.00	U	1.46	11/8/16 21:45
o-Xylene	U	10.00	U	2.30	11/8/16 21:45
1,2,3-Trichloropropane	U	10.00	U	1.66	11/8/16 21:45
Isopropylbenzene	U	10.00	U	2.03	11/8/16 21:45
1,3,5-Trimethylbenzene	U	10.00	U	2.03	11/8/16 21:45
1,2,4-Trimethylbenzene	U	10.00	U	2.03	11/8/16 21:45
1,3-Dichlorobenzene	**949.69 E**	10.00	**157.95 E**	1.66	11/8/16 21:45
1,4-Dichlorobenzene	U	10.00	U	1.66	11/8/16 21:45
1,2-Dichlorobenzene	U	10.00	U	1.66	11/8/16 21:45
1,2,4-Trichlorobenzene	U	10.00	U	1.35	11/8/16 21:45
Naphthalene	U	10.00	U	1.91	11/8/16 21:45
1,2,3-Trichlorobenzene	U	10.00	U	1.35	11/8/16 21:45
2-Methylnaphthalene	U	10.00	U	1.72	11/8/16 21:45

SURROGATES	Percent Recovery	Limits	Lab File ID	Completed
1,2-DCA-d4	**94**	70-130	A16110830	11/8/16 21:45
Toluene-d8	**103**	70-130	A16110830	11/8/16 21:45
Bromofluorobenzene	**107**	70-130	A16110830	11/8/16 21:45

U = Not detected or below Reporting Limit (RL).; J = Estimated value below the RL.; E = Measurement exceeded upper calibration range of instrument.

Table 1

Beacon Environmental Services, Inc.
2203A Commerce Road Suite 1
Forest Hill, MD 21050 USA
Analysis by EPA Method TO-17

Client:
Vista GeoScience
130 Capital Drive, Suite C
Golden, CO

Lab File ID:	A16110832
Beacon Sample ID:	HO200288
Client ID/Sampling Location:	SV-23A
Date Time Collected:	10/27/16 4:57 PM
Matrix:	Soil Gas
Dilution Factor:	1.0
Sample Volume in Liters:	1.00
Date Received:	11/4/2016
Analysis Date:	11/8/2016
Analysis Time:	10:31:00 PM
Beacon Job Number:	3588

	Results	LOQ	Results	LOQ	
COMPOUNDS	ug/m3	ug/m3	ppbv	ppbv	Completed
Vinyl Chloride	U	10.00	U	3.91	11/8/16 22:31
1,1-Dichloroethene	U	10.00	U	2.52	11/8/16 22:31
1,1,2-Trichlorotrifluoroethane (Fr.113)	U	10.00	U	1.30	11/8/16 22:31
trans-1,2-Dichloroethene	U	10.00	U	2.52	11/8/16 22:31
Methyl-t-butyl ether	U	10.00	U	2.77	11/8/16 22:31
1,1-Dichloroethane	U	10.00	U	2.47	11/8/16 22:31
cis-1,2-Dichloroethene	U	10.00	U	2.52	11/8/16 22:31
Chloroform	U	10.00	U	2.05	11/8/16 22:31
1,2-Dichloroethane	U	10.00	U	2.47	11/8/16 22:31
1,1,1-Trichloroethane	U	10.00	U	1.83	11/8/16 22:31
Carbon Tetrachloride	U	10.00	U	1.59	11/8/16 22:31
Benzene	U	10.00	U	3.13	11/8/16 22:31
Trichloroethene	U	10.00	U	1.86	11/8/16 22:31
1,4-Dioxane	**15.2**	10.00	**4.22**	2.77	11/8/16 22:31
1,1,2-Trichloroethane	U	10.00	U	1.83	11/8/16 22:31
Toluene	**28.15**	10.00	**7.47**	2.65	11/8/16 22:31
1,2-Dibromoethane (EDB)	U	10.00	U	1.30	11/8/16 22:31
Tetrachloroethene	U	10.00	U	1.47	11/8/16 22:31
1,1,1,2-Tetrachloroethane	U	10.00	U	1.46	11/8/16 22:31
Chlorobenzene	U	10.00	U	2.17	11/8/16 22:31
Ethylbenzene	U	10.00	U	2.30	11/8/16 22:31
p & m-Xylene	U	10.00	U	2.30	11/8/16 22:31
1,1,2,2-Tetrachloroethane	U	10.00	U	1.46	11/8/16 22:31
o-Xylene	U	10.00	U	2.30	11/8/16 22:31
1,2,3-Trichloropropane	U	10.00	U	1.66	11/8/16 22:31
Isopropylbenzene	U	10.00	U	2.03	11/8/16 22:31
1,3,5-Trimethylbenzene	U	10.00	U	2.03	11/8/16 22:31
1,2,4-Trimethylbenzene	U	10.00	U	2.03	11/8/16 22:31
1,3-Dichlorobenzene	**1,076.85 E**	10.00	**179.1 E**	1.66	11/8/16 22:31
1,4-Dichlorobenzene	U	10.00	U	1.66	11/8/16 22:31
1,2-Dichlorobenzene	U	10.00	U	1.66	11/8/16 22:31
1,2,4-Trichlorobenzene	U	10.00	U	1.35	11/8/16 22:31
Naphthalene	U	10.00	U	1.91	11/8/16 22:31
1,2,3-Trichlorobenzene	U	10.00	U	1.35	11/8/16 22:31
2-Methylnaphthalene	U	10.00	U	1.72	11/8/16 22:31

SURROGATES	Percent Recovery	Limits	Lab File ID	Completed
1,2-DCA-d4	**95**	70-130	A16110832	11/8/16 22:31
Toluene-d8	**101**	70-130	A16110832	11/8/16 22:31
Bromofluorobenzene	**107**	70-130	A16110832	11/8/16 22:31

U = Not detected or below Reporting Limit (RL).; J = Estimated value below the RL.; E = Measurement exceeded upper calibration range of instrument.

Table 1

Beacon Environmental Services, Inc.
2203A Commerce Road Suite 1
Forest Hill, MD 21050 USA
Analysis by EPA Method TO-17

Client:
Vista GeoScience
130 Capital Drive, Suite C
Golden, CO

Lab File ID:	A16110834
Beacon Sample ID:	1049249
Client ID/Sampling Location:	SV-27A
Date Time Collected:	10/27/16 3:55 PM
Matrix:	Soil Gas
Dilution Factor:	1.0
Sample Volume in Liters:	1.00
Date Received:	11/4/2016
Analysis Date:	11/8/2016
Analysis Time:	11:18:00 PM
Beacon Job Number:	3588

	Results	LOQ	Results	LOQ	
COMPOUNDS	ug/m3	ug/m3	ppbv	ppbv	Completed
Vinyl Chloride	U	10.00	U	3.91	11/8/16 23:18
1,1-Dichloroethene	U	10.00	U	2.52	11/8/16 23:18
1,1,2-Trichlorotrifluoroethane (Fr.113)	U	10.00	U	1.30	11/8/16 23:18
trans-1,2-Dichloroethene	U	10.00	U	2.52	11/8/16 23:18
Methyl-t-butyl ether	U	10.00	U	2.77	11/8/16 23:18
1,1-Dichloroethane	U	10.00	U	2.47	11/8/16 23:18
cis-1,2-Dichloroethene	U	10.00	U	2.52	11/8/16 23:18
Chloroform	U	10.00	U	2.05	11/8/16 23:18
1,2-Dichloroethane	U	10.00	U	2.47	11/8/16 23:18
1,1,1-Trichloroethane	U	10.00	U	1.83	11/8/16 23:18
Carbon Tetrachloride	U	10.00	U	1.59	11/8/16 23:18
Benzene	U	10.00	U	3.13	11/8/16 23:18
Trichloroethene	U	10.00	U	1.86	11/8/16 23:18
1,4-Dioxane	U	10.00	U	2.77	11/8/16 23:18
1,1,2-Trichloroethane	U	10.00	U	1.83	11/8/16 23:18
Toluene	**45.91**	10.00	**12.18**	2.65	11/8/16 23:18
1,2-Dibromoethane (EDB)	U	10.00	U	1.30	11/8/16 23:18
Tetrachloroethene	U	10.00	U	1.47	11/8/16 23:18
1,1,1,2-Tetrachloroethane	U	10.00	U	1.46	11/8/16 23:18
Chlorobenzene	U	10.00	U	2.17	11/8/16 23:18
Ethylbenzene	U	10.00	U	2.30	11/8/16 23:18
p & m-Xylene	U	10.00	U	2.30	11/8/16 23:18
1,1,2,2-Tetrachloroethane	U	10.00	U	1.46	11/8/16 23:18
o-Xylene	U	10.00	U	2.30	11/8/16 23:18
1,2,3-Trichloropropane	U	10.00	U	1.66	11/8/16 23:18
Isopropylbenzene	U	10.00	U	2.03	11/8/16 23:18
1,3,5-Trimethylbenzene	U	10.00	U	2.03	11/8/16 23:18
1,2,4-Trimethylbenzene	U	10.00	U	2.03	11/8/16 23:18
1,3-Dichlorobenzene	**876.94 E**	10.00	**145.85 E**	1.66	11/8/16 23:18
1,4-Dichlorobenzene	U	10.00	U	1.66	11/8/16 23:18
1,2-Dichlorobenzene	U	10.00	U	1.66	11/8/16 23:18
1,2,4-Trichlorobenzene	U	10.00	U	1.35	11/8/16 23:18
Naphthalene	U	10.00	U	1.91	11/8/16 23:18
1,2,3-Trichlorobenzene	U	10.00	U	1.35	11/8/16 23:18
2-Methylnaphthalene	U	10.00	U	1.72	11/8/16 23:18

SURROGATES	Percent Recovery	Limits	Lab File ID	Completed
1,2-DCA-d4	**95**	70-130	A16110834	11/8/16 23:18
Toluene-d8	**104**	70-130	A16110834	11/8/16 23:18
Bromofluorobenzene	**107**	70-130	A16110834	11/8/16 23:18

U = Not detected or below Reporting Limit (RL).; J = Estimated value below the RL.; E = Measurement exceeded upper calibration range of instrument.

Table 1

Beacon Environmental Services, Inc.
2203A Commerce Road Suite 1
Forest Hill, MD 21050 USA
Analysis by EPA Method TO-17

Client:
Vista GeoScience
130 Capital Drive, Suite C
Golden, CO

Lab File ID:	A16110836
Beacon Sample ID:	1100863
Client ID/Sampling Location:	SV-28A
Date Time Collected:	10/27/16 3:26 PM
Matrix:	Soil Gas
Dilution Factor:	1.0
Sample Volume in Liters:	1.00
Date Received:	11/4/2016
Analysis Date:	11/9/2016
Analysis Time:	12:07:00 AM
Beacon Job Number:	3588

	Results	LOQ	Results	LOQ	
COMPOUNDS	ug/m3	ug/m3	ppbv	ppbv	Completed
Vinyl Chloride	U	10.00	U	3.91	11/9/16 0:07
1,1-Dichloroethene	U	10.00	U	2.52	11/9/16 0:07
1,1,2-Trichlorotrifluoroethane (Fr.113)	U	10.00	U	1.30	11/9/16 0:07
trans-1,2-Dichloroethene	U	10.00	U	2.52	11/9/16 0:07
Methyl-t-butyl ether	U	10.00	U	2.77	11/9/16 0:07
1,1-Dichloroethane	U	10.00	U	2.47	11/9/16 0:07
cis-1,2-Dichloroethene	U	10.00	U	2.52	11/9/16 0:07
Chloroform	U	10.00	U	2.05	11/9/16 0:07
1,2-Dichloroethane	U	10.00	U	2.47	11/9/16 0:07
1,1,1-Trichloroethane	U	10.00	U	1.83	11/9/16 0:07
Carbon Tetrachloride	U	10.00	U	1.59	11/9/16 0:07
Benzene	U	10.00	U	3.13	11/9/16 0:07
Trichloroethene	U	10.00	U	1.86	11/9/16 0:07
1,4-Dioxane	U	10.00	U	2.77	11/9/16 0:07
1,1,2-Trichloroethane	U	10.00	U	1.83	11/9/16 0:07
Toluene	**47.19**	10.00	**12.52**	2.65	11/9/16 0:07
1,2-Dibromoethane (EDB)	U	10.00	U	1.30	11/9/16 0:07
Tetrachloroethene	U	10.00	U	1.47	11/9/16 0:07
1,1,1,2-Tetrachloroethane	U	10.00	U	1.46	11/9/16 0:07
Chlorobenzene	U	10.00	U	2.17	11/9/16 0:07
Ethylbenzene	U	10.00	U	2.30	11/9/16 0:07
p & m-Xylene	U	10.00	U	2.30	11/9/16 0:07
1,1,2,2-Tetrachloroethane	U	10.00	U	1.46	11/9/16 0:07
o-Xylene	U	10.00	U	2.30	11/9/16 0:07
1,2,3-Trichloropropane	U	10.00	U	1.66	11/9/16 0:07
Isopropylbenzene	U	10.00	U	2.03	11/9/16 0:07
1,3,5-Trimethylbenzene	U	10.00	U	2.03	11/9/16 0:07
1,2,4-Trimethylbenzene	U	10.00	U	2.03	11/9/16 0:07
1,3-Dichlorobenzene	**1,179.27 E**	10.00	**196.13 E**	1.66	11/9/16 0:07
1,4-Dichlorobenzene	U	10.00	U	1.66	11/9/16 0:07
1,2-Dichlorobenzene	U	10.00	U	1.66	11/9/16 0:07
1,2,4-Trichlorobenzene	U	10.00	U	1.35	11/9/16 0:07
Naphthalene	U	10.00	U	1.91	11/9/16 0:07
1,2,3-Trichlorobenzene	U	10.00	U	1.35	11/9/16 0:07
2-Methylnaphthalene	U	10.00	U	1.72	11/9/16 0:07

SURROGATES	Percent Recovery	Limits	Lab File ID	Completed
1,2-DCA-d4	**93**	70-130	A16110836	11/9/16 0:07
Toluene-d8	**104**	70-130	A16110836	11/9/16 0:07
Bromofluorobenzene	**107**	70-130	A16110836	11/9/16 0:07

U = Not detected or below Reporting Limit (RL).; J = Estimated value below the RL.; E = Measurement exceeded upper calibration range of instrument.

Table 1

Beacon Environmental Services, Inc.
2203A Commerce Road Suite 1
Forest Hill, MD 21050 USA
Analysis by EPA Method TO-17

Client:
Vista GeoScience
130 Capital Drive, Suite C
Golden, CO

Lab File ID:	A16110838
Beacon Sample ID:	HO200227
Client ID/Sampling Location:	SV-29A
Date Time Collected:	10/27/16 3:00 PM
Matrix:	Soil Gas
Dilution Factor:	1.0
Sample Volume in Liters:	1.00
Date Received:	11/4/2016
Analysis Date:	11/9/2016
Analysis Time:	12:53:00 AM
Beacon Job Number:	3588

	Results	LOQ	Results	LOQ	
COMPOUNDS	ug/m3	ug/m3	ppbv	ppbv	Completed
Vinyl Chloride	U	10.00	U	3.91	11/9/16 0:53
1,1-Dichloroethene	U	10.00	U	2.52	11/9/16 0:53
1,1,2-Trichlorotrifluoroethane (Fr.113)	U	10.00	U	1.30	11/9/16 0:53
trans-1,2-Dichloroethene	U	10.00	U	2.52	11/9/16 0:53
Methyl-t-butyl ether	U	10.00	U	2.77	11/9/16 0:53
1,1-Dichloroethane	U	10.00	U	2.47	11/9/16 0:53
cis-1,2-Dichloroethene	U	10.00	U	2.52	11/9/16 0:53
Chloroform	U	10.00	U	2.05	11/9/16 0:53
1,2-Dichloroethane	U	10.00	U	2.47	11/9/16 0:53
1,1,1-Trichloroethane	U	10.00	U	1.83	11/9/16 0:53
Carbon Tetrachloride	U	10.00	U	1.59	11/9/16 0:53
Benzene	U	10.00	U	3.13	11/9/16 0:53
Trichloroethene	U	10.00	U	1.86	11/9/16 0:53
1,4-Dioxane	**15.66**	10.00	**4.35**	2.77	11/9/16 0:53
1,1,2-Trichloroethane	U	10.00	U	1.83	11/9/16 0:53
Toluene	**56.02**	10.00	**14.87**	2.65	11/9/16 0:53
1,2-Dibromoethane (EDB)	U	10.00	U	1.30	11/9/16 0:53
Tetrachloroethene	U	10.00	U	1.47	11/9/16 0:53
1,1,1,2-Tetrachloroethane	U	10.00	U	1.46	11/9/16 0:53
Chlorobenzene	U	10.00	U	2.17	11/9/16 0:53
Ethylbenzene	U	10.00	U	2.30	11/9/16 0:53
p & m-Xylene	**27.0**	10.00	**6.22**	2.30	11/9/16 0:53
1,1,2,2-Tetrachloroethane	U	10.00	U	1.46	11/9/16 0:53
o-Xylene	U	10.00	U	2.30	11/9/16 0:53
1,2,3-Trichloropropane	U	10.00	U	1.66	11/9/16 0:53
Isopropylbenzene	U	10.00	U	2.03	11/9/16 0:53
1,3,5-Trimethylbenzene	U	10.00	U	2.03	11/9/16 0:53
1,2,4-Trimethylbenzene	U	10.00	U	2.03	11/9/16 0:53
1,3-Dichlorobenzene	**10.06**	10.00	**1.67**	1.66	11/9/16 0:53
1,4-Dichlorobenzene	U	10.00	U	1.66	11/9/16 0:53
1,2-Dichlorobenzene	U	10.00	U	1.66	11/9/16 0:53
1,2,4-Trichlorobenzene	U	10.00	U	1.35	11/9/16 0:53
Naphthalene	**19.48**	10.00	**3.72**	1.91	11/9/16 0:53
1,2,3-Trichlorobenzene	U	10.00	U	1.35	11/9/16 0:53
2-Methylnaphthalene	U	10.00	U	1.72	11/9/16 0:53

SURROGATES	Percent Recovery	Limits	Lab File ID	Completed
1,2-DCA-d4	**94**	70-130	A16110838	11/9/16 0:53
Toluene-d8	**103**	70-130	A16110838	11/9/16 0:53
Bromofluorobenzene	**108**	70-130	A16110838	11/9/16 0:53

U = Not detected or below Reporting Limit (RL).; J = Estimated value below the RL.; E = Measurement exceeded upper calibration range of instrument.

Table 1

Beacon Environmental Services, Inc.
2203A Commerce Road Suite 1
Forest Hill, MD 21050 USA
Analysis by EPA Method TO-17

Client:
Vista GeoScience
130 Capital Drive, Suite C
Golden, CO

Lab File ID:	A16110840
Beacon Sample ID:	GO167057
Client ID/Sampling Location:	SV-30A
Date Time Collected:	10/27/16 2:35 PM
Matrix:	Soil Gas
Dilution Factor:	1.0
Sample Volume in Liters:	1.00
Date Received:	11/4/2016
Analysis Date:	11/9/2016
Analysis Time:	1:39:00 AM
Beacon Job Number:	3588

	Results	LOQ	Results	LOQ	
COMPOUNDS	ug/m3	ug/m3	ppbv	ppbv	Completed
Vinyl Chloride	U	10.00	U	3.91	11/9/16 1:39
1,1-Dichloroethene	U	10.00	U	2.52	11/9/16 1:39
1,1,2-Trichlorotrifluoroethane (Fr.113)	U	10.00	U	1.30	11/9/16 1:39
trans-1,2-Dichloroethene	U	10.00	U	2.52	11/9/16 1:39
Methyl-t-butyl ether	U	10.00	U	2.77	11/9/16 1:39
1,1-Dichloroethane	U	10.00	U	2.47	11/9/16 1:39
cis-1,2-Dichloroethene	U	10.00	U	2.52	11/9/16 1:39
Chloroform	U	10.00	U	2.05	11/9/16 1:39
1,2-Dichloroethane	U	10.00	U	2.47	11/9/16 1:39
1,1,1-Trichloroethane	U	10.00	U	1.83	11/9/16 1:39
Carbon Tetrachloride	U	10.00	U	1.59	11/9/16 1:39
Benzene	U	10.00	U	3.13	11/9/16 1:39
Trichloroethene	U	10.00	U	1.86	11/9/16 1:39
1,4-Dioxane	**11.0**	10.00	**3.05**	2.77	11/9/16 1:39
1,1,2-Trichloroethane	U	10.00	U	1.83	11/9/16 1:39
Toluene	**42.76**	10.00	**11.35**	2.65	11/9/16 1:39
1,2-Dibromoethane (EDB)	U	10.00	U	1.30	11/9/16 1:39
Tetrachloroethene	U	10.00	U	1.47	11/9/16 1:39
1,1,1,2-Tetrachloroethane	U	10.00	U	1.46	11/9/16 1:39
Chlorobenzene	U	10.00	U	2.17	11/9/16 1:39
Ethylbenzene	U	10.00	U	2.30	11/9/16 1:39
p & m-Xylene	**23.3**	10.00	**5.37**	2.30	11/9/16 1:39
1,1,2,2-Tetrachloroethane	U	10.00	U	1.46	11/9/16 1:39
o-Xylene	U	10.00	U	2.30	11/9/16 1:39
1,2,3-Trichloropropane	U	10.00	U	1.66	11/9/16 1:39
Isopropylbenzene	U	10.00	U	2.03	11/9/16 1:39
1,3,5-Trimethylbenzene	U	10.00	U	2.03	11/9/16 1:39
1,2,4-Trimethylbenzene	U	10.00	U	2.03	11/9/16 1:39
1,3-Dichlorobenzene	U	10.00	U	1.66	11/9/16 1:39
1,4-Dichlorobenzene	U	10.00	U	1.66	11/9/16 1:39
1,2-Dichlorobenzene	U	10.00	U	1.66	11/9/16 1:39
1,2,4-Trichlorobenzene	U	10.00	U	1.35	11/9/16 1:39
Naphthalene	**13.26**	10.00	**2.53**	1.91	11/9/16 1:39
1,2,3-Trichlorobenzene	U	10.00	U	1.35	11/9/16 1:39
2-Methylnaphthalene	U	10.00	U	1.72	11/9/16 1:39

SURROGATES	Percent Recovery	Limits	Lab File ID	Completed
1,2-DCA-d4	**93**	70-130	A16110840	11/9/16 1:39
Toluene-d8	**103**	70-130	A16110840	11/9/16 1:39
Bromofluorobenzene	**107**	70-130	A16110840	11/9/16 1:39

U = Not detected or below Reporting Limit (RL).; J = Estimated value below the RL.; E = Measurement exceeded upper calibration range of instrument.

Table 1

Beacon Environmental Services, Inc.
2203A Commerce Road Suite 1
Forest Hill, MD 21050 USA
Analysis by EPA Method TO-17

Client:
Vista GeoScience
130 Capital Drive, Suite C
Golden, CO

Lab File ID:	A16110842
Beacon Sample ID:	HO200236
Client ID/Sampling Location:	SV-31A
Date Time Collected:	10/27/16 2:03 PM
Matrix:	Soil Gas
Dilution Factor:	1.0
Sample Volume in Liters:	1.00
Date Received:	11/4/2016
Analysis Date:	11/9/2016
Analysis Time:	2:26:00 AM
Beacon Job Number:	3588

	Results	LOQ	Results	LOQ	
COMPOUNDS	ug/m3	ug/m3	ppbv	ppbv	Completed
Vinyl Chloride	U	10.00	U	3.91	11/9/16 2:26
1,1-Dichloroethene	U	10.00	U	2.52	11/9/16 2:26
1,1,2-Trichlorotrifluoroethane (Fr.113)	U	10.00	U	1.30	11/9/16 2:26
trans-1,2-Dichloroethene	U	10.00	U	2.52	11/9/16 2:26
Methyl-t-butyl ether	U	10.00	U	2.77	11/9/16 2:26
1,1-Dichloroethane	U	10.00	U	2.47	11/9/16 2:26
cis-1,2-Dichloroethene	U	10.00	U	2.52	11/9/16 2:26
Chloroform	U	10.00	U	2.05	11/9/16 2:26
1,2-Dichloroethane	U	10.00	U	2.47	11/9/16 2:26
1,1,1-Trichloroethane	U	10.00	U	1.83	11/9/16 2:26
Carbon Tetrachloride	U	10.00	U	1.59	11/9/16 2:26
Benzene	U	10.00	U	3.13	11/9/16 2:26
Trichloroethene	U	10.00	U	1.86	11/9/16 2:26
1,4-Dioxane	**20.36**	10.00	**5.65**	2.77	11/9/16 2:26
1,1,2-Trichloroethane	U	10.00	U	1.83	11/9/16 2:26
Toluene	**40.32**	10.00	**10.7**	2.65	11/9/16 2:26
1,2-Dibromoethane (EDB)	U	10.00	U	1.30	11/9/16 2:26
Tetrachloroethene	U	10.00	U	1.47	11/9/16 2:26
1,1,1,2-Tetrachloroethane	U	10.00	U	1.46	11/9/16 2:26
Chlorobenzene	U	10.00	U	2.17	11/9/16 2:26
Ethylbenzene	U	10.00	U	2.30	11/9/16 2:26
p & m-Xylene	**20.18**	10.00	**4.65**	2.30	11/9/16 2:26
1,1,2,2-Tetrachloroethane	U	10.00	U	1.46	11/9/16 2:26
o-Xylene	U	10.00	U	2.30	11/9/16 2:26
1,2,3-Trichloropropane	U	10.00	U	1.66	11/9/16 2:26
Isopropylbenzene	U	10.00	U	2.03	11/9/16 2:26
1,3,5-Trimethylbenzene	U	10.00	U	2.03	11/9/16 2:26
1,2,4-Trimethylbenzene	U	10.00	U	2.03	11/9/16 2:26
1,3-Dichlorobenzene	U	10.00	U	1.66	11/9/16 2:26
1,4-Dichlorobenzene	U	10.00	U	1.66	11/9/16 2:26
1,2-Dichlorobenzene	U	10.00	U	1.66	11/9/16 2:26
1,2,4-Trichlorobenzene	U	10.00	U	1.35	11/9/16 2:26
Naphthalene	**12.89**	10.00	**2.46**	1.91	11/9/16 2:26
1,2,3-Trichlorobenzene	U	10.00	U	1.35	11/9/16 2:26
2-Methylnaphthalene	U	10.00	U	1.72	11/9/16 2:26

SURROGATES	Percent Recovery	Limits	Lab File ID	Completed
1,2-DCA-d4	**92**	70-130	A16110842	11/9/16 2:26
Toluene-d8	**103**	70-130	A16110842	11/9/16 2:26
Bromofluorobenzene	**108**	70-130	A16110842	11/9/16 2:26

U = Not detected or below Reporting Limit (RL).; J = Estimated value below the RL.; E = Measurement exceeded upper calibration range of instrument.

Table 1

Beacon Environmental Services, Inc.
2203A Commerce Road Suite 1
Forest Hill, MD 21050 USA
Analysis by EPA Method TO-17

Client:
Vista GeoScience
130 Capital Drive, Suite C
Golden, CO

Lab File ID:	A16110844
Beacon Sample ID:	GO164954
Client ID/Sampling Location:	SV-32A
Date Time Collected:	10/27/16 1:36 PM
Matrix:	Soil Gas
Dilution Factor:	1.0
Sample Volume in Liters:	1.00
Date Received:	11/4/2016
Analysis Date:	11/9/2016
Analysis Time:	3:13:00 AM
Beacon Job Number:	3588

	Results	LOQ	Results	LOQ	
COMPOUNDS	ug/m3	ug/m3	ppbv	ppbv	Completed
Vinyl Chloride	U	10.00	U	3.91	11/9/16 3:13
1,1-Dichloroethene	U	10.00	U	2.52	11/9/16 3:13
1,1,2-Trichlorotrifluoroethane (Fr.113)	U	10.00	U	1.30	11/9/16 3:13
trans-1,2-Dichloroethene	U	10.00	U	2.52	11/9/16 3:13
Methyl-t-butyl ether	U	10.00	U	2.77	11/9/16 3:13
1,1-Dichloroethane	U	10.00	U	2.47	11/9/16 3:13
cis-1,2-Dichloroethene	U	10.00	U	2.52	11/9/16 3:13
Chloroform	U	10.00	U	2.05	11/9/16 3:13
1,2-Dichloroethane	U	10.00	U	2.47	11/9/16 3:13
1,1,1-Trichloroethane	U	10.00	U	1.83	11/9/16 3:13
Carbon Tetrachloride	U	10.00	U	1.59	11/9/16 3:13
Benzene	U	10.00	U	3.13	11/9/16 3:13
Trichloroethene	U	10.00	U	1.86	11/9/16 3:13
1,4-Dioxane	**13.64**	10.00	**3.79**	2.77	11/9/16 3:13
1,1,2-Trichloroethane	U	10.00	U	1.83	11/9/16 3:13
Toluene	**48.76**	10.00	**12.94**	2.65	11/9/16 3:13
1,2-Dibromoethane (EDB)	U	10.00	U	1.30	11/9/16 3:13
Tetrachloroethene	U	10.00	U	1.47	11/9/16 3:13
1,1,1,2-Tetrachloroethane	U	10.00	U	1.46	11/9/16 3:13
Chlorobenzene	U	10.00	U	2.17	11/9/16 3:13
Ethylbenzene	U	10.00	U	2.30	11/9/16 3:13
p & m-Xylene	**22.89**	10.00	**5.27**	2.30	11/9/16 3:13
1,1,2,2-Tetrachloroethane	U	10.00	U	1.46	11/9/16 3:13
o-Xylene	U	10.00	U	2.30	11/9/16 3:13
1,2,3-Trichloropropane	U	10.00	U	1.66	11/9/16 3:13
Isopropylbenzene	U	10.00	U	2.03	11/9/16 3:13
1,3,5-Trimethylbenzene	U	10.00	U	2.03	11/9/16 3:13
1,2,4-Trimethylbenzene	U	10.00	U	2.03	11/9/16 3:13
1,3-Dichlorobenzene	U	10.00	U	1.66	11/9/16 3:13
1,4-Dichlorobenzene	U	10.00	U	1.66	11/9/16 3:13
1,2-Dichlorobenzene	U	10.00	U	1.66	11/9/16 3:13
1,2,4-Trichlorobenzene	U	10.00	U	1.35	11/9/16 3:13
Naphthalene	**12.38**	10.00	**2.36**	1.91	11/9/16 3:13
1,2,3-Trichlorobenzene	U	10.00	U	1.35	11/9/16 3:13
2-Methylnaphthalene	U	10.00	U	1.72	11/9/16 3:13

SURROGATES	Percent Recovery	Limits	Lab File ID	Completed
1,2-DCA-d4	**93**	70-130	A16110844	11/9/16 3:13
Toluene-d8	**103**	70-130	A16110844	11/9/16 3:13
Bromofluorobenzene	**108**	70-130	A16110844	11/9/16 3:13

U = Not detected or below Reporting Limit (RL).; J = Estimated value below the RL.; E = Measurement exceeded upper calibration range of instrument.

Table 1

Beacon Environmental Services, Inc.
2203A Commerce Road Suite 1
Forest Hill, MD 21050 USA
Analysis by EPA Method TO-17

Client:
Vista GeoScience
130 Capital Drive, Suite C
Golden, CO

Lab File ID:	A16110903
Beacon Sample ID:	LCS_161109a
Client ID/Sampling Location:	
Date Time Collected:	
Matrix:	
Dilution Factor:	1.0
Sample Volume in Liters:	1.00
Date Received:	
Analysis Date:	11/9/2016
Analysis Time:	12:07:00 PM
Beacon Job Number:	

	Results	Units	Completed	Limits
COMPOUNDS				
Vinyl Chloride	**92%**	%REC	11/9/16 12:07	80-120
1,1-Dichloroethene	**100%**	%REC	11/9/16 12:07	80-120
1,1,2-Trichlorotrifluoroethane (Fr.113)	**83%**	%REC	11/9/16 12:07	80-120
trans-1,2-Dichloroethene	**103%**	%REC	11/9/16 12:07	80-120
Methyl-t-butyl ether	**89%**	%REC	11/9/16 12:07	80-120
1,1-Dichloroethane	**102%**	%REC	11/9/16 12:07	80-120
cis-1,2-Dichloroethene	**104%**	%REC	11/9/16 12:07	80-120
Chloroform	**101%**	%REC	11/9/16 12:07	80-120
1,2-Dichloroethane	**98%**	%REC	11/9/16 12:07	80-120
1,1,1-Trichloroethane	**91%**	%REC	11/9/16 12:07	80-120
Carbon Tetrachloride	**93%**	%REC	11/9/16 12:07	80-120
Benzene	**98%**	%REC	11/9/16 12:07	80-120
Trichloroethene	**105%**	%REC	11/9/16 12:07	80-120
1,4-Dioxane	**106%**	%REC	11/9/16 12:07	80-120
1,1,2-Trichloroethane	**105%**	%REC	11/9/16 12:07	80-120
Toluene	**114%**	%REC	11/9/16 12:07	80-120
1,2-Dibromoethane (EDB)	**111%**	%REC	11/9/16 12:07	80-120
Tetrachloroethene	**94%**	%REC	11/9/16 12:07	80-120
1,1,1,2-Tetrachloroethane	**99%**	%REC	11/9/16 12:07	80-120
Chlorobenzene	**100%**	%REC	11/9/16 12:07	80-120
Ethylbenzene	**103%**	%REC	11/9/16 12:07	80-120
p & m-Xylene	**105%**	%REC	11/9/16 12:07	80-120
1,1,2,2-Tetrachloroethane	**97%**	%REC	11/9/16 12:07	80-120
o-Xylene	**99%**	%REC	11/9/16 12:07	80-120
1,2,3-Trichloropropane	**95%**	%REC	11/9/16 12:07	80-120
Isopropylbenzene	**98%**	%REC	11/9/16 12:07	80-120
1,3,5-Trimethylbenzene	**111%**	%REC	11/9/16 12:07	80-120
1,2,4-Trimethylbenzene	**102%**	%REC	11/9/16 12:07	80-120
1,3-Dichlorobenzene	**104%**	%REC	11/9/16 12:07	80-120
1,4-Dichlorobenzene	**101%**	%REC	11/9/16 12:07	80-120
1,2-Dichlorobenzene	**105%**	%REC	11/9/16 12:07	80-120
1,2,4-Trichlorobenzene	**112%**	%REC	11/9/16 12:07	80-120
Naphthalene	**109%**	%REC	11/9/16 12:07	80-120
1,2,3-Trichlorobenzene	**109%**	%REC	11/9/16 12:07	80-120
2-Methylnaphthalene	**99%**	%REC	11/9/16 12:07	80-120

SURROGATES	Percent Recovery	Limits	Completed	Lab File ID
1,2-DCA-d4	**105**	70-130	11/9/16 12:07	A16110903
Toluene-d8	**109**	70-130	11/9/16 12:07	A16110903
Bromofluorobenzene	**109**	70-130	11/9/16 12:07	A16110903

U = Not detected or below Reporting Limit (RL).; J = Estimated value below the RL.; E = Measurement exceeded upper calibration range of instrument.

Table 1

Beacon Environmental Services, Inc.
2203A Commerce Road Suite 1
Forest Hill, MD 21050 USA
Analysis by EPA Method TO-17

Client:
Vista GeoScience
130 Capital Drive, Suite C
Golden, CO

Lab File ID:	A16110904
Beacon Sample ID:	LB_161109a
Client ID/Sampling Location:	
Date Time Collected:	
Matrix:	
Dilution Factor:	1.0
Sample Volume in Liters:	1.00
Date Received:	
Analysis Date:	11/9/2016
Analysis Time:	12:31:00 PM
Beacon Job Number:	

	Results	LOQ	Results	LOQ	
COMPOUNDS	ug/m3	ug/m3	ppbv	ppbv	Completed
Vinyl Chloride	U	10.00	U	3.91	11/9/16 12:31
1,1-Dichloroethene	U	10.00	U	2.52	11/9/16 12:31
1,1,2-Trichlorotrifluoroethane (Fr.113)	U	10.00	U	1.30	11/9/16 12:31
trans-1,2-Dichloroethene	U	10.00	U	2.52	11/9/16 12:31
Methyl-t-butyl ether	U	10.00	U	2.77	11/9/16 12:31
1,1-Dichloroethane	U	10.00	U	2.47	11/9/16 12:31
cis-1,2-Dichloroethene	U	10.00	U	2.52	11/9/16 12:31
Chloroform	U	10.00	U	2.05	11/9/16 12:31
1,2-Dichloroethane	U	10.00	U	2.47	11/9/16 12:31
1,1,1-Trichloroethane	U	10.00	U	1.83	11/9/16 12:31
Carbon Tetrachloride	U	10.00	U	1.59	11/9/16 12:31
Benzene	U	10.00	U	3.13	11/9/16 12:31
Trichloroethene	U	10.00	U	1.86	11/9/16 12:31
1,4-Dioxane	U	10.00	U	2.77	11/9/16 12:31
1,1,2-Trichloroethane	U	10.00	U	1.83	11/9/16 12:31
Toluene	U	10.00	U	2.65	11/9/16 12:31
1,2-Dibromoethane (EDB)	U	10.00	U	1.30	11/9/16 12:31
Tetrachloroethene	U	10.00	U	1.47	11/9/16 12:31
1,1,1,2-Tetrachloroethane	U	10.00	U	1.46	11/9/16 12:31
Chlorobenzene	U	10.00	U	2.17	11/9/16 12:31
Ethylbenzene	U	10.00	U	2.30	11/9/16 12:31
p & m-Xylene	U	10.00	U	2.30	11/9/16 12:31
1,1,2,2-Tetrachloroethane	U	10.00	U	1.46	11/9/16 12:31
o-Xylene	U	10.00	U	2.30	11/9/16 12:31
1,2,3-Trichloropropane	U	10.00	U	1.66	11/9/16 12:31
Isopropylbenzene	U	10.00	U	2.03	11/9/16 12:31
1,3,5-Trimethylbenzene	U	10.00	U	2.03	11/9/16 12:31
1,2,4-Trimethylbenzene	U	10.00	U	2.03	11/9/16 12:31
1,3-Dichlorobenzene	U	10.00	U	1.66	11/9/16 12:31
1,4-Dichlorobenzene	U	10.00	U	1.66	11/9/16 12:31
1,2-Dichlorobenzene	U	10.00	U	1.66	11/9/16 12:31
1,2,4-Trichlorobenzene	U	10.00	U	1.35	11/9/16 12:31
Naphthalene	U	10.00	U	1.91	11/9/16 12:31
1,2,3-Trichlorobenzene	U	10.00	U	1.35	11/9/16 12:31
2-Methylnaphthalene	U	10.00	U	1.72	11/9/16 12:31

SURROGATES	Percent Recovery	Limits	Lab File ID	Completed
1,2-DCA-d4	**102**	70-130	A16110904	11/9/16 12:31
Toluene-d8	**106**	70-130	A16110904	11/9/16 12:31
Bromofluorobenzene	**101**	70-130	A16110904	11/9/16 12:31

U = Not detected or below Reporting Limit (RL).; J = Estimated value below the RL.; E = Measurement exceeded upper calibration range of instrument.

Table 1

Beacon Environmental Services, Inc.
2203A Commerce Road Suite 1
Forest Hill, MD 21050 USA
Analysis by EPA Method TO-17

Client:
Vista GeoScience
130 Capital Drive, Suite C
Golden, CO

Lab File ID:	A16110905
Beacon Sample ID:	LCSD_161109a
Client ID/Sampling Location:	
Date Time Collected:	
Matrix:	
Dilution Factor:	1.0
Sample Volume in Liters:	1.00
Date Received:	
Analysis Date:	11/9/2016
Analysis Time:	12:54:00 PM
Beacon Job Number:	

	Results	Units	Completed	Limits
COMPOUNDS				
Vinyl Chloride	**89%**	%REC	11/9/16 12:54	70-130
1,1-Dichloroethene	**90%**	%REC	11/9/16 12:54	70-130
1,1,2-Trichlorotrifluoroethane (Fr.113)	**74%**	%REC	11/9/16 12:54	70-130
trans-1,2-Dichloroethene	**103%**	%REC	11/9/16 12:54	70-130
Methyl-t-butyl ether	**86%**	%REC	11/9/16 12:54	70-130
1,1-Dichloroethane	**106%**	%REC	11/9/16 12:54	70-130
cis-1,2-Dichloroethene	**104%**	%REC	11/9/16 12:54	70-130
Chloroform	**104%**	%REC	11/9/16 12:54	70-130
1,2-Dichloroethane	**97%**	%REC	11/9/16 12:54	70-130
1,1,1-Trichloroethane	**89%**	%REC	11/9/16 12:54	70-130
Carbon Tetrachloride	**89%**	%REC	11/9/16 12:54	70-130
Benzene	**100%**	%REC	11/9/16 12:54	70-130
Trichloroethene	**106%**	%REC	11/9/16 12:54	70-130
1,4-Dioxane	**108%**	%REC	11/9/16 12:54	70-130
1,1,2-Trichloroethane	**106%**	%REC	11/9/16 12:54	70-130
Toluene	**108%**	%REC	11/9/16 12:54	70-130
1,2-Dibromoethane (EDB)	**111%**	%REC	11/9/16 12:54	70-130
Tetrachloroethene	**97%**	%REC	11/9/16 12:54	70-130
1,1,1,2-Tetrachloroethane	**100%**	%REC	11/9/16 12:54	70-130
Chlorobenzene	**102%**	%REC	11/9/16 12:54	70-130
Ethylbenzene	**100%**	%REC	11/9/16 12:54	70-130
p & m-Xylene	**99%**	%REC	11/9/16 12:54	70-130
1,1,2,2-Tetrachloroethane	**100%**	%REC	11/9/16 12:54	70-130
o-Xylene	**97%**	%REC	11/9/16 12:54	70-130
1,2,3-Trichloropropane	**97%**	%REC	11/9/16 12:54	70-130
Isopropylbenzene	**98%**	%REC	11/9/16 12:54	70-130
1,3,5-Trimethylbenzene	**108%**	%REC	11/9/16 12:54	70-130
1,2,4-Trimethylbenzene	**99%**	%REC	11/9/16 12:54	70-130
1,3-Dichlorobenzene	**102%**	%REC	11/9/16 12:54	70-130
1,4-Dichlorobenzene	**104%**	%REC	11/9/16 12:54	70-130
1,2-Dichlorobenzene	**103%**	%REC	11/9/16 12:54	70-130
1,2,4-Trichlorobenzene	**111%**	%REC	11/9/16 12:54	70-130
Naphthalene	**106%**	%REC	11/9/16 12:54	70-130
1,2,3-Trichlorobenzene	**104%**	%REC	11/9/16 12:54	70-130
2-Methylnaphthalene	**98%**	%REC	11/9/16 12:54	70-130

SURROGATES	Percent Recovery	Limits	Completed	Lab File ID
1,2-DCA-d4	**99**	70-130	11/9/16 12:54	A16110905
Toluene-d8	**110**	70-130	11/9/16 12:54	A16110905
Bromofluorobenzene	**104**	70-130	11/9/16 12:54	A16110905

U = Not detected or below Reporting Limit (RL).; J = Estimated value below the RL.; E = Measurement exceeded upper calibration range of instrument.

Table 1

Beacon Environmental Services, Inc.
2203A Commerce Road Suite 1
Forest Hill, MD 21050 USA
Analysis by EPA Method TO-17

Client:
Vista GeoScience
130 Capital Drive, Suite C
Golden, CO

Lab File ID:	A16110906
Beacon Sample ID:	H0199658
Client ID/Sampling Location:	SV-08-04
Date Time Collected:	10/31/16 4:14 PM
Matrix:	Soil Gas
Dilution Factor:	1.0
Sample Volume in Liters:	1.00
Date Received:	11/8/2016
Analysis Date:	11/9/2016
Analysis Time:	1:19:00 PM
Beacon Job Number:	3588B

	Results	LOQ	Results	LOQ	
COMPOUNDS	ug/m3	ug/m3	ppbv	ppbv	Completed
Vinyl Chloride	U	10.00	U	3.91	11/9/16 13:19
1,1-Dichloroethene	U	10.00	U	2.52	11/9/16 13:19
1,1,2-Trichlorotrifluoroethane (Fr.113)	U	10.00	U	1.30	11/9/16 13:19
trans-1,2-Dichloroethene	U	10.00	U	2.52	11/9/16 13:19
Methyl-t-butyl ether	U	10.00	U	2.77	11/9/16 13:19
1,1-Dichloroethane	U	10.00	U	2.47	11/9/16 13:19
cis-1,2-Dichloroethene	U	10.00	U	2.52	11/9/16 13:19
Chloroform	U	10.00	U	2.05	11/9/16 13:19
1,2-Dichloroethane	U	10.00	U	2.47	11/9/16 13:19
1,1,1-Trichloroethane	**13.15**	10.00	**2.41**	1.83	11/9/16 13:19
Carbon Tetrachloride	U	10.00	U	1.59	11/9/16 13:19
Benzene	**10.57**	10.00	**3.31**	3.13	11/9/16 13:19
Trichloroethene	U	10.00	U	1.86	11/9/16 13:19
1,4-Dioxane	**15.33**	10.00	**4.25**	2.77	11/9/16 13:19
1,1,2-Trichloroethane	U	10.00	U	1.83	11/9/16 13:19
Toluene	**57.07**	10.00	**15.15**	2.65	11/9/16 13:19
1,2-Dibromoethane (EDB)	U	10.00	U	1.30	11/9/16 13:19
Tetrachloroethene	U	10.00	U	1.47	11/9/16 13:19
1,1,1,2-Tetrachloroethane	U	10.00	U	1.46	11/9/16 13:19
Chlorobenzene	U	10.00	U	2.17	11/9/16 13:19
Ethylbenzene	U	10.00	U	2.30	11/9/16 13:19
p & m-Xylene	**11.15**	10.00	**2.57**	2.30	11/9/16 13:19
1,1,2,2-Tetrachloroethane	U	10.00	U	1.46	11/9/16 13:19
o-Xylene	U	10.00	U	2.30	11/9/16 13:19
1,2,3-Trichloropropane	U	10.00	U	1.66	11/9/16 13:19
Isopropylbenzene	U	10.00	U	2.03	11/9/16 13:19
1,3,5-Trimethylbenzene	U	10.00	U	2.03	11/9/16 13:19
1,2,4-Trimethylbenzene	U	10.00	U	2.03	11/9/16 13:19
1,3-Dichlorobenzene	**108.32**	10.00	**18.02**	1.66	11/9/16 13:19
1,4-Dichlorobenzene	U	10.00	U	1.66	11/9/16 13:19
1,2-Dichlorobenzene	U	10.00	U	1.66	11/9/16 13:19
1,2,4-Trichlorobenzene	U	10.00	U	1.35	11/9/16 13:19
Naphthalene	U	10.00	U	1.91	11/9/16 13:19
1,2,3-Trichlorobenzene	U	10.00	U	1.35	11/9/16 13:19
2-Methylnaphthalene	U	10.00	U	1.72	11/9/16 13:19

SURROGATES	Percent Recovery	Limits	Lab File ID	Completed
1,2-DCA-d4	**99**	70-130	A16110906	11/9/16 13:19
Toluene-d8	**103**	70-130	A16110906	11/9/16 13:19
Bromofluorobenzene	**108**	70-130	A16110906	11/9/16 13:19

U = Not detected or below Reporting Limit (RL).; J = Estimated value below the RL.; E = Measurement exceeded upper calibration range of instrument.

Table 1

Beacon Environmental Services, Inc.
2203A Commerce Road Suite 1
Forest Hill, MD 21050 USA
Analysis by EPA Method TO-17

Client:
Vista GeoScience
130 Capital Drive, Suite C
Golden, CO

Lab File ID:	A16110908
Beacon Sample ID:	H0199622
Client ID/Sampling Location:	SV-08-03
Date Time Collected:	10/31/16 4:52 PM
Matrix:	Soil Gas
Dilution Factor:	1.0
Sample Volume in Liters:	1.00
Date Received:	11/8/2016
Analysis Date:	11/9/2016
Analysis Time:	2:09:00 PM
Beacon Job Number:	3588B

	Results	LOQ	Results	LOQ	
COMPOUNDS	ug/m3	ug/m3	ppbv	ppbv	Completed
Vinyl Chloride	U	10.00	U	3.91	11/9/16 14:09
1,1-Dichloroethene	U	10.00	U	2.52	11/9/16 14:09
1,1,2-Trichlorotrifluoroethane (Fr.113)	U	10.00	U	1.30	11/9/16 14:09
trans-1,2-Dichloroethene	U	10.00	U	2.52	11/9/16 14:09
Methyl-t-butyl ether	U	10.00	U	2.77	11/9/16 14:09
1,1-Dichloroethane	U	10.00	U	2.47	11/9/16 14:09
cis-1,2-Dichloroethene	U	10.00	U	2.52	11/9/16 14:09
Chloroform	U	10.00	U	2.05	11/9/16 14:09
1,2-Dichloroethane	U	10.00	U	2.47	11/9/16 14:09
1,1,1-Trichloroethane	**16.02**	10.00	**2.94**	1.83	11/9/16 14:09
Carbon Tetrachloride	U	10.00	U	1.59	11/9/16 14:09
Benzene	**10.18**	10.00	**3.19**	3.13	11/9/16 14:09
Trichloroethene	U	10.00	U	1.86	11/9/16 14:09
1,4-Dioxane	**12.82**	10.00	**3.56**	2.77	11/9/16 14:09
1,1,2-Trichloroethane	U	10.00	U	1.83	11/9/16 14:09
Toluene	**52.86**	10.00	**14.03**	2.65	11/9/16 14:09
1,2-Dibromoethane (EDB)	U	10.00	U	1.30	11/9/16 14:09
Tetrachloroethene	U	10.00	U	1.47	11/9/16 14:09
1,1,1,2-Tetrachloroethane	U	10.00	U	1.46	11/9/16 14:09
Chlorobenzene	U	10.00	U	2.17	11/9/16 14:09
Ethylbenzene	U	10.00	U	2.30	11/9/16 14:09
p & m-Xylene	U	10.00	U	2.30	11/9/16 14:09
1,1,2,2-Tetrachloroethane	U	10.00	U	1.46	11/9/16 14:09
o-Xylene	U	10.00	U	2.30	11/9/16 14:09
1,2,3-Trichloropropane	U	10.00	U	1.66	11/9/16 14:09
Isopropylbenzene	U	10.00	U	2.03	11/9/16 14:09
1,3,5-Trimethylbenzene	U	10.00	U	2.03	11/9/16 14:09
1,2,4-Trimethylbenzene	U	10.00	U	2.03	11/9/16 14:09
1,3-Dichlorobenzene	**1,207.58 E**	10.00	**200.84 E**	1.66	11/9/16 14:09
1,4-Dichlorobenzene	U	10.00	U	1.66	11/9/16 14:09
1,2-Dichlorobenzene	U	10.00	U	1.66	11/9/16 14:09
1,2,4-Trichlorobenzene	U	10.00	U	1.35	11/9/16 14:09
Naphthalene	U	10.00	U	1.91	11/9/16 14:09
1,2,3-Trichlorobenzene	U	10.00	U	1.35	11/9/16 14:09
2-Methylnaphthalene	U	10.00	U	1.72	11/9/16 14:09

SURROGATES	Percent Recovery	Limits	Lab File ID	Completed
1,2-DCA-d4	**97**	70-130	A16110908	11/9/16 14:09
Toluene-d8	**105**	70-130	A16110908	11/9/16 14:09
Bromofluorobenzene	**105**	70-130	A16110908	11/9/16 14:09

U = Not detected or below Reporting Limit (RL).; J = Estimated value below the RL.; E = Measurement exceeded upper calibration range of instrument.

Table 1

Beacon Environmental Services, Inc.
2203A Commerce Road Suite 1
Forest Hill, MD 21050 USA
Analysis by EPA Method TO-17

Client:
Vista GeoScience
130 Capital Drive, Suite C
Golden, CO

Lab File ID:	A16110910
Beacon Sample ID:	H0238242
Client ID/Sampling Location:	SV-07-01
Date Time Collected:	11/2/16 11:35 AM
Matrix:	Soil Gas
Dilution Factor:	1.0
Sample Volume in Liters:	1.00
Date Received:	11/8/2016
Analysis Date:	11/9/2016
Analysis Time:	2:56:00 PM
Beacon Job Number:	3588B

	Results	LOQ	Results	LOQ	
COMPOUNDS	ug/m3	ug/m3	ppbv	ppbv	Completed
Vinyl Chloride	U	10.00	U	3.91	11/9/16 14:56
1,1-Dichloroethene	U	10.00	U	2.52	11/9/16 14:56
1,1,2-Trichlorotrifluoroethane (Fr.113)	U	10.00	U	1.30	11/9/16 14:56
trans-1,2-Dichloroethene	U	10.00	U	2.52	11/9/16 14:56
Methyl-t-butyl ether	U	10.00	U	2.77	11/9/16 14:56
1,1-Dichloroethane	U	10.00	U	2.47	11/9/16 14:56
cis-1,2-Dichloroethene	U	10.00	U	2.52	11/9/16 14:56
Chloroform	U	10.00	U	2.05	11/9/16 14:56
1,2-Dichloroethane	U	10.00	U	2.47	11/9/16 14:56
1,1,1-Trichloroethane	U	10.00	U	1.83	11/9/16 14:56
Carbon Tetrachloride	U	10.00	U	1.59	11/9/16 14:56
Benzene	U	10.00	U	3.13	11/9/16 14:56
Trichloroethene	U	10.00	U	1.86	11/9/16 14:56
1,4-Dioxane	U	10.00	U	2.77	11/9/16 14:56
1,1,2-Trichloroethane	U	10.00	U	1.83	11/9/16 14:56
Toluene	U	10.00	U	2.65	11/9/16 14:56
1,2-Dibromoethane (EDB)	U	10.00	U	1.30	11/9/16 14:56
Tetrachloroethene	U	10.00	U	1.47	11/9/16 14:56
1,1,1,2-Tetrachloroethane	U	10.00	U	1.46	11/9/16 14:56
Chlorobenzene	U	10.00	U	2.17	11/9/16 14:56
Ethylbenzene	U	10.00	U	2.30	11/9/16 14:56
p & m-Xylene	U	10.00	U	2.30	11/9/16 14:56
1,1,2,2-Tetrachloroethane	U	10.00	U	1.46	11/9/16 14:56
o-Xylene	U	10.00	U	2.30	11/9/16 14:56
1,2,3-Trichloropropane	U	10.00	U	1.66	11/9/16 14:56
Isopropylbenzene	U	10.00	U	2.03	11/9/16 14:56
1,3,5-Trimethylbenzene	U	10.00	U	2.03	11/9/16 14:56
1,2,4-Trimethylbenzene	U	10.00	U	2.03	11/9/16 14:56
1,3-Dichlorobenzene	U	10.00	U	1.66	11/9/16 14:56
1,4-Dichlorobenzene	U	10.00	U	1.66	11/9/16 14:56
1,2-Dichlorobenzene	U	10.00	U	1.66	11/9/16 14:56
1,2,4-Trichlorobenzene	U	10.00	U	1.35	11/9/16 14:56
Naphthalene	U	10.00	U	1.91	11/9/16 14:56
1,2,3-Trichlorobenzene	U	10.00	U	1.35	11/9/16 14:56
2-Methylnaphthalene	U	10.00	U	1.72	11/9/16 14:56

SURROGATES	Percent Recovery	Limits	Lab File ID	Completed
1,2-DCA-d4	**99**	70-130	A16110910	11/9/16 14:56
Toluene-d8	**105**	70-130	A16110910	11/9/16 14:56
Bromofluorobenzene	**105**	70-130	A16110910	11/9/16 14:56

U = Not detected or below Reporting Limit (RL).; J = Estimated value below the RL.; E = Measurement exceeded upper calibration range of instrument.

Table 1

Beacon Environmental Services, Inc.
2203A Commerce Road Suite 1
Forest Hill, MD 21050 USA
Analysis by EPA Method TO-17

Client:
Vista GeoScience
130 Capital Drive, Suite C
Golden, CO

Lab File ID:	A16110912
Beacon Sample ID:	H0234516
Client ID/Sampling Location:	SV-07-02
Date Time Collected:	11/2/16 12:32 PM
Matrix:	Soil Gas
Dilution Factor:	1.0
Sample Volume in Liters:	1.00
Date Received:	11/8/2016
Analysis Date:	11/9/2016
Analysis Time:	3:42:00 PM
Beacon Job Number:	3588B

	Results	LOQ	Results	LOQ	
COMPOUNDS	ug/m3	ug/m3	ppbv	ppbv	Completed
Vinyl Chloride	U	10.00	U	3.91	11/9/16 15:42
1,1-Dichloroethene	U	10.00	U	2.52	11/9/16 15:42
1,1,2-Trichlorotrifluoroethane (Fr.113)	U	10.00	U	1.30	11/9/16 15:42
trans-1,2-Dichloroethene	U	10.00	U	2.52	11/9/16 15:42
Methyl-t-butyl ether	U	10.00	U	2.77	11/9/16 15:42
1,1-Dichloroethane	U	10.00	U	2.47	11/9/16 15:42
cis-1,2-Dichloroethene	U	10.00	U	2.52	11/9/16 15:42
Chloroform	U	10.00	U	2.05	11/9/16 15:42
1,2-Dichloroethane	U	10.00	U	2.47	11/9/16 15:42
1,1,1-Trichloroethane	**17.4**	10.00	**3.19**	1.83	11/9/16 15:42
Carbon Tetrachloride	U	10.00	U	1.59	11/9/16 15:42
Benzene	**11.89**	10.00	**3.72**	3.13	11/9/16 15:42
Trichloroethene	U	10.00	U	1.86	11/9/16 15:42
1,4-Dioxane	U	10.00	U	2.77	11/9/16 15:42
1,1,2-Trichloroethane	U	10.00	U	1.83	11/9/16 15:42
Toluene	**126.72**	10.00	**33.63**	2.65	11/9/16 15:42
1,2-Dibromoethane (EDB)	U	10.00	U	1.30	11/9/16 15:42
Tetrachloroethene	U	10.00	U	1.47	11/9/16 15:42
1,1,1,2-Tetrachloroethane	U	10.00	U	1.46	11/9/16 15:42
Chlorobenzene	U	10.00	U	2.17	11/9/16 15:42
Ethylbenzene	**14.41**	10.00	**3.32**	2.30	11/9/16 15:42
p & m-Xylene	**39.65**	10.00	**9.13**	2.30	11/9/16 15:42
1,1,2,2-Tetrachloroethane	U	10.00	U	1.46	11/9/16 15:42
o-Xylene	U	10.00	U	2.30	11/9/16 15:42
1,2,3-Trichloropropane	U	10.00	U	1.66	11/9/16 15:42
Isopropylbenzene	U	10.00	U	2.03	11/9/16 15:42
1,3,5-Trimethylbenzene	U	10.00	U	2.03	11/9/16 15:42
1,2,4-Trimethylbenzene	U	10.00	U	2.03	11/9/16 15:42
1,3-Dichlorobenzene	**1,013.24 E**	10.00	**168.52 E**	1.66	11/9/16 15:42
1,4-Dichlorobenzene	U	10.00	U	1.66	11/9/16 15:42
1,2-Dichlorobenzene	U	10.00	U	1.66	11/9/16 15:42
1,2,4-Trichlorobenzene	U	10.00	U	1.35	11/9/16 15:42
Naphthalene	U	10.00	U	1.91	11/9/16 15:42
1,2,3-Trichlorobenzene	U	10.00	U	1.35	11/9/16 15:42
2-Methylnaphthalene	U	10.00	U	1.72	11/9/16 15:42

SURROGATES	Percent Recovery	Limits	Lab File ID	Completed
1,2-DCA-d4	**98**	70-130	A16110912	11/9/16 15:42
Toluene-d8	**105**	70-130	A16110912	11/9/16 15:42
Bromofluorobenzene	**106**	70-130	A16110912	11/9/16 15:42

U = Not detected or below Reporting Limit (RL).; J = Estimated value below the RL.; E = Measurement exceeded upper calibration range of instrument.

Table 1

Beacon Environmental Services, Inc.
2203A Commerce Road Suite 1
Forest Hill, MD 21050 USA
Analysis by EPA Method TO-17

Client:
Vista GeoScience
130 Capital Drive, Suite C
Golden, CO

Lab File ID:	A16110914
Beacon Sample ID:	G0115976
Client ID/Sampling Location:	SV-07-04
Date Time Collected:	11/2/16 12:59 PM
Matrix:	Soil Gas
Dilution Factor:	1.0
Sample Volume in Liters:	1.00
Date Received:	11/8/2016
Analysis Date:	11/9/2016
Analysis Time:	4:29:00 PM
Beacon Job Number:	3588B

	Results	LOQ	Results	LOQ	
COMPOUNDS	ug/m3	ug/m3	ppbv	ppbv	Completed
Vinyl Chloride	U	10.00	U	3.91	11/9/16 16:29
1,1-Dichloroethene	U	10.00	U	2.52	11/9/16 16:29
1,1,2-Trichlorotrifluoroethane (Fr.113)	U	10.00	U	1.30	11/9/16 16:29
trans-1,2-Dichloroethene	U	10.00	U	2.52	11/9/16 16:29
Methyl-t-butyl ether	U	10.00	U	2.77	11/9/16 16:29
1,1-Dichloroethane	U	10.00	U	2.47	11/9/16 16:29
cis-1,2-Dichloroethene	U	10.00	U	2.52	11/9/16 16:29
Chloroform	U	10.00	U	2.05	11/9/16 16:29
1,2-Dichloroethane	U	10.00	U	2.47	11/9/16 16:29
1,1,1-Trichloroethane	U	10.00	U	1.83	11/9/16 16:29
Carbon Tetrachloride	U	10.00	U	1.59	11/9/16 16:29
Benzene	U	10.00	U	3.13	11/9/16 16:29
Trichloroethene	U	10.00	U	1.86	11/9/16 16:29
1,4-Dioxane	U	10.00	U	2.77	11/9/16 16:29
1,1,2-Trichloroethane	U	10.00	U	1.83	11/9/16 16:29
Toluene	**121.69**	10.00	**32.29**	2.65	11/9/16 16:29
1,2-Dibromoethane (EDB)	U	10.00	U	1.30	11/9/16 16:29
Tetrachloroethene	U	10.00	U	1.47	11/9/16 16:29
1,1,1,2-Tetrachloroethane	U	10.00	U	1.46	11/9/16 16:29
Chlorobenzene	U	10.00	U	2.17	11/9/16 16:29
Ethylbenzene	**16.45**	10.00	**3.79**	2.30	11/9/16 16:29
p & m-Xylene	**43.8**	10.00	**10.09**	2.30	11/9/16 16:29
1,1,2,2-Tetrachloroethane	U	10.00	U	1.46	11/9/16 16:29
o-Xylene	**10.91**	10.00	**2.51**	2.30	11/9/16 16:29
1,2,3-Trichloropropane	U	10.00	U	1.66	11/9/16 16:29
Isopropylbenzene	U	10.00	U	2.03	11/9/16 16:29
1,3,5-Trimethylbenzene	U	10.00	U	2.03	11/9/16 16:29
1,2,4-Trimethylbenzene	U	10.00	U	2.03	11/9/16 16:29
1,3-Dichlorobenzene	**1,109.66 E**	10.00	**184.55 E**	1.66	11/9/16 16:29
1,4-Dichlorobenzene	U	10.00	U	1.66	11/9/16 16:29
1,2-Dichlorobenzene	U	10.00	U	1.66	11/9/16 16:29
1,2,4-Trichlorobenzene	U	10.00	U	1.35	11/9/16 16:29
Naphthalene	U	10.00	U	1.91	11/9/16 16:29
1,2,3-Trichlorobenzene	U	10.00	U	1.35	11/9/16 16:29
2-Methylnaphthalene	U	10.00	U	1.72	11/9/16 16:29

SURROGATES	Percent Recovery	Limits	Lab File ID	Completed
1,2-DCA-d4	**99**	70-130	A16110914	11/9/16 16:29
Toluene-d8	**104**	70-130	A16110914	11/9/16 16:29
Bromofluorobenzene	**106**	70-130	A16110914	11/9/16 16:29

U = Not detected or below Reporting Limit (RL).; J = Estimated value below the RL.; E = Measurement exceeded upper calibration range of instrument.

Table 1

Beacon Environmental Services, Inc.
2203A Commerce Road Suite 1
Forest Hill, MD 21050 USA
Analysis by EPA Method TO-17

Client:
Vista GeoScience
130 Capital Drive, Suite C
Golden, CO

Lab File ID:	A16110916
Beacon Sample ID:	G0115955
Client ID/Sampling Location:	SV-07-03
Date Time Collected:	11/2/16 1:21 PM
Matrix:	Soil Gas
Dilution Factor:	1.0
Sample Volume in Liters:	1.00
Date Received:	11/8/2016
Analysis Date:	11/9/2016
Analysis Time:	5:16:00 PM
Beacon Job Number:	3588B

	Results	LOQ	Results	LOQ	
COMPOUNDS	ug/m3	ug/m3	ppbv	ppbv	Completed
Vinyl Chloride	U	10.00	U	3.91	11/9/16 17:16
1,1-Dichloroethene	U	10.00	U	2.52	11/9/16 17:16
1,1,2-Trichlorotrifluoroethane (Fr.113)	U	10.00	U	1.30	11/9/16 17:16
trans-1,2-Dichloroethene	U	10.00	U	2.52	11/9/16 17:16
Methyl-t-butyl ether	U	10.00	U	2.77	11/9/16 17:16
1,1-Dichloroethane	U	10.00	U	2.47	11/9/16 17:16
cis-1,2-Dichloroethene	U	10.00	U	2.52	11/9/16 17:16
Chloroform	U	10.00	U	2.05	11/9/16 17:16
1,2-Dichloroethane	U	10.00	U	2.47	11/9/16 17:16
1,1,1-Trichloroethane	U	10.00	U	1.83	11/9/16 17:16
Carbon Tetrachloride	U	10.00	U	1.59	11/9/16 17:16
Benzene	**10.85**	10.00	**3.4**	3.13	11/9/16 17:16
Trichloroethene	U	10.00	U	1.86	11/9/16 17:16
1,4-Dioxane	**12.68**	10.00	**3.52**	2.77	11/9/16 17:16
1,1,2-Trichloroethane	U	10.00	U	1.83	11/9/16 17:16
Toluene	**93.8**	10.00	**24.89**	2.65	11/9/16 17:16
1,2-Dibromoethane (EDB)	U	10.00	U	1.30	11/9/16 17:16
Tetrachloroethene	U	10.00	U	1.47	11/9/16 17:16
1,1,1,2-Tetrachloroethane	U	10.00	U	1.46	11/9/16 17:16
Chlorobenzene	U	10.00	U	2.17	11/9/16 17:16
Ethylbenzene	**14.04**	10.00	**3.23**	2.30	11/9/16 17:16
p & m-Xylene	**37.35**	10.00	**8.6**	2.30	11/9/16 17:16
1,1,2,2-Tetrachloroethane	U	10.00	U	1.46	11/9/16 17:16
o-Xylene	U	10.00	U	2.30	11/9/16 17:16
1,2,3-Trichloropropane	U	10.00	U	1.66	11/9/16 17:16
Isopropylbenzene	U	10.00	U	2.03	11/9/16 17:16
1,3,5-Trimethylbenzene	U	10.00	U	2.03	11/9/16 17:16
1,2,4-Trimethylbenzene	U	10.00	U	2.03	11/9/16 17:16
1,3-Dichlorobenzene	**1,127.89 E**	10.00	**187.59 E**	1.66	11/9/16 17:16
1,4-Dichlorobenzene	U	10.00	U	1.66	11/9/16 17:16
1,2-Dichlorobenzene	U	10.00	U	1.66	11/9/16 17:16
1,2,4-Trichlorobenzene	U	10.00	U	1.35	11/9/16 17:16
Naphthalene	U	10.00	U	1.91	11/9/16 17:16
1,2,3-Trichlorobenzene	U	10.00	U	1.35	11/9/16 17:16
2-Methylnaphthalene	U	10.00	U	1.72	11/9/16 17:16

SURROGATES	Percent Recovery	Limits	Lab File ID	Completed
1,2-DCA-d4	**95**	70-130	A16110916	11/9/16 17:16
Toluene-d8	**103**	70-130	A16110916	11/9/16 17:16
Bromofluorobenzene	**105**	70-130	A16110916	11/9/16 17:16

U = Not detected or below Reporting Limit (RL).; J = Estimated value below the RL.; E = Measurement exceeded upper calibration range of instrument.

Table 1

Beacon Environmental Services, Inc.
2203A Commerce Road Suite 1
Forest Hill, MD 21050 USA
Analysis by EPA Method TO-17

Client:
Vista GeoScience
130 Capital Drive, Suite C
Golden, CO

Lab File ID:	A16110918
Beacon Sample ID:	G0166889
Client ID/Sampling Location:	SV-08-05
Date Time Collected:	11/2/16 1:52 PM
Matrix:	Soil Gas
Dilution Factor:	1.0
Sample Volume in Liters:	1.00
Date Received:	11/8/2016
Analysis Date:	11/9/2016
Analysis Time:	6:05:00 PM
Beacon Job Number:	3588B

	Results	LOQ	Results	LOQ	
COMPOUNDS	ug/m3	ug/m3	ppbv	ppbv	Completed
Vinyl Chloride	U	10.00	U	3.91	11/9/16 18:05
1,1-Dichloroethene	U	10.00	U	2.52	11/9/16 18:05
1,1,2-Trichlorotrifluoroethane (Fr.113)	U	10.00	U	1.30	11/9/16 18:05
trans-1,2-Dichloroethene	U	10.00	U	2.52	11/9/16 18:05
Methyl-t-butyl ether	U	10.00	U	2.77	11/9/16 18:05
1,1-Dichloroethane	U	10.00	U	2.47	11/9/16 18:05
cis-1,2-Dichloroethene	U	10.00	U	2.52	11/9/16 18:05
Chloroform	U	10.00	U	2.05	11/9/16 18:05
1,2-Dichloroethane	U	10.00	U	2.47	11/9/16 18:05
1,1,1-Trichloroethane	U	10.00	U	1.83	11/9/16 18:05
Carbon Tetrachloride	U	10.00	U	1.59	11/9/16 18:05
Benzene	U	10.00	U	3.13	11/9/16 18:05
Trichloroethene	U	10.00	U	1.86	11/9/16 18:05
1,4-Dioxane	U	10.00	U	2.77	11/9/16 18:05
1,1,2-Trichloroethane	U	10.00	U	1.83	11/9/16 18:05
Toluene	**65.96**	10.00	**17.5**	2.65	11/9/16 18:05
1,2-Dibromoethane (EDB)	U	10.00	U	1.30	11/9/16 18:05
Tetrachloroethene	U	10.00	U	1.47	11/9/16 18:05
1,1,1,2-Tetrachloroethane	U	10.00	U	1.46	11/9/16 18:05
Chlorobenzene	U	10.00	U	2.17	11/9/16 18:05
Ethylbenzene	**11.07**	10.00	**2.55**	2.30	11/9/16 18:05
p & m-Xylene	**30.27**	10.00	**6.97**	2.30	11/9/16 18:05
1,1,2,2-Tetrachloroethane	U	10.00	U	1.46	11/9/16 18:05
o-Xylene	U	10.00	U	2.30	11/9/16 18:05
1,2,3-Trichloropropane	U	10.00	U	1.66	11/9/16 18:05
Isopropylbenzene	U	10.00	U	2.03	11/9/16 18:05
1,3,5-Trimethylbenzene	U	10.00	U	2.03	11/9/16 18:05
1,2,4-Trimethylbenzene	U	10.00	U	2.03	11/9/16 18:05
1,3-Dichlorobenzene	**904.26 E**	10.00	**150.39 E**	1.66	11/9/16 18:05
1,4-Dichlorobenzene	U	10.00	U	1.66	11/9/16 18:05
1,2-Dichlorobenzene	U	10.00	U	1.66	11/9/16 18:05
1,2,4-Trichlorobenzene	U	10.00	U	1.35	11/9/16 18:05
Naphthalene	**59.69**	10.00	**11.39**	1.91	11/9/16 18:05
1,2,3-Trichlorobenzene	U	10.00	U	1.35	11/9/16 18:05
2-Methylnaphthalene	**16.43**	10.00	**2.82**	1.72	11/9/16 18:05

SURROGATES	Percent Recovery	Limits	Lab File ID	Completed
1,2-DCA-d4	**96**	70-130	A16110918	11/9/16 18:05
Toluene-d8	**104**	70-130	A16110918	11/9/16 18:05
Bromofluorobenzene	**105**	70-130	A16110918	11/9/16 18:05

U = Not detected or below Reporting Limit (RL).; J = Estimated value below the RL.; E = Measurement exceeded upper calibration range of instrument.

Table 1

Beacon Environmental Services, Inc.
2203A Commerce Road Suite 1
Forest Hill, MD 21050 USA
Analysis by EPA Method TO-17

Client:
Vista GeoScience
130 Capital Drive, Suite C
Golden, CO

Lab File ID:	A16110920
Beacon Sample ID:	H0232630
Client ID/Sampling Location:	SV-08-06
Date Time Collected:	11/2/16 2:15 PM
Matrix:	Soil Gas
Dilution Factor:	1.0
Sample Volume in Liters:	1.00
Date Received:	11/8/2016
Analysis Date:	11/9/2016
Analysis Time:	6:51:00 PM
Beacon Job Number:	3588B

	Results	LOQ	Results	LOQ	
COMPOUNDS	ug/m3	ug/m3	ppbv	ppbv	Completed
Vinyl Chloride	U	10.00	U	3.91	11/9/16 18:51
1,1-Dichloroethene	U	10.00	U	2.52	11/9/16 18:51
1,1,2-Trichlorotrifluoroethane (Fr.113)	U	10.00	U	1.30	11/9/16 18:51
trans-1,2-Dichloroethene	U	10.00	U	2.52	11/9/16 18:51
Methyl-t-butyl ether	U	10.00	U	2.77	11/9/16 18:51
1,1-Dichloroethane	U	10.00	U	2.47	11/9/16 18:51
cis-1,2-Dichloroethene	U	10.00	U	2.52	11/9/16 18:51
Chloroform	U	10.00	U	2.05	11/9/16 18:51
1,2-Dichloroethane	U	10.00	U	2.47	11/9/16 18:51
1,1,1-Trichloroethane	**18.38**	10.00	**3.37**	1.83	11/9/16 18:51
Carbon Tetrachloride	U	10.00	U	1.59	11/9/16 18:51
Benzene	U	10.00	U	3.13	11/9/16 18:51
Trichloroethene	U	10.00	U	1.86	11/9/16 18:51
1,4-Dioxane	U	10.00	U	2.77	11/9/16 18:51
1,1,2-Trichloroethane	U	10.00	U	1.83	11/9/16 18:51
Toluene	**70.62**	10.00	**18.74**	2.65	11/9/16 18:51
1,2-Dibromoethane (EDB)	U	10.00	U	1.30	11/9/16 18:51
Tetrachloroethene	U	10.00	U	1.47	11/9/16 18:51
1,1,1,2-Tetrachloroethane	U	10.00	U	1.46	11/9/16 18:51
Chlorobenzene	U	10.00	U	2.17	11/9/16 18:51
Ethylbenzene	**12.02**	10.00	**2.77**	2.30	11/9/16 18:51
p & m-Xylene	**33.56**	10.00	**7.73**	2.30	11/9/16 18:51
1,1,2,2-Tetrachloroethane	U	10.00	U	1.46	11/9/16 18:51
o-Xylene	U	10.00	U	2.30	11/9/16 18:51
1,2,3-Trichloropropane	U	10.00	U	1.66	11/9/16 18:51
Isopropylbenzene	U	10.00	U	2.03	11/9/16 18:51
1,3,5-Trimethylbenzene	U	10.00	U	2.03	11/9/16 18:51
1,2,4-Trimethylbenzene	U	10.00	U	2.03	11/9/16 18:51
1,3-Dichlorobenzene	**974.36 E**	10.00	**162.05 E**	1.66	11/9/16 18:51
1,4-Dichlorobenzene	U	10.00	U	1.66	11/9/16 18:51
1,2-Dichlorobenzene	U	10.00	U	1.66	11/9/16 18:51
1,2,4-Trichlorobenzene	U	10.00	U	1.35	11/9/16 18:51
Naphthalene	**12.95**	10.00	**2.47**	1.91	11/9/16 18:51
1,2,3-Trichlorobenzene	U	10.00	U	1.35	11/9/16 18:51
2-Methylnaphthalene	U	10.00	U	1.72	11/9/16 18:51

SURROGATES	Percent Recovery	Limits	Lab File ID	Completed
1,2-DCA-d4	**97**	70-130	A16110920	11/9/16 18:51
Toluene-d8	**104**	70-130	A16110920	11/9/16 18:51
Bromofluorobenzene	**107**	70-130	A16110920	11/9/16 18:51

U = Not detected or below Reporting Limit (RL).; J = Estimated value below the RL.; E = Measurement exceeded upper calibration range of instrument.

Table 1

Beacon Environmental Services, Inc.
2203A Commerce Road Suite 1
Forest Hill, MD 21050 USA
Analysis by EPA Method TO-17

Client:
Vista GeoScience
130 Capital Drive, Suite C
Golden, CO

Lab File ID:	A16110922
Beacon Sample ID:	1101399
Client ID/Sampling Location:	SV-08-02
Date Time Collected:	11/2/16 2:50 PM
Matrix:	Soil Gas
Dilution Factor:	1.0
Sample Volume in Liters:	1.00
Date Received:	11/8/2016
Analysis Date:	11/9/2016
Analysis Time:	7:38:00 PM
Beacon Job Number:	3588B

	Results	LOQ	Results	LOQ	
COMPOUNDS	ug/m3	ug/m3	ppbv	ppbv	Completed
Vinyl Chloride	U	10.00	U	3.91	11/9/16 19:38
1,1-Dichloroethene	U	10.00	U	2.52	11/9/16 19:38
1,1,2-Trichlorotrifluoroethane (Fr.113)	U	10.00	U	1.30	11/9/16 19:38
trans-1,2-Dichloroethene	U	10.00	U	2.52	11/9/16 19:38
Methyl-t-butyl ether	U	10.00	U	2.77	11/9/16 19:38
1,1-Dichloroethane	U	10.00	U	2.47	11/9/16 19:38
cis-1,2-Dichloroethene	U	10.00	U	2.52	11/9/16 19:38
Chloroform	U	10.00	U	2.05	11/9/16 19:38
1,2-Dichloroethane	U	10.00	U	2.47	11/9/16 19:38
1,1,1-Trichloroethane	U	10.00	U	1.83	11/9/16 19:38
Carbon Tetrachloride	U	10.00	U	1.59	11/9/16 19:38
Benzene	U	10.00	U	3.13	11/9/16 19:38
Trichloroethene	U	10.00	U	1.86	11/9/16 19:38
1,4-Dioxane	U	10.00	U	2.77	11/9/16 19:38
1,1,2-Trichloroethane	U	10.00	U	1.83	11/9/16 19:38
Toluene	**21.02**	10.00	**5.58**	2.65	11/9/16 19:38
1,2-Dibromoethane (EDB)	U	10.00	U	1.30	11/9/16 19:38
Tetrachloroethene	U	10.00	U	1.47	11/9/16 19:38
1,1,1,2-Tetrachloroethane	U	10.00	U	1.46	11/9/16 19:38
Chlorobenzene	U	10.00	U	2.17	11/9/16 19:38
Ethylbenzene	U	10.00	U	2.30	11/9/16 19:38
p & m-Xylene	U	10.00	U	2.30	11/9/16 19:38
1,1,2,2-Tetrachloroethane	U	10.00	U	1.46	11/9/16 19:38
o-Xylene	U	10.00	U	2.30	11/9/16 19:38
1,2,3-Trichloropropane	U	10.00	U	1.66	11/9/16 19:38
Isopropylbenzene	U	10.00	U	2.03	11/9/16 19:38
1,3,5-Trimethylbenzene	U	10.00	U	2.03	11/9/16 19:38
1,2,4-Trimethylbenzene	U	10.00	U	2.03	11/9/16 19:38
1,3-Dichlorobenzene	**113.95**	10.00	**18.95**	1.66	11/9/16 19:38
1,4-Dichlorobenzene	U	10.00	U	1.66	11/9/16 19:38
1,2-Dichlorobenzene	U	10.00	U	1.66	11/9/16 19:38
1,2,4-Trichlorobenzene	U	10.00	U	1.35	11/9/16 19:38
Naphthalene	U	10.00	U	1.91	11/9/16 19:38
1,2,3-Trichlorobenzene	U	10.00	U	1.35	11/9/16 19:38
2-Methylnaphthalene	U	10.00	U	1.72	11/9/16 19:38

SURROGATES	Percent Recovery	Limits	Lab File ID	Completed
1,2-DCA-d4	**93**	70-130	A16110922	11/9/16 19:38
Toluene-d8	**105**	70-130	A16110922	11/9/16 19:38
Bromofluorobenzene	**109**	70-130	A16110922	11/9/16 19:38

U = Not detected or below Reporting Limit (RL).; J = Estimated value below the RL.; E = Measurement exceeded upper calibration range of instrument.

Table 1

Beacon Environmental Services, Inc.
2203A Commerce Road Suite 1
Forest Hill, MD 21050 USA
Analysis by EPA Method TO-17

Client:
Vista GeoScience
130 Capital Drive, Suite C
Golden, CO

Lab File ID:	A16110924
Beacon Sample ID:	H0234844
Client ID/Sampling Location:	SV-08-09
Date Time Collected:	11/2/16 4:36 PM
Matrix:	Soil Gas
Dilution Factor:	1.0
Sample Volume in Liters:	1.00
Date Received:	11/8/2016
Analysis Date:	11/9/2016
Analysis Time:	8:24:00 PM
Beacon Job Number:	3588B

	Results	LOQ	Results	LOQ	
COMPOUNDS	ug/m3	ug/m3	ppbv	ppbv	Completed
Vinyl Chloride	U	10.00	U	3.91	11/9/16 20:24
1,1-Dichloroethene	U	10.00	U	2.52	11/9/16 20:24
1,1,2-Trichlorotrifluoroethane (Fr.113)	U	10.00	U	1.30	11/9/16 20:24
trans-1,2-Dichloroethene	U	10.00	U	2.52	11/9/16 20:24
Methyl-t-butyl ether	U	10.00	U	2.77	11/9/16 20:24
1,1-Dichloroethane	U	10.00	U	2.47	11/9/16 20:24
cis-1,2-Dichloroethene	U	10.00	U	2.52	11/9/16 20:24
Chloroform	U	10.00	U	2.05	11/9/16 20:24
1,2-Dichloroethane	U	10.00	U	2.47	11/9/16 20:24
1,1,1-Trichloroethane	U	10.00	U	1.83	11/9/16 20:24
Carbon Tetrachloride	U	10.00	U	1.59	11/9/16 20:24
Benzene	U	10.00	U	3.13	11/9/16 20:24
Trichloroethene	U	10.00	U	1.86	11/9/16 20:24
1,4-Dioxane	U	10.00	U	2.77	11/9/16 20:24
1,1,2-Trichloroethane	U	10.00	U	1.83	11/9/16 20:24
Toluene	**45.32**	10.00	**12.03**	2.65	11/9/16 20:24
1,2-Dibromoethane (EDB)	U	10.00	U	1.30	11/9/16 20:24
Tetrachloroethene	U	10.00	U	1.47	11/9/16 20:24
1,1,1,2-Tetrachloroethane	U	10.00	U	1.46	11/9/16 20:24
Chlorobenzene	U	10.00	U	2.17	11/9/16 20:24
Ethylbenzene	U	10.00	U	2.30	11/9/16 20:24
p & m-Xylene	**23.46**	10.00	**5.4**	2.30	11/9/16 20:24
1,1,2,2-Tetrachloroethane	U	10.00	U	1.46	11/9/16 20:24
o-Xylene	U	10.00	U	2.30	11/9/16 20:24
1,2,3-Trichloropropane	U	10.00	U	1.66	11/9/16 20:24
Isopropylbenzene	U	10.00	U	2.03	11/9/16 20:24
1,3,5-Trimethylbenzene	U	10.00	U	2.03	11/9/16 20:24
1,2,4-Trimethylbenzene	U	10.00	U	2.03	11/9/16 20:24
1,3-Dichlorobenzene	**834.78 E**	10.00	**138.84 E**	1.66	11/9/16 20:24
1,4-Dichlorobenzene	U	10.00	U	1.66	11/9/16 20:24
1,2-Dichlorobenzene	U	10.00	U	1.66	11/9/16 20:24
1,2,4-Trichlorobenzene	U	10.00	U	1.35	11/9/16 20:24
Naphthalene	**7.38 J**	10.00	**1.41 J**	1.91	11/9/16 20:24
1,2,3-Trichlorobenzene	U	10.00	U	1.35	11/9/16 20:24
2-Methylnaphthalene	U	10.00	U	1.72	11/9/16 20:24

SURROGATES	Percent Recovery	Limits	Lab File ID	Completed
1,2-DCA-d4	**93**	70-130	A16110924	11/9/16 20:24
Toluene-d8	**104**	70-130	A16110924	11/9/16 20:24
Bromofluorobenzene	**109**	70-130	A16110924	11/9/16 20:24

U = Not detected or below Reporting Limit (RL).; J = Estimated value below the RL.; E = Measurement exceeded upper calibration range of instrument.

Table 1

Beacon Environmental Services, Inc.
2203A Commerce Road Suite 1
Forest Hill, MD 21050 USA
Analysis by EPA Method TO-17

Client:
Vista GeoScience
130 Capital Drive, Suite C
Golden, CO

Lab File ID:	A16110926
Beacon Sample ID:	G0177969
Client ID/Sampling Location:	SV-08-10
Date Time Collected:	11/2/16 4:56 PM
Matrix:	Soil Gas
Dilution Factor:	1.0
Sample Volume in Liters:	1.00
Date Received:	11/8/2016
Analysis Date:	11/9/2016
Analysis Time:	9:10:00 PM
Beacon Job Number:	3588B

	Results	LOQ	Results	LOQ	
COMPOUNDS	ug/m3	ug/m3	ppbv	ppbv	Completed
Vinyl Chloride	U	10.00	U	3.91	11/9/16 21:10
1,1-Dichloroethene	U	10.00	U	2.52	11/9/16 21:10
1,1,2-Trichlorotrifluoroethane (Fr.113)	U	10.00	U	1.30	11/9/16 21:10
trans-1,2-Dichloroethene	U	10.00	U	2.52	11/9/16 21:10
Methyl-t-butyl ether	U	10.00	U	2.77	11/9/16 21:10
1,1-Dichloroethane	U	10.00	U	2.47	11/9/16 21:10
cis-1,2-Dichloroethene	U	10.00	U	2.52	11/9/16 21:10
Chloroform	U	10.00	U	2.05	11/9/16 21:10
1,2-Dichloroethane	U	10.00	U	2.47	11/9/16 21:10
1,1,1-Trichloroethane	U	10.00	U	1.83	11/9/16 21:10
Carbon Tetrachloride	**11.31**	10.00	**1.8**	1.59	11/9/16 21:10
Benzene	U	10.00	U	3.13	11/9/16 21:10
Trichloroethene	U	10.00	U	1.86	11/9/16 21:10
1,4-Dioxane	U	10.00	U	2.77	11/9/16 21:10
1,1,2-Trichloroethane	U	10.00	U	1.83	11/9/16 21:10
Toluene	**47.67**	10.00	**12.65**	2.65	11/9/16 21:10
1,2-Dibromoethane (EDB)	U	10.00	U	1.30	11/9/16 21:10
Tetrachloroethene	U	10.00	U	1.47	11/9/16 21:10
1,1,1,2-Tetrachloroethane	U	10.00	U	1.46	11/9/16 21:10
Chlorobenzene	U	10.00	U	2.17	11/9/16 21:10
Ethylbenzene	**10.95**	10.00	**2.52**	2.30	11/9/16 21:10
p & m-Xylene	**27.47**	10.00	**6.33**	2.30	11/9/16 21:10
1,1,2,2-Tetrachloroethane	U	10.00	U	1.46	11/9/16 21:10
o-Xylene	U	10.00	U	2.30	11/9/16 21:10
1,2,3-Trichloropropane	U	10.00	U	1.66	11/9/16 21:10
Isopropylbenzene	U	10.00	U	2.03	11/9/16 21:10
1,3,5-Trimethylbenzene	**17.41**	10.00	**3.54**	2.03	11/9/16 21:10
1,2,4-Trimethylbenzene	**46.07**	10.00	**9.37**	2.03	11/9/16 21:10
1,3-Dichlorobenzene	**626.19 E**	10.00	**104.14 E**	1.66	11/9/16 21:10
1,4-Dichlorobenzene	U	10.00	U	1.66	11/9/16 21:10
1,2-Dichlorobenzene	U	10.00	U	1.66	11/9/16 21:10
1,2,4-Trichlorobenzene	U	10.00	U	1.35	11/9/16 21:10
Naphthalene	**55.0**	10.00	**10.49**	1.91	11/9/16 21:10
1,2,3-Trichlorobenzene	U	10.00	U	1.35	11/9/16 21:10
2-Methylnaphthalene	**13.25**	10.00	**2.28**	1.72	11/9/16 21:10

SURROGATES	Percent Recovery	Limits	Lab File ID	Completed
1,2-DCA-d4	**93**	70-130	A16110926	11/9/16 21:10
Toluene-d8	**104**	70-130	A16110926	11/9/16 21:10
Bromofluorobenzene	**111**	70-130	A16110926	11/9/16 21:10

U = Not detected or below Reporting Limit (RL).; J = Estimated value below the RL.; E = Measurement exceeded upper calibration range of instrument.

Table 1

Beacon Environmental Services, Inc.
2203A Commerce Road Suite 1
Forest Hill, MD 21050 USA
Analysis by EPA Method TO-17

Client:
Vista GeoScience
130 Capital Drive, Suite C
Golden, CO

Lab File ID:	A16110928
Beacon Sample ID:	H0234580
Client ID/Sampling Location:	SV-03-03
Date Time Collected:	11/3/16 9:10 AM
Matrix:	Soil Gas
Dilution Factor:	1.0
Sample Volume in Liters:	1.00
Date Received:	11/8/2016
Analysis Date:	11/9/2016
Analysis Time:	10:00:00 PM
Beacon Job Number:	3588B

	Results	LOQ	Results	LOQ	
COMPOUNDS	ug/m3	ug/m3	ppbv	ppbv	Completed
Vinyl Chloride	U	10.00	U	3.91	11/9/16 22:00
1,1-Dichloroethene	U	10.00	U	2.52	11/9/16 22:00
1,1,2-Trichlorotrifluoroethane (Fr.113)	U	10.00	U	1.30	11/9/16 22:00
trans-1,2-Dichloroethene	U	10.00	U	2.52	11/9/16 22:00
Methyl-t-butyl ether	U	10.00	U	2.77	11/9/16 22:00
1,1-Dichloroethane	U	10.00	U	2.47	11/9/16 22:00
cis-1,2-Dichloroethene	U	10.00	U	2.52	11/9/16 22:00
Chloroform	U	10.00	U	2.05	11/9/16 22:00
1,2-Dichloroethane	U	10.00	U	2.47	11/9/16 22:00
1,1,1-Trichloroethane	U	10.00	U	1.83	11/9/16 22:00
Carbon Tetrachloride	U	10.00	U	1.59	11/9/16 22:00
Benzene	U	10.00	U	3.13	11/9/16 22:00
Trichloroethene	U	10.00	U	1.86	11/9/16 22:00
1,4-Dioxane	U	10.00	U	2.77	11/9/16 22:00
1,1,2-Trichloroethane	U	10.00	U	1.83	11/9/16 22:00
Toluene	U	10.00	U	2.65	11/9/16 22:00
1,2-Dibromoethane (EDB)	U	10.00	U	1.30	11/9/16 22:00
Tetrachloroethene	U	10.00	U	1.47	11/9/16 22:00
1,1,1,2-Tetrachloroethane	U	10.00	U	1.46	11/9/16 22:00
Chlorobenzene	U	10.00	U	2.17	11/9/16 22:00
Ethylbenzene	U	10.00	U	2.30	11/9/16 22:00
p & m-Xylene	U	10.00	U	2.30	11/9/16 22:00
1,1,2,2-Tetrachloroethane	U	10.00	U	1.46	11/9/16 22:00
o-Xylene	U	10.00	U	2.30	11/9/16 22:00
1,2,3-Trichloropropane	U	10.00	U	1.66	11/9/16 22:00
Isopropylbenzene	U	10.00	U	2.03	11/9/16 22:00
1,3,5-Trimethylbenzene	U	10.00	U	2.03	11/9/16 22:00
1,2,4-Trimethylbenzene	U	10.00	U	2.03	11/9/16 22:00
1,3-Dichlorobenzene	**56.82**	10.00	**9.45**	1.66	11/9/16 22:00
1,4-Dichlorobenzene	U	10.00	U	1.66	11/9/16 22:00
1,2-Dichlorobenzene	U	10.00	U	1.66	11/9/16 22:00
1,2,4-Trichlorobenzene	U	10.00	U	1.35	11/9/16 22:00
Naphthalene	U	10.00	U	1.91	11/9/16 22:00
1,2,3-Trichlorobenzene	U	10.00	U	1.35	11/9/16 22:00
2-Methylnaphthalene	U	10.00	U	1.72	11/9/16 22:00

SURROGATES	Percent Recovery	Limits	Lab File ID	Completed
1,2-DCA-d4	**92**	70-130	A16110928	11/9/16 22:00
Toluene-d8	**103**	70-130	A16110928	11/9/16 22:00
Bromofluorobenzene	**107**	70-130	A16110928	11/9/16 22:00

U = Not detected or below Reporting Limit (RL).; J = Estimated value below the RL.; E = Measurement exceeded upper calibration range of instrument.

Table 1

Beacon Environmental Services, Inc.
2203A Commerce Road Suite 1
Forest Hill, MD 21050 USA
Analysis by EPA Method TO-17

Client:
Vista GeoScience
130 Capital Drive, Suite C
Golden, CO

Lab File ID:	A16110930
Beacon Sample ID:	G0178581
Client ID/Sampling Location:	SV-03-02
Date Time Collected:	11/3/16 9:26 AM
Matrix:	Soil Gas
Dilution Factor:	1.0
Sample Volume in Liters:	1.00
Date Received:	11/8/2016
Analysis Date:	11/9/2016
Analysis Time:	10:46:00 PM
Beacon Job Number:	3588B

	Results	LOQ	Results	LOQ	
COMPOUNDS	ug/m3	ug/m3	ppbv	ppbv	Completed
Vinyl Chloride	U	10.00	U	3.91	11/9/16 22:46
1,1-Dichloroethene	U	10.00	U	2.52	11/9/16 22:46
1,1,2-Trichlorotrifluoroethane (Fr.113)	U	10.00	U	1.30	11/9/16 22:46
trans-1,2-Dichloroethene	U	10.00	U	2.52	11/9/16 22:46
Methyl-t-butyl ether	U	10.00	U	2.77	11/9/16 22:46
1,1-Dichloroethane	U	10.00	U	2.47	11/9/16 22:46
cis-1,2-Dichloroethene	U	10.00	U	2.52	11/9/16 22:46
Chloroform	U	10.00	U	2.05	11/9/16 22:46
1,2-Dichloroethane	U	10.00	U	2.47	11/9/16 22:46
1,1,1-Trichloroethane	U	10.00	U	1.83	11/9/16 22:46
Carbon Tetrachloride	U	10.00	U	1.59	11/9/16 22:46
Benzene	U	10.00	U	3.13	11/9/16 22:46
Trichloroethene	U	10.00	U	1.86	11/9/16 22:46
1,4-Dioxane	U	10.00	U	2.77	11/9/16 22:46
1,1,2-Trichloroethane	U	10.00	U	1.83	11/9/16 22:46
Toluene	U	10.00	U	2.65	11/9/16 22:46
1,2-Dibromoethane (EDB)	U	10.00	U	1.30	11/9/16 22:46
Tetrachloroethene	**76.08**	10.00	**11.22**	1.47	11/9/16 22:46
1,1,1,2-Tetrachloroethane	U	10.00	U	1.46	11/9/16 22:46
Chlorobenzene	U	10.00	U	2.17	11/9/16 22:46
Ethylbenzene	U	10.00	U	2.30	11/9/16 22:46
p & m-Xylene	U	10.00	U	2.30	11/9/16 22:46
1,1,2,2-Tetrachloroethane	U	10.00	U	1.46	11/9/16 22:46
o-Xylene	U	10.00	U	2.30	11/9/16 22:46
1,2,3-Trichloropropane	U	10.00	U	1.66	11/9/16 22:46
Isopropylbenzene	U	10.00	U	2.03	11/9/16 22:46
1,3,5-Trimethylbenzene	U	10.00	U	2.03	11/9/16 22:46
1,2,4-Trimethylbenzene	U	10.00	U	2.03	11/9/16 22:46
1,3-Dichlorobenzene	**30.19**	10.00	**5.02**	1.66	11/9/16 22:46
1,4-Dichlorobenzene	U	10.00	U	1.66	11/9/16 22:46
1,2-Dichlorobenzene	U	10.00	U	1.66	11/9/16 22:46
1,2,4-Trichlorobenzene	U	10.00	U	1.35	11/9/16 22:46
Naphthalene	U	10.00	U	1.91	11/9/16 22:46
1,2,3-Trichlorobenzene	U	10.00	U	1.35	11/9/16 22:46
2-Methylnaphthalene	U	10.00	U	1.72	11/9/16 22:46

SURROGATES	Percent Recovery	Limits	Lab File ID	Completed
1,2-DCA-d4	**93**	70-130	A16110930	11/9/16 22:46
Toluene-d8	**104**	70-130	A16110930	11/9/16 22:46
Bromofluorobenzene	**107**	70-130	A16110930	11/9/16 22:46

U = Not detected or below Reporting Limit (RL).; J = Estimated value below the RL.; E = Measurement exceeded upper calibration range of instrument.

Table 1

Beacon Environmental Services, Inc.
2203A Commerce Road Suite 1
Forest Hill, MD 21050 USA
Analysis by EPA Method TO-17

Client:
Vista GeoScience
130 Capital Drive, Suite C
Golden, CO

Lab File ID:	A16110932
Beacon Sample ID:	H0234875
Client ID/Sampling Location:	SV-03-01
Date Time Collected:	11/3/16 9:41 AM
Matrix:	Soil Gas
Dilution Factor:	1.0
Sample Volume in Liters:	1.00
Date Received:	11/8/2016
Analysis Date:	11/9/2016
Analysis Time:	11:32:00 PM
Beacon Job Number:	3588B

	Results	LOQ	Results	LOQ	
COMPOUNDS	ug/m3	ug/m3	ppbv	ppbv	Completed
Vinyl Chloride	U	10.00	U	3.91	11/9/16 23:32
1,1-Dichloroethene	U	10.00	U	2.52	11/9/16 23:32
1,1,2-Trichlorotrifluoroethane (Fr.113)	U	10.00	U	1.30	11/9/16 23:32
trans-1,2-Dichloroethene	U	10.00	U	2.52	11/9/16 23:32
Methyl-t-butyl ether	U	10.00	U	2.77	11/9/16 23:32
1,1-Dichloroethane	U	10.00	U	2.47	11/9/16 23:32
cis-1,2-Dichloroethene	U	10.00	U	2.52	11/9/16 23:32
Chloroform	U	10.00	U	2.05	11/9/16 23:32
1,2-Dichloroethane	U	10.00	U	2.47	11/9/16 23:32
1,1,1-Trichloroethane	U	10.00	U	1.83	11/9/16 23:32
Carbon Tetrachloride	U	10.00	U	1.59	11/9/16 23:32
Benzene	U	10.00	U	3.13	11/9/16 23:32
Trichloroethene	U	10.00	U	1.86	11/9/16 23:32
1,4-Dioxane	U	10.00	U	2.77	11/9/16 23:32
1,1,2-Trichloroethane	U	10.00	U	1.83	11/9/16 23:32
Toluene	U	10.00	U	2.65	11/9/16 23:32
1,2-Dibromoethane (EDB)	U	10.00	U	1.30	11/9/16 23:32
Tetrachloroethene	U	10.00	U	1.47	11/9/16 23:32
1,1,1,2-Tetrachloroethane	U	10.00	U	1.46	11/9/16 23:32
Chlorobenzene	U	10.00	U	2.17	11/9/16 23:32
Ethylbenzene	U	10.00	U	2.30	11/9/16 23:32
p & m-Xylene	U	10.00	U	2.30	11/9/16 23:32
1,1,2,2-Tetrachloroethane	U	10.00	U	1.46	11/9/16 23:32
o-Xylene	U	10.00	U	2.30	11/9/16 23:32
1,2,3-Trichloropropane	U	10.00	U	1.66	11/9/16 23:32
Isopropylbenzene	U	10.00	U	2.03	11/9/16 23:32
1,3,5-Trimethylbenzene	U	10.00	U	2.03	11/9/16 23:32
1,2,4-Trimethylbenzene	U	10.00	U	2.03	11/9/16 23:32
1,3-Dichlorobenzene	**67.65**	10.00	**11.25**	1.66	11/9/16 23:32
1,4-Dichlorobenzene	U	10.00	U	1.66	11/9/16 23:32
1,2-Dichlorobenzene	U	10.00	U	1.66	11/9/16 23:32
1,2,4-Trichlorobenzene	U	10.00	U	1.35	11/9/16 23:32
Naphthalene	U	10.00	U	1.91	11/9/16 23:32
1,2,3-Trichlorobenzene	U	10.00	U	1.35	11/9/16 23:32
2-Methylnaphthalene	U	10.00	U	1.72	11/9/16 23:32

SURROGATES	Percent Recovery	Limits	Lab File ID	Completed
1,2-DCA-d4	**94**	70-130	A16110932	11/9/16 23:32
Toluene-d8	**103**	70-130	A16110932	11/9/16 23:32
Bromofluorobenzene	**107**	70-130	A16110932	11/9/16 23:32

U = Not detected or below Reporting Limit (RL).; J = Estimated value below the RL.; E = Measurement exceeded upper calibration range of instrument.

Table 1

Beacon Environmental Services, Inc.
2203A Commerce Road Suite 1
Forest Hill, MD 21050 USA
Analysis by EPA Method TO-17

Client:
Vista GeoScience
130 Capital Drive, Suite C
Golden, CO

Lab File ID:	A16110934
Beacon Sample ID:	G0164568
Client ID/Sampling Location:	SV-08-07
Date Time Collected:	11/3/16 10:41 AM
Matrix:	Soil Gas
Dilution Factor:	1.0
Sample Volume in Liters:	1.00
Date Received:	11/8/2016
Analysis Date:	11/10/2016
Analysis Time:	12:20:00 AM
Beacon Job Number:	3588B

	Results	LOQ	Results	LOQ	
COMPOUNDS	ug/m3	ug/m3	ppbv	ppbv	Completed
Vinyl Chloride	U	10.00	U	3.91	11/10/16 0:20
1,1-Dichloroethene	U	10.00	U	2.52	11/10/16 0:20
1,1,2-Trichlorotrifluoroethane (Fr.113)	U	10.00	U	1.30	11/10/16 0:20
trans-1,2-Dichloroethene	U	10.00	U	2.52	11/10/16 0:20
Methyl-t-butyl ether	U	10.00	U	2.77	11/10/16 0:20
1,1-Dichloroethane	U	10.00	U	2.47	11/10/16 0:20
cis-1,2-Dichloroethene	U	10.00	U	2.52	11/10/16 0:20
Chloroform	U	10.00	U	2.05	11/10/16 0:20
1,2-Dichloroethane	U	10.00	U	2.47	11/10/16 0:20
1,1,1-Trichloroethane	**10.17**	10.00	**1.86**	1.83	11/10/16 0:20
Carbon Tetrachloride	U	10.00	U	1.59	11/10/16 0:20
Benzene	U	10.00	U	3.13	11/10/16 0:20
Trichloroethene	U	10.00	U	1.86	11/10/16 0:20
1,4-Dioxane	U	10.00	U	2.77	11/10/16 0:20
1,1,2-Trichloroethane	U	10.00	U	1.83	11/10/16 0:20
Toluene	**106.17**	10.00	**28.18**	2.65	11/10/16 0:20
1,2-Dibromoethane (EDB)	U	10.00	U	1.30	11/10/16 0:20
Tetrachloroethene	U	10.00	U	1.47	11/10/16 0:20
1,1,1,2-Tetrachloroethane	U	10.00	U	1.46	11/10/16 0:20
Chlorobenzene	U	10.00	U	2.17	11/10/16 0:20
Ethylbenzene	**18.63**	10.00	**4.29**	2.30	11/10/16 0:20
p & m-Xylene	**46.51**	10.00	**10.71**	2.30	11/10/16 0:20
1,1,2,2-Tetrachloroethane	U	10.00	U	1.46	11/10/16 0:20
o-Xylene	**12.78**	10.00	**2.94**	2.30	11/10/16 0:20
1,2,3-Trichloropropane	U	10.00	U	1.66	11/10/16 0:20
Isopropylbenzene	U	10.00	U	2.03	11/10/16 0:20
1,3,5-Trimethylbenzene	U	10.00	U	2.03	11/10/16 0:20
1,2,4-Trimethylbenzene	U	10.00	U	2.03	11/10/16 0:20
1,3-Dichlorobenzene	**470.72 E**	10.00	**78.29 E**	1.66	11/10/16 0:20
1,4-Dichlorobenzene	U	10.00	U	1.66	11/10/16 0:20
1,2-Dichlorobenzene	U	10.00	U	1.66	11/10/16 0:20
1,2,4-Trichlorobenzene	U	10.00	U	1.35	11/10/16 0:20
Naphthalene	**89.4**	10.00	**17.06**	1.91	11/10/16 0:20
1,2,3-Trichlorobenzene	U	10.00	U	1.35	11/10/16 0:20
2-Methylnaphthalene	**21.28**	10.00	**3.66**	1.72	11/10/16 0:20

SURROGATES	Percent Recovery	Limits	Lab File ID	Completed
1,2-DCA-d4	**92**	70-130	A16110934	11/10/16 0:20
Toluene-d8	**101**	70-130	A16110934	11/10/16 0:20
Bromofluorobenzene	**106**	70-130	A16110934	11/10/16 0:20

U = Not detected or below Reporting Limit (RL).; J = Estimated value below the RL.; E = Measurement exceeded upper calibration range of instrument.

Table 1

Beacon Environmental Services, Inc.
2203A Commerce Road Suite 1
Forest Hill, MD 21050 USA
Analysis by EPA Method TO-17

Client:
Vista GeoScience
130 Capital Drive, Suite C
Golden, CO

Lab File ID:	A16110936
Beacon Sample ID:	H0234589
Client ID/Sampling Location:	SV-08-08
Date Time Collected:	11/3/16 11:05 AM
Matrix:	Soil Gas
Dilution Factor:	1.0
Sample Volume in Liters:	1.00
Date Received:	11/8/2016
Analysis Date:	11/10/2016
Analysis Time:	1:07:00 AM
Beacon Job Number:	3588B

	Results	LOQ	Results	LOQ	
COMPOUNDS	ug/m3	ug/m3	ppbv	ppbv	Completed
Vinyl Chloride	U	10.00	U	3.91	11/10/16 1:07
1,1-Dichloroethene	U	10.00	U	2.52	11/10/16 1:07
1,1,2-Trichlorotrifluoroethane (Fr.113)	U	10.00	U	1.30	11/10/16 1:07
trans-1,2-Dichloroethene	U	10.00	U	2.52	11/10/16 1:07
Methyl-t-butyl ether	U	10.00	U	2.77	11/10/16 1:07
1,1-Dichloroethane	U	10.00	U	2.47	11/10/16 1:07
cis-1,2-Dichloroethene	U	10.00	U	2.52	11/10/16 1:07
Chloroform	U	10.00	U	2.05	11/10/16 1:07
1,2-Dichloroethane	U	10.00	U	2.47	11/10/16 1:07
1,1,1-Trichloroethane	U	10.00	U	1.83	11/10/16 1:07
Carbon Tetrachloride	U	10.00	U	1.59	11/10/16 1:07
Benzene	U	10.00	U	3.13	11/10/16 1:07
Trichloroethene	U	10.00	U	1.86	11/10/16 1:07
1,4-Dioxane	U	10.00	U	2.77	11/10/16 1:07
1,1,2-Trichloroethane	U	10.00	U	1.83	11/10/16 1:07
Toluene	**94.74**	10.00	**25.14**	2.65	11/10/16 1:07
1,2-Dibromoethane (EDB)	U	10.00	U	1.30	11/10/16 1:07
Tetrachloroethene	U	10.00	U	1.47	11/10/16 1:07
1,1,1,2-Tetrachloroethane	U	10.00	U	1.46	11/10/16 1:07
Chlorobenzene	U	10.00	U	2.17	11/10/16 1:07
Ethylbenzene	**13.59**	10.00	**3.13**	2.30	11/10/16 1:07
p & m-Xylene	**35.28**	10.00	**8.12**	2.30	11/10/16 1:07
1,1,2,2-Tetrachloroethane	U	10.00	U	1.46	11/10/16 1:07
o-Xylene	U	10.00	U	2.30	11/10/16 1:07
1,2,3-Trichloropropane	U	10.00	U	1.66	11/10/16 1:07
Isopropylbenzene	U	10.00	U	2.03	11/10/16 1:07
1,3,5-Trimethylbenzene	U	10.00	U	2.03	11/10/16 1:07
1,2,4-Trimethylbenzene	U	10.00	U	2.03	11/10/16 1:07
1,3-Dichlorobenzene	**794.56 E**	10.00	**132.15 E**	1.66	11/10/16 1:07
1,4-Dichlorobenzene	U	10.00	U	1.66	11/10/16 1:07
1,2-Dichlorobenzene	U	10.00	U	1.66	11/10/16 1:07
1,2,4-Trichlorobenzene	U	10.00	U	1.35	11/10/16 1:07
Naphthalene	**4.22 J**	10.00	**0.81 J**	1.91	11/10/16 1:07
1,2,3-Trichlorobenzene	U	10.00	U	1.35	11/10/16 1:07
2-Methylnaphthalene	U	10.00	U	1.72	11/10/16 1:07

SURROGATES	Percent Recovery	Limits	Lab File ID	Completed
1,2-DCA-d4	**93**	70-130	A16110936	11/10/16 1:07
Toluene-d8	**103**	70-130	A16110936	11/10/16 1:07
Bromofluorobenzene	**107**	70-130	A16110936	11/10/16 1:07

U = Not detected or below Reporting Limit (RL).; J = Estimated value below the RL.; E = Measurement exceeded upper calibration range of instrument.

Table 1

Beacon Environmental Services, Inc.
2203A Commerce Road Suite 1
Forest Hill, MD 21050 USA
Analysis by EPA Method TO-17

Client:
Vista GeoScience
130 Capital Drive, Suite C
Golden, CO

Lab File ID:	A16110938
Beacon Sample ID:	G0164999
Client ID/Sampling Location:	SV-08-01
Date Time Collected:	11/3/16 11:31 AM
Matrix:	Soil Gas
Dilution Factor:	1.0
Sample Volume in Liters:	1.00
Date Received:	11/8/2016
Analysis Date:	11/10/2016
Analysis Time:	1:53:00 AM
Beacon Job Number:	3588B

	Results	LOQ	Results	LOQ	
COMPOUNDS	ug/m3	ug/m3	ppbv	ppbv	Completed
Vinyl Chloride	U	10.00	U	3.91	11/10/16 1:53
1,1-Dichloroethene	U	10.00	U	2.52	11/10/16 1:53
1,1,2-Trichlorotrifluoroethane (Fr.113)	U	10.00	U	1.30	11/10/16 1:53
trans-1,2-Dichloroethene	U	10.00	U	2.52	11/10/16 1:53
Methyl-t-butyl ether	U	10.00	U	2.77	11/10/16 1:53
1,1-Dichloroethane	U	10.00	U	2.47	11/10/16 1:53
cis-1,2-Dichloroethene	U	10.00	U	2.52	11/10/16 1:53
Chloroform	U	10.00	U	2.05	11/10/16 1:53
1,2-Dichloroethane	U	10.00	U	2.47	11/10/16 1:53
1,1,1-Trichloroethane	U	10.00	U	1.83	11/10/16 1:53
Carbon Tetrachloride	U	10.00	U	1.59	11/10/16 1:53
Benzene	U	10.00	U	3.13	11/10/16 1:53
Trichloroethene	U	10.00	U	1.86	11/10/16 1:53
1,4-Dioxane	U	10.00	U	2.77	11/10/16 1:53
1,1,2-Trichloroethane	U	10.00	U	1.83	11/10/16 1:53
Toluene	**29.05**	10.00	**7.71**	2.65	11/10/16 1:53
1,2-Dibromoethane (EDB)	U	10.00	U	1.30	11/10/16 1:53
Tetrachloroethene	U	10.00	U	1.47	11/10/16 1:53
1,1,1,2-Tetrachloroethane	U	10.00	U	1.46	11/10/16 1:53
Chlorobenzene	U	10.00	U	2.17	11/10/16 1:53
Ethylbenzene	U	10.00	U	2.30	11/10/16 1:53
p & m-Xylene	U	10.00	U	2.30	11/10/16 1:53
1,1,2,2-Tetrachloroethane	U	10.00	U	1.46	11/10/16 1:53
o-Xylene	U	10.00	U	2.30	11/10/16 1:53
1,2,3-Trichloropropane	U	10.00	U	1.66	11/10/16 1:53
Isopropylbenzene	U	10.00	U	2.03	11/10/16 1:53
1,3,5-Trimethylbenzene	U	10.00	U	2.03	11/10/16 1:53
1,2,4-Trimethylbenzene	U	10.00	U	2.03	11/10/16 1:53
1,3-Dichlorobenzene	**130.6**	10.00	**21.72**	1.66	11/10/16 1:53
1,4-Dichlorobenzene	U	10.00	U	1.66	11/10/16 1:53
1,2-Dichlorobenzene	U	10.00	U	1.66	11/10/16 1:53
1,2,4-Trichlorobenzene	U	10.00	U	1.35	11/10/16 1:53
Naphthalene	U	10.00	U	1.91	11/10/16 1:53
1,2,3-Trichlorobenzene	U	10.00	U	1.35	11/10/16 1:53
2-Methylnaphthalene	U	10.00	U	1.72	11/10/16 1:53

SURROGATES	Percent Recovery	Limits	Lab File ID	Completed
1,2-DCA-d4	**95**	70-130	A16110938	11/10/16 1:53
Toluene-d8	**102**	70-130	A16110938	11/10/16 1:53
Bromofluorobenzene	**103**	70-130	A16110938	11/10/16 1:53

U = Not detected or below Reporting Limit (RL).; J = Estimated value below the RL.; E = Measurement exceeded upper calibration range of instrument.

Table 1

Beacon Environmental Services, Inc.
2203A Commerce Road Suite 1
Forest Hill, MD 21050 USA
Analysis by EPA Method TO-17

Client:
Vista GeoScience
130 Capital Drive, Suite C
Golden, CO

Lab File ID:	A16110940
Beacon Sample ID:	1100817
Client ID/Sampling Location:	SV-05-01
Date Time Collected:	11/3/16 1:22 PM
Matrix:	Soil Gas
Dilution Factor:	1.0
Sample Volume in Liters:	1.00
Date Received:	11/8/2016
Analysis Date:	11/10/2016
Analysis Time:	2:40:00 AM
Beacon Job Number:	3588B

	Results	LOQ	Results	LOQ	
COMPOUNDS	ug/m3	ug/m3	ppbv	ppbv	Completed
Vinyl Chloride	U	10.00	U	3.91	11/10/16 2:40
1,1-Dichloroethene	U	10.00	U	2.52	11/10/16 2:40
1,1,2-Trichlorotrifluoroethane (Fr.113)	U	10.00	U	1.30	11/10/16 2:40
trans-1,2-Dichloroethene	U	10.00	U	2.52	11/10/16 2:40
Methyl-t-butyl ether	U	10.00	U	2.77	11/10/16 2:40
1,1-Dichloroethane	U	10.00	U	2.47	11/10/16 2:40
cis-1,2-Dichloroethene	U	10.00	U	2.52	11/10/16 2:40
Chloroform	U	10.00	U	2.05	11/10/16 2:40
1,2-Dichloroethane	U	10.00	U	2.47	11/10/16 2:40
1,1,1-Trichloroethane	U	10.00	U	1.83	11/10/16 2:40
Carbon Tetrachloride	U	10.00	U	1.59	11/10/16 2:40
Benzene	U	10.00	U	3.13	11/10/16 2:40
Trichloroethene	U	10.00	U	1.86	11/10/16 2:40
1,4-Dioxane	U	10.00	U	2.77	11/10/16 2:40
1,1,2-Trichloroethane	U	10.00	U	1.83	11/10/16 2:40
Toluene	**36.46**	10.00	**9.68**	2.65	11/10/16 2:40
1,2-Dibromoethane (EDB)	U	10.00	U	1.30	11/10/16 2:40
Tetrachloroethene	U	10.00	U	1.47	11/10/16 2:40
1,1,1,2-Tetrachloroethane	U	10.00	U	1.46	11/10/16 2:40
Chlorobenzene	U	10.00	U	2.17	11/10/16 2:40
Ethylbenzene	U	10.00	U	2.30	11/10/16 2:40
p & m-Xylene	**25.08**	10.00	**5.78**	2.30	11/10/16 2:40
1,1,2,2-Tetrachloroethane	U	10.00	U	1.46	11/10/16 2:40
o-Xylene	U	10.00	U	2.30	11/10/16 2:40
1,2,3-Trichloropropane	U	10.00	U	1.66	11/10/16 2:40
Isopropylbenzene	U	10.00	U	2.03	11/10/16 2:40
1,3,5-Trimethylbenzene	U	10.00	U	2.03	11/10/16 2:40
1,2,4-Trimethylbenzene	U	10.00	U	2.03	11/10/16 2:40
1,3-Dichlorobenzene	**312.02 E**	10.00	**51.89 E**	1.66	11/10/16 2:40
1,4-Dichlorobenzene	U	10.00	U	1.66	11/10/16 2:40
1,2-Dichlorobenzene	U	10.00	U	1.66	11/10/16 2:40
1,2,4-Trichlorobenzene	U	10.00	U	1.35	11/10/16 2:40
Naphthalene	**6.07 J**	10.00	**1.16 J**	1.91	11/10/16 2:40
1,2,3-Trichlorobenzene	U	10.00	U	1.35	11/10/16 2:40
2-Methylnaphthalene	U	10.00	U	1.72	11/10/16 2:40

SURROGATES	Percent Recovery	Limits	Lab File ID	Completed
1,2-DCA-d4	**94**	70-130	A16110940	11/10/16 2:40
Toluene-d8	**102**	70-130	A16110940	11/10/16 2:40
Bromofluorobenzene	**108**	70-130	A16110940	11/10/16 2:40

U = Not detected or below Reporting Limit (RL).; J = Estimated value below the RL.; E = Measurement exceeded upper calibration range of instrument.

Table 1

Beacon Environmental Services, Inc.
2203A Commerce Road Suite 1
Forest Hill, MD 21050 USA
Analysis by EPA Method TO-17

Client:
Vista GeoScience
130 Capital Drive, Suite C
Golden, CO

Lab File ID:	A16110942
Beacon Sample ID:	1049459
Client ID/Sampling Location:	SV-05-02
Date Time Collected:	11/3/16 1:42 PM
Matrix:	Soil Gas
Dilution Factor:	1.0
Sample Volume in Liters:	1.00
Date Received:	11/8/2016
Analysis Date:	11/10/2016
Analysis Time:	3:26:00 AM
Beacon Job Number:	3588B

	Results	LOQ	Results	LOQ	
COMPOUNDS	ug/m3	ug/m3	ppbv	ppbv	Completed
Vinyl Chloride	U	10.00	U	3.91	11/10/16 3:26
1,1-Dichloroethene	U	10.00	U	2.52	11/10/16 3:26
1,1,2-Trichlorotrifluoroethane (Fr.113)	U	10.00	U	1.30	11/10/16 3:26
trans-1,2-Dichloroethene	U	10.00	U	2.52	11/10/16 3:26
Methyl-t-butyl ether	U	10.00	U	2.77	11/10/16 3:26
1,1-Dichloroethane	U	10.00	U	2.47	11/10/16 3:26
cis-1,2-Dichloroethene	U	10.00	U	2.52	11/10/16 3:26
Chloroform	U	10.00	U	2.05	11/10/16 3:26
1,2-Dichloroethane	U	10.00	U	2.47	11/10/16 3:26
1,1,1-Trichloroethane	U	10.00	U	1.83	11/10/16 3:26
Carbon Tetrachloride	U	10.00	U	1.59	11/10/16 3:26
Benzene	U	10.00	U	3.13	11/10/16 3:26
Trichloroethene	U	10.00	U	1.86	11/10/16 3:26
1,4-Dioxane	U	10.00	U	2.77	11/10/16 3:26
1,1,2-Trichloroethane	U	10.00	U	1.83	11/10/16 3:26
Toluene	**54.1**	10.00	**14.36**	2.65	11/10/16 3:26
1,2-Dibromoethane (EDB)	U	10.00	U	1.30	11/10/16 3:26
Tetrachloroethene	U	10.00	U	1.47	11/10/16 3:26
1,1,1,2-Tetrachloroethane	U	10.00	U	1.46	11/10/16 3:26
Chlorobenzene	U	10.00	U	2.17	11/10/16 3:26
Ethylbenzene	**13.54**	10.00	**3.12**	2.30	11/10/16 3:26
p & m-Xylene	**34.33**	10.00	**7.91**	2.30	11/10/16 3:26
1,1,2,2-Tetrachloroethane	U	10.00	U	1.46	11/10/16 3:26
o-Xylene	**11.79**	10.00	**2.72**	2.30	11/10/16 3:26
1,2,3-Trichloropropane	U	10.00	U	1.66	11/10/16 3:26
Isopropylbenzene	U	10.00	U	2.03	11/10/16 3:26
1,3,5-Trimethylbenzene	U	10.00	U	2.03	11/10/16 3:26
1,2,4-Trimethylbenzene	**10.82**	10.00	**2.2**	2.03	11/10/16 3:26
1,3-Dichlorobenzene	**338.87 E**	10.00	**56.36 E**	1.66	11/10/16 3:26
1,4-Dichlorobenzene	U	10.00	U	1.66	11/10/16 3:26
1,2-Dichlorobenzene	U	10.00	U	1.66	11/10/16 3:26
1,2,4-Trichlorobenzene	U	10.00	U	1.35	11/10/16 3:26
Naphthalene	**3.63 J**	10.00	**0.69 J**	1.91	11/10/16 3:26
1,2,3-Trichlorobenzene	U	10.00	U	1.35	11/10/16 3:26
2-Methylnaphthalene	U	10.00	U	1.72	11/10/16 3:26

SURROGATES	Percent Recovery	Limits	Lab File ID	Completed
1,2-DCA-d4	**93**	70-130	A16110942	11/10/16 3:26
Toluene-d8	**102**	70-130	A16110942	11/10/16 3:26
Bromofluorobenzene	**109**	70-130	A16110942	11/10/16 3:26

U = Not detected or below Reporting Limit (RL).; J = Estimated value below the RL.; E = Measurement exceeded upper calibration range of instrument.

Table 1

Beacon Environmental Services, Inc.
2203A Commerce Road Suite 1
Forest Hill, MD 21050 USA
Analysis by EPA Method TO-17

Client:
Vista GeoScience
130 Capital Drive, Suite C
Golden, CO

Lab File ID:	A16110944
Beacon Sample ID:	1049520
Client ID/Sampling Location:	SV-05-03
Date Time Collected:	11/3/16 2:10 PM
Matrix:	Soil Gas
Dilution Factor:	1.0
Sample Volume in Liters:	1.00
Date Received:	11/8/2016
Analysis Date:	11/10/2016
Analysis Time:	4:12:00 AM
Beacon Job Number:	3588B

	Results	LOQ	Results	LOQ	
COMPOUNDS	ug/m3	ug/m3	ppbv	ppbv	Completed
Vinyl Chloride	U	10.00	U	3.91	11/10/16 4:12
1,1-Dichloroethene	U	10.00	U	2.52	11/10/16 4:12
1,1,2-Trichlorotrifluoroethane (Fr.113)	U	10.00	U	1.30	11/10/16 4:12
trans-1,2-Dichloroethene	U	10.00	U	2.52	11/10/16 4:12
Methyl-t-butyl ether	U	10.00	U	2.77	11/10/16 4:12
1,1-Dichloroethane	U	10.00	U	2.47	11/10/16 4:12
cis-1,2-Dichloroethene	U	10.00	U	2.52	11/10/16 4:12
Chloroform	U	10.00	U	2.05	11/10/16 4:12
1,2-Dichloroethane	U	10.00	U	2.47	11/10/16 4:12
1,1,1-Trichloroethane	U	10.00	U	1.83	11/10/16 4:12
Carbon Tetrachloride	U	10.00	U	1.59	11/10/16 4:12
Benzene	U	10.00	U	3.13	11/10/16 4:12
Trichloroethene	U	10.00	U	1.86	11/10/16 4:12
1,4-Dioxane	U	10.00	U	2.77	11/10/16 4:12
1,1,2-Trichloroethane	U	10.00	U	1.83	11/10/16 4:12
Toluene	**38.06**	10.00	**10.1**	2.65	11/10/16 4:12
1,2-Dibromoethane (EDB)	U	10.00	U	1.30	11/10/16 4:12
Tetrachloroethene	U	10.00	U	1.47	11/10/16 4:12
1,1,1,2-Tetrachloroethane	U	10.00	U	1.46	11/10/16 4:12
Chlorobenzene	U	10.00	U	2.17	11/10/16 4:12
Ethylbenzene	**10.15**	10.00	**2.34**	2.30	11/10/16 4:12
p & m-Xylene	**25.24**	10.00	**5.81**	2.30	11/10/16 4:12
1,1,2,2-Tetrachloroethane	U	10.00	U	1.46	11/10/16 4:12
o-Xylene	U	10.00	U	2.30	11/10/16 4:12
1,2,3-Trichloropropane	U	10.00	U	1.66	11/10/16 4:12
Isopropylbenzene	U	10.00	U	2.03	11/10/16 4:12
1,3,5-Trimethylbenzene	U	10.00	U	2.03	11/10/16 4:12
1,2,4-Trimethylbenzene	U	10.00	U	2.03	11/10/16 4:12
1,3-Dichlorobenzene	**481.16 E**	10.00	**80.02 E**	1.66	11/10/16 4:12
1,4-Dichlorobenzene	U	10.00	U	1.66	11/10/16 4:12
1,2-Dichlorobenzene	U	10.00	U	1.66	11/10/16 4:12
1,2,4-Trichlorobenzene	U	10.00	U	1.35	11/10/16 4:12
Naphthalene	**18.82**	10.00	**3.59**	1.91	11/10/16 4:12
1,2,3-Trichlorobenzene	U	10.00	U	1.35	11/10/16 4:12
2-Methylnaphthalene	**14.12**	10.00	**2.43**	1.72	11/10/16 4:12

SURROGATES	Percent Recovery	Limits	Lab File ID	Completed
1,2-DCA-d4	**92**	70-130	A16110944	11/10/16 4:12
Toluene-d8	**101**	70-130	A16110944	11/10/16 4:12
Bromofluorobenzene	**108**	70-130	A16110944	11/10/16 4:12

U = Not detected or below Reporting Limit (RL).; J = Estimated value below the RL.; E = Measurement exceeded upper calibration range of instrument.

Table 1

Beacon Environmental Services, Inc.
2203A Commerce Road Suite 1
Forest Hill, MD 21050 USA
Analysis by EPA Method TO-17

Client:
Vista GeoScience
130 Capital Drive, Suite C
Golden, CO

Lab File ID:	A16110946
Beacon Sample ID:	G0177980
Client ID/Sampling Location:	SV-05-05
Date Time Collected:	11/3/16 2:42 PM
Matrix:	Soil Gas
Dilution Factor:	1.0
Sample Volume in Liters:	1.00
Date Received:	11/8/2016
Analysis Date:	11/10/2016
Analysis Time:	4:59:00 AM
Beacon Job Number:	3588B

	Results	LOQ	Results	LOQ	
COMPOUNDS	ug/m3	ug/m3	ppbv	ppbv	Completed
Vinyl Chloride	U	10.00	U	3.91	11/10/16 4:59
1,1-Dichloroethene	U	10.00	U	2.52	11/10/16 4:59
1,1,2-Trichlorotrifluoroethane (Fr.113)	U	10.00	U	1.30	11/10/16 4:59
trans-1,2-Dichloroethene	U	10.00	U	2.52	11/10/16 4:59
Methyl-t-butyl ether	U	10.00	U	2.77	11/10/16 4:59
1,1-Dichloroethane	U	10.00	U	2.47	11/10/16 4:59
cis-1,2-Dichloroethene	U	10.00	U	2.52	11/10/16 4:59
Chloroform	U	10.00	U	2.05	11/10/16 4:59
1,2-Dichloroethane	U	10.00	U	2.47	11/10/16 4:59
1,1,1-Trichloroethane	U	10.00	U	1.83	11/10/16 4:59
Carbon Tetrachloride	U	10.00	U	1.59	11/10/16 4:59
Benzene	U	10.00	U	3.13	11/10/16 4:59
Trichloroethene	U	10.00	U	1.86	11/10/16 4:59
1,4-Dioxane	U	10.00	U	2.77	11/10/16 4:59
1,1,2-Trichloroethane	U	10.00	U	1.83	11/10/16 4:59
Toluene	**31.06**	10.00	**8.24**	2.65	11/10/16 4:59
1,2-Dibromoethane (EDB)	U	10.00	U	1.30	11/10/16 4:59
Tetrachloroethene	U	10.00	U	1.47	11/10/16 4:59
1,1,1,2-Tetrachloroethane	U	10.00	U	1.46	11/10/16 4:59
Chlorobenzene	U	10.00	U	2.17	11/10/16 4:59
Ethylbenzene	U	10.00	U	2.30	11/10/16 4:59
p & m-Xylene	**19.08**	10.00	**4.39**	2.30	11/10/16 4:59
1,1,2,2-Tetrachloroethane	U	10.00	U	1.46	11/10/16 4:59
o-Xylene	U	10.00	U	2.30	11/10/16 4:59
1,2,3-Trichloropropane	U	10.00	U	1.66	11/10/16 4:59
Isopropylbenzene	U	10.00	U	2.03	11/10/16 4:59
1,3,5-Trimethylbenzene	U	10.00	U	2.03	11/10/16 4:59
1,2,4-Trimethylbenzene	U	10.00	U	2.03	11/10/16 4:59
1,3-Dichlorobenzene	**439.9 E**	10.00	**73.16 E**	1.66	11/10/16 4:59
1,4-Dichlorobenzene	U	10.00	U	1.66	11/10/16 4:59
1,2-Dichlorobenzene	U	10.00	U	1.66	11/10/16 4:59
1,2,4-Trichlorobenzene	U	10.00	U	1.35	11/10/16 4:59
Naphthalene	**3.08 J**	10.00	**0.59 J**	1.91	11/10/16 4:59
1,2,3-Trichlorobenzene	U	10.00	U	1.35	11/10/16 4:59
2-Methylnaphthalene	U	10.00	U	1.72	11/10/16 4:59

SURROGATES	Percent Recovery	Limits	Lab File ID	Completed
1,2-DCA-d4	**91**	70-130	A16110946	11/10/16 4:59
Toluene-d8	**102**	70-130	A16110946	11/10/16 4:59
Bromofluorobenzene	**108**	70-130	A16110946	11/10/16 4:59

U = Not detected or below Reporting Limit (RL).; J = Estimated value below the RL.; E = Measurement exceeded upper calibration range of instrument.

Table 1

Beacon Environmental Services, Inc.
2203A Commerce Road Suite 1
Forest Hill, MD 21050 USA
Analysis by EPA Method TO-17

Client:
Vista GeoScience
130 Capital Drive, Suite C
Golden, CO

Lab File ID:	A16110948
Beacon Sample ID:	H0231898
Client ID/Sampling Location:	SV-05-04
Date Time Collected:	11/3/16 2:28 PM
Matrix:	Soil Gas
Dilution Factor:	1.0
Sample Volume in Liters:	1.00
Date Received:	11/8/2016
Analysis Date:	11/10/2016
Analysis Time:	5:45:00 AM
Beacon Job Number:	3588B

	Results	LOQ	Results	LOQ	
COMPOUNDS	ug/m3	ug/m3	ppbv	ppbv	Completed
Vinyl Chloride	U	10.00	U	3.91	11/10/16 5:45
1,1-Dichloroethene	U	10.00	U	2.52	11/10/16 5:45
1,1,2-Trichlorotrifluoroethane (Fr.113)	U	10.00	U	1.30	11/10/16 5:45
trans-1,2-Dichloroethene	U	10.00	U	2.52	11/10/16 5:45
Methyl-t-butyl ether	U	10.00	U	2.77	11/10/16 5:45
1,1-Dichloroethane	U	10.00	U	2.47	11/10/16 5:45
cis-1,2-Dichloroethene	U	10.00	U	2.52	11/10/16 5:45
Chloroform	U	10.00	U	2.05	11/10/16 5:45
1,2-Dichloroethane	U	10.00	U	2.47	11/10/16 5:45
1,1,1-Trichloroethane	U	10.00	U	1.83	11/10/16 5:45
Carbon Tetrachloride	U	10.00	U	1.59	11/10/16 5:45
Benzene	U	10.00	U	3.13	11/10/16 5:45
Trichloroethene	U	10.00	U	1.86	11/10/16 5:45
1,4-Dioxane	U	10.00	U	2.77	11/10/16 5:45
1,1,2-Trichloroethane	U	10.00	U	1.83	11/10/16 5:45
Toluene	**41.01**	10.00	**10.88**	2.65	11/10/16 5:45
1,2-Dibromoethane (EDB)	U	10.00	U	1.30	11/10/16 5:45
Tetrachloroethene	U	10.00	U	1.47	11/10/16 5:45
1,1,1,2-Tetrachloroethane	U	10.00	U	1.46	11/10/16 5:45
Chlorobenzene	U	10.00	U	2.17	11/10/16 5:45
Ethylbenzene	**10.35**	10.00	**2.38**	2.30	11/10/16 5:45
p & m-Xylene	**25.17**	10.00	**5.8**	2.30	11/10/16 5:45
1,1,2,2-Tetrachloroethane	U	10.00	U	1.46	11/10/16 5:45
o-Xylene	U	10.00	U	2.30	11/10/16 5:45
1,2,3-Trichloropropane	U	10.00	U	1.66	11/10/16 5:45
Isopropylbenzene	U	10.00	U	2.03	11/10/16 5:45
1,3,5-Trimethylbenzene	U	10.00	U	2.03	11/10/16 5:45
1,2,4-Trimethylbenzene	U	10.00	U	2.03	11/10/16 5:45
1,3-Dichlorobenzene	**396.72 E**	10.00	**65.98 E**	1.66	11/10/16 5:45
1,4-Dichlorobenzene	U	10.00	U	1.66	11/10/16 5:45
1,2-Dichlorobenzene	U	10.00	U	1.66	11/10/16 5:45
1,2,4-Trichlorobenzene	U	10.00	U	1.35	11/10/16 5:45
Naphthalene	**80.59**	10.00	**15.37**	1.91	11/10/16 5:45
1,2,3-Trichlorobenzene	U	10.00	U	1.35	11/10/16 5:45
2-Methylnaphthalene	**27.52**	10.00	**4.73**	1.72	11/10/16 5:45

SURROGATES	Percent Recovery	Limits	Lab File ID	Completed
1,2-DCA-d4	**92**	70-130	A16110948	11/10/16 5:45
Toluene-d8	**102**	70-130	A16110948	11/10/16 5:45
Bromofluorobenzene	**107**	70-130	A16110948	11/10/16 5:45

U = Not detected or below Reporting Limit (RL).; J = Estimated value below the RL.; E = Measurement exceeded upper calibration range of instrument.

Table 1

Beacon Environmental Services, Inc.
2203A Commerce Road Suite 1
Forest Hill, MD 21050 USA
Analysis by EPA Method TO-17

Client:
Vista GeoScience
130 Capital Drive, Suite C
Golden, CO

Lab File ID:	A16110950
Beacon Sample ID:	1101163
Client ID/Sampling Location:	SV-05-06
Date Time Collected:	11/3/16 3:06 PM
Matrix:	Soil Gas
Dilution Factor:	1.0
Sample Volume in Liters:	1.00
Date Received:	11/8/2016
Analysis Date:	11/10/2016
Analysis Time:	6:32:00 AM
Beacon Job Number:	3588B

	Results	LOQ	Results	LOQ	
COMPOUNDS	ug/m3	ug/m3	ppbv	ppbv	Completed
Vinyl Chloride	U	10.00	U	3.91	11/10/16 6:32
1,1-Dichloroethene	U	10.00	U	2.52	11/10/16 6:32
1,1,2-Trichlorotrifluoroethane (Fr.113)	U	10.00	U	1.30	11/10/16 6:32
trans-1,2-Dichloroethene	U	10.00	U	2.52	11/10/16 6:32
Methyl-t-butyl ether	U	10.00	U	2.77	11/10/16 6:32
1,1-Dichloroethane	U	10.00	U	2.47	11/10/16 6:32
cis-1,2-Dichloroethene	U	10.00	U	2.52	11/10/16 6:32
Chloroform	U	10.00	U	2.05	11/10/16 6:32
1,2-Dichloroethane	U	10.00	U	2.47	11/10/16 6:32
1,1,1-Trichloroethane	U	10.00	U	1.83	11/10/16 6:32
Carbon Tetrachloride	U	10.00	U	1.59	11/10/16 6:32
Benzene	U	10.00	U	3.13	11/10/16 6:32
Trichloroethene	U	10.00	U	1.86	11/10/16 6:32
1,4-Dioxane	U	10.00	U	2.77	11/10/16 6:32
1,1,2-Trichloroethane	U	10.00	U	1.83	11/10/16 6:32
Toluene	**34.42**	10.00	**9.13**	2.65	11/10/16 6:32
1,2-Dibromoethane (EDB)	U	10.00	U	1.30	11/10/16 6:32
Tetrachloroethene	U	10.00	U	1.47	11/10/16 6:32
1,1,1,2-Tetrachloroethane	U	10.00	U	1.46	11/10/16 6:32
Chlorobenzene	U	10.00	U	2.17	11/10/16 6:32
Ethylbenzene	**11.04**	10.00	**2.54**	2.30	11/10/16 6:32
p & m-Xylene	**27.78**	10.00	**6.4**	2.30	11/10/16 6:32
1,1,2,2-Tetrachloroethane	U	10.00	U	1.46	11/10/16 6:32
o-Xylene	U	10.00	U	2.30	11/10/16 6:32
1,2,3-Trichloropropane	U	10.00	U	1.66	11/10/16 6:32
Isopropylbenzene	U	10.00	U	2.03	11/10/16 6:32
1,3,5-Trimethylbenzene	U	10.00	U	2.03	11/10/16 6:32
1,2,4-Trimethylbenzene	U	10.00	U	2.03	11/10/16 6:32
1,3-Dichlorobenzene	**397.51 E**	10.00	**66.11 E**	1.66	11/10/16 6:32
1,4-Dichlorobenzene	U	10.00	U	1.66	11/10/16 6:32
1,2-Dichlorobenzene	U	10.00	U	1.66	11/10/16 6:32
1,2,4-Trichlorobenzene	U	10.00	U	1.35	11/10/16 6:32
Naphthalene	**3.63 J**	10.00	**0.69 J**	1.91	11/10/16 6:32
1,2,3-Trichlorobenzene	U	10.00	U	1.35	11/10/16 6:32
2-Methylnaphthalene	U	10.00	U	1.72	11/10/16 6:32

SURROGATES	Percent Recovery	Limits	Lab File ID	Completed
1,2-DCA-d4	**93**	70-130	A16110950	11/10/16 6:32
Toluene-d8	**102**	70-130	A16110950	11/10/16 6:32
Bromofluorobenzene	**108**	70-130	A16110950	11/10/16 6:32

U = Not detected or below Reporting Limit (RL).; J = Estimated value below the RL.; E = Measurement exceeded upper calibration range of instrument.

Attachment 1

Chain of Custody

Beacon Environmental Services, Inc.

CHAIN-OF-CUSTODY RECORD

2203A Commerce Road, Suite 1
Forest Hill, MD 21050
410-838-8780 / fax: 410-838-8740

Client Contact Information	Project Manager: Lynda Price	BEACON Project No.: 3588
Company: Entera	Phone: (512) 492-2072	Client PO No.
Address: 6000 Uptown Blvd. NE	Project Name: COA Railyard	Analysis Turnaround Time
City/State/Zip: Albuquerque, NM 87110	Location: 1100 2nd St. SW Albuquerque, NM	☑ Normal
Phone: (505) 246-1600	Sampler Name(s): J. ZANDEL & T. LAWSON	☐ Rush (Specify): _____ days

Location ID	Tube ID Number	Pump ID Number	Start Time Date	Start Time Time	Temp. (F)	Stop Time Date	Stop Time Time	Temp. (F)	Pre-survey Measured Pump Flow Rate (mL/min)	Post-survey Measured Pump Flow Rate (mL/min)		Analysis: TO-17	Analysis: 8260B	Analysis: TICs	Matrix: Indoor / Ambient Air	Matrix: Soil Gas
SV-06 B	H0232665	ROA-P101-AA	10/25	11:25		10/25	11:33		200 mL/min	200 mL/min		X				
SV-06 A	H0234809			11:28			11:33		200 mL/min	200 mL/min						
SV-07B	H0231804			13:35			13:40		200 mL/min	200 mL/min						
SV-07A	H0199678			13:35			13:40		200 mL/min	200 mL/min						
SV-08A	1049238			15:37			15:42		200 mL/min	200 mL/min						
SV-08B	1101336			15:37			15:42		200 mL/min	200 mL/min						
SV-09A	G0177458			17:18			17:23		200 mL/min	200 mL/min						
SV-09B	1101200			17:15			17:23		200 mL/min	200 mL/min						

Ambient Conditions When Sampling

	Temperature (F)	Barometric Pressure (mmHg)	Date
Start	65°	25.22	10/25
Stop			

Pump(s) Calibration and Flow Rate Check:

Cal. Tube ID:	Date	Lab or Field	Flow Meter Make/Serial #	Operator name
Pre-Survey				
Post-Survey				

Special Notes/Instructions:

Relinquished by: (signature) JEFF ZANDEL	Date/Time: 10/31/16 12:30	Received by: (signature) Augusto Benavides	Date/Time: 11/4/2016 13:17h
Relinquished by: (signature)	Date/Time:	Received by: (signature)	Date/Time:
Relinquished by: (signature)	Date/Time:	Received by: (signature)	Date/Time:

Lab Use Only	Courier Name	Shipment Condition	Sample Delivery Group ID	Custody Seal Intact	Custody Seal No.
	Fed Ex	good		(Yes) No None	0603986

Beacon Environmental Services, Inc.

2203A Commerce Road, Suite 1
Forest Hill, MD 21050
410-838-8780 / fax: 410-838-8740

CHAIN-OF-CUSTODY RECORD

Client Contact Information	Project Manager:	BEACON Project No.: 3588
Company: Interca	Phone:	Client PO No.
Address:	Project Name:	Analysis Turnaround Time
City/State/Zip:	Location:	☑ Normal
Phone:	Sampler Name(s):	☐ Rush (Specify): _____ days

Location ID	Tube ID Number	Pump ID Number	Start Time Date	Start Time Time	Temp. (F)	Stop Time Date	Stop Time Time	Temp. (F)	Pre-survey Measured Pump Flow Rate (mL/min)	Post-survey Measured Pump Flow Rate (mL/min)	Analysis: TO-17	Analysis: 8260B	Analysis: TICs	Matrix: Indoor / Ambient Air	Matrix: Soil Gas
SV-16 A	HO199673	RDA-PIO1-AA	10/26	13:35		10/26	13:40		200mL/min	200mL/min	X				
SV-16 B	HO200229			15:35			13:40		200mL/min	200mL/min					
SV-17 A	HO232690			14:18			14:23		200mL/min	200mL/min					
SV-17 B	HO199663			14:18			14:23		200mL/min	200mL/min					
SV-03 A	HO234823			14:56			15:01		200mL/min	200mL/min					
SV-03 B	HO200222			14:56			15:01		200mL/min	200mL/min					
SV-14 A	GO115947			15:33			15:38		200mL/min	200mL/min					
SV-14 B	GO115903			15:33			15:38		200mL/min	200mL/min					
SV-04 A	GO119804			16:05			16:10		200mL/min	200mL/min					
SV-04 B	GO163246			16:05			16:10		200mL/min	200mL/min					

Ambient Conditions When Sampling

	Temperature (F)	Barometric Pressure (mmHg)	Date
Start	71° F	25.28 mmHg	10/26
Stop	75° F	25.17 mmHg	10/26

Pump(s) Calibration and Flow Rate Check:

Cal. Tube ID:	Date	Lab or Field	Flow Meter Make/Serial #	Operator name
Pre-Survey				
Post-Survey				

Special Notes/Instructions:

Relinquished by: (signature) JEFF CASDEL	Date/Time: 10/31/16 12:30	Received by: (signature) August Beaudoin	Date/Time: 11/4/2016 13:17h
Relinquished by: (signature)	Date/Time:	Received by: (signature)	Date/Time:
Relinquished by: (signature)	Date/Time:	Received by: (signature)	Date/Time:

Lab Use Only	Courier Name	Shipment Condition	Sample Delivery Group ID	Custody Seal Intact	Custody Seal No.
	FedEx	good		(Yes) No None	0603986

Beacon Environmental Services, Inc.

2203A Commerce Road, Suite 1
Forest Hill, MD 21050
410-838-8780 / fax: 410-838-8740

CHAIN-OF-CUSTODY RECORD

Client Contact Information	Project Manager:	BEACON Project No.: 3588
Company: Intera	Phone:	Client PO No.
Address:	Project Name:	Analysis Turnaround Time
City/State/Zip:	Location:	☑ Normal
Phone:	Sampler Name(s):	☐ Rush (Specify): _____ days

Location ID	Tube ID Number	Pump ID Number	Start Time Date	Start Time Time	Temp. (F)	Stop Time Date	Stop Time Time	Temp. (F)	Pre-survey Measured Pump Flow Rate (mL/min)	Post-survey Measured Pump Flow Rate (mL/min)		Analysis: TO-17	Analysis: 8260B	Analysis: TICs	Matrix: Indoor / Ambient Air	Matrix: Soil Gas
SV-12A	HO200253	ROA-PID1-AA	10/26	16:38		10/26	16:43		200mL/min	200mL/min		X				
SV-12B	GO15958	↓	↓	16:38		↓	16:43		200mL/min	200mL/min		↓				
SV-11A	GO164559			17:16			17:21		200mL/min	200mL/min						
SV-11B	HO199605			17:16			17:21		200mL/min	200mL/min						
SV-10A	GO177407			17:49			17:54		200mL/min	200mL/min						
SV-10B	HO200253	↓	↓	17:49		↓	17:54		200mL/min	200mL/min		↓				

Ambient Conditions When Sampling	Temperature (F)	Barometric Pressure (mmHg)	Date
Start	71° F	25.28 mmHg	10/26
Stop	75° F	25.17 mmHg	10/26

Pump(s) Calibration and Flow Rate Check:	Cal. Tube ID:	Date	Lab or Field	Flow Meter Make/Serial #	Operator name
Pre-Survey					
Post-Survey					

Special Notes/Instructions:

Relinquished by: (signature) JEFF ZAJDEL	Date/Time: 10/31/16 10:30	Received by: (signature) Augusto Benavides	Date/Time: 11/4/2016 13:17
Relinquished by: (signature)	Date/Time:	Received by: (signature)	Date/Time:
Relinquished by: (signature)	Date/Time:	Received by: (signature)	Date/Time:

Lab Use Only	Courier Name	Shipment Condition	Sample Delivery Group ID	Custody Seal Intact	Custody Seal No.
	FedEx	good		(Yes) No None	0603986

Beacon Environmental Services, Inc.

2203A Commerce Road, Suite 1
Forest Hill, MD 21050
410-838-8780 / fax: 410-838-8740

CHAIN-OF-CUSTODY RECORD

Client Contact Information	Project Manager:	BEACON Project No.: 3588
Company: Intera	Phone:	Client PO No.
Address:	Project Name:	Analysis Turnaround Time
City/State/Zip:	Location:	☑ Normal
Phone:	Sampler Name(s):	☐ Rush (Specify): _____ days

Location ID	Tube ID Number	Pump ID Number	Start Time Date	Start Time Time	Temp. (F)	Stop Time Date	Stop Time Time	Temp. (F)	Pre-survey Measured Pump Flow Rate (mL/min)	Post-survey Measured Pump Flow Rate (mL/min)	Analysis: TO-17	Analysis: 8260B	Analysis: TICs	Matrix: Indoor / Ambient Air	Matrix: Soil Gas
SV-32A	G0164954	ROA-P101-AA	10/27	13:31		10/27	13:36		200mL/min	200 mL/min	X				
SV-32B	G0177478			13:31			13:36		200mL/min	200 mL/min					
SV-31A	H0200236			13:58			14:03		200mL/min	200mL/min					
SV-31B	Mi102989			13:58			14:03		200mL/min	200mL/min					
SV-30A	G0167057			14:30			14:35		200mL/min	200mL/min					
SV-30B	G0164172			14:30			14:35		200mL/min	200mL/min					
SV-29A	H0200227			14:55			15:00		200mL/min	200mL/min					
SV-29B	H0200271			14:55			15:00		200mL/min	200mL/min					
SV-28A	1100863			15:21			15:26		200mL/min	200mL/min					
SV-28B	1100880			15:21			15:26		200mL/min	200 mL/min	↓				

Ambient Conditions When Sampling

	Temperature (F)	Barometric Pressure (mmHg)	Date
Start	74°F	25.26 mm Hg	10/27
Stop			

Pump(s) Calibration and Flow Rate Check:

Cal. Tube ID:	Date	Lab or Field	Flow Meter Make/Serial #	Operator name
Pre-Survey				
Post-Survey				

Special Notes/Instructions:

Relinquished by: (signature) Jeff Zandorf	Date/Time: 10/31/16 12:30	Received by: (signature) Augusto Benavides	Date/Time: 11/4/2016 13:17h
Relinquished by: (signature)	Date/Time:	Received by: (signature)	Date/Time:
Relinquished by: (signature)	Date/Time:	Received by: (signature)	Date/Time:

Lab Use Only	Courier Name	Shipment Condition	Sample Delivery Group ID	Custody Seal Intact	Custody Seal No.
	FedEx	good		(Yes) No None	0603986

Beacon Environmental Services, Inc.

2203A Commerce Road, Suite 1
Forest Hill, MD 21050
410-838-8780 / fax: 410-838-8740

CHAIN-OF-CUSTODY RECORD

Client Contact Information	Project Manager:	BEACON Project No.: 3588
Company: Entera	Phone:	Client PO No.
Address:	Project Name:	Analysis Turnaround Time
City/State/Zip:	Location:	☐ Normal
Phone:	Sampler Name(s):	☐ Rush (Specify): _____ days

Location ID	Tube ID Number	Pump ID Number	Start Time Date	Start Time Time	Temp. (F)	Stop Time Date	Stop Time Time	Temp. (F)	Pre-survey Measured Pump Flow Rate (mL/min)	Post-survey Measured Pump Flow Rate (mL/min)		Analysis: TO-17	Analysis: 8260B	Analysis: TICs	Matrix: Indoor / Ambient Air	Matrix: Soil Gas
SV-27A	1049249	ROA-P101-AA	10/27	15:50		10/27	15:55		200mL/min	200mL/min		X				
SV-27B	G0168290	↓	↓	15:50		↓	15:55		200mL/min	200mL/min		↓				
SV-21A	H0199664			16:19			16:24		200mL/min	200mL/min						
SV-21B	G0163271			16:19			16:24		200mL/min	200mL/min						
SV-23A	H0200288			16:52			16:57		200mL/min	200mL/min						
SV-23B	H0199654	↓	↓	16:52		↓	16:57		200mL/min	200mL/min	↓					

Ambient Conditions When Sampling

	Temperature (F)	Barometric Pressure (mmHg)	Date
Start	74° F	25.26 mmHg	10/27
Stop	71° F	25.16 mmHg	10/27

Pump(s) Calibration and Flow Rate Check:

Cal. Tube ID:	Date	Lab or Field	Flow Meter Make/Serial #	Operator name
Pre-Survey				
Post-Survey				

Special Notes/Instructions:

Relinquished by: (signature) Jeff Powell	Date/Time: 10/31/16 12:30	Received by: (signature) Augusto Benavides	Date/Time: 11/4/2016 13:17
Relinquished by: (signature)	Date/Time:	Received by: (signature)	Date/Time:
Relinquished by: (signature)	Date/Time:	Received by: (signature)	Date/Time:

Lab Use Only	Courier Name	Shipment Condition	Sample Delivery Group ID	Custody Seal Intact	Custody Seal No.
	FedEx	good		(Yes) No None	0603986

CHAIN-OF-CUSTODY RECORD

2203A Commerce Road, Suite 1
Forest Hill, MD 21050
410-838-8780 / fax: 410-838-8740

Client Contact Information		Project Manager: Joe Tracy, jtracy@intera.com	BEACON Project No.: 3588B	Analysis			Matrix	
Company: INTERA		Phone: 505-246-1600	Client PO No.					
Address: 6000 Uptown Blvd NE, Suite 220		Project Name: Abq Railyard	Analysis Turnaround Time					
City/State/Zip: Albuquerque, NM 87106 87110		Location: Albuquerque, NM	☑ Normal					
Phone: 505-246-1606		Sampler Name(s): Matt Sophy, Frank Roecker Clark Stuart	☐ Rush (Specify): _____ days					

Location ID	Tube ID Number	Pump ID Number	Start Time Date	Start Time Time	Temp. (F)	Stop Time Date	Stop Time Time	Temp. (F)	Pre-survey Measured Pump Flow Rate (mL/min)	Post-survey Measured Pump Flow Rate (mL/min)	TO-17	8260B	TICs	Indoor / Ambient Air	Soil Gas
SV-08-04	H0199658	INTERA-1	10/31/16	1609		10/31/16	1614		200	200	X				X
SV-08-04	H0199609	INTERA-1	10/31/16	1609		10/31/16	1614		200	200	X				X
SV-08-03	H0199622	INTERA-1	10/31/16	1647		10/31/16	1652		200	200	X				X
SV-08-03	G0177410	INTERA-1	10/31/16	1647		10/31/16	1652		200	200	X				X
SV-07-01	H0238242	INTERA-1	11/2/16	1130		11/2/16	1135		200	200	X				X
SV-07-01	H0233609	INTERA-1	11/2/16	1130		11/2/16	1135		200	200	X				X
SV-07-02	H0234516	INTERA-1	11/2/16	1227		11/2/16	1232		200	200	X				X
SV-07-02	H0234866	INTERA-1	11/2/16	1227		11/2/16	1232		200	200	X				X
SV-07-04	G0115976	INTERA-1	11/2/16	1254		11/2/16	1259		200	200	X				X
SV-07-04	G0165064	INTERA-1	11/2/16	1254		11/2/16	1259		200	200	X				X

Ambient Conditions When Sampling	Temperature (F)	Barometric Pressure (mmHg)	Date
Start			
Stop			

Pump(s) Calibration and Flow Rate Check:	Cal. Tube ID:	Date	Lab or Field	Flow Meter Make/Serial #
Pre-Survey				
Post-Survey				

Special Notes/Instructions:
Install date is date vapor pin set. Pins sit idle for at least 24-hours before sampling. Retrieve date is sampling date. Sample for 5 min @ 200 mL/min

Relinquished by: (signature)	Date/Time: 11/7/2016 1137	Received by: (signature) Augusto Bevaville	Date/Time: 11/8/2016 14:28
Relinquished by: (signature)	Date/Time:	Received by: (signature)	Date/Time:
Relinquished by: (signature)	Date/Time:	Received by: (signature)	Date/Time:

Lab Use Only	Courier Name	Shipment Condition	Sample Delivery Group ID	Custody Seal Intact	Custody Seal No.
	FedEx	good		Yes No (None)	

CHAIN-OF-CUSTODY RECORD

2203A Commerce Road, Suite 1
Forest Hill, MD 21050
410-838-8780 / fax: 410-838-8740

Client Contact Information		Project Manager: Joe Tracy, jtracy@intera.com	BEACON Project No.: 3588B
Company: INTERA		Phone: 505-246-1600	Client PO No.
Address: 6000 Uptown Blvd NE, St 220		Project Name: Abq Railyard	Analysis Turnaround Time
City/State/Zip: Albuquerque, NM 87110		Location: Albuquerque, NM	☑ Normal
Phone: 505-246-1600		Sampler Name(s): Matt Sugg, Frank Meeker, Clark Short	☐ Rush (Specify): _____ days

Location ID	Tube ID Number	Pump ID Number	Start Time Date	Start Time Time	Temp. (F)	Stop Time Date	Stop Time Time	Temp. (F)	Pre-survey Measured Pump Flow Rate (mL/min)	Post-survey Measured Pump Flow Rate (mL/min)	Analysis: TO-17	Analysis: 8260B	Analysis: TICs	Matrix: Indoor / Ambient Air	Matrix: Soil Gas
SV-07-03 ~~04~~ MS	G0115955	INTERA-1	11/2/16	1316		11/2/16	1321		200	200	X				X
SV-07-03 ~~04~~ MSD	H0234849	INTERA-1	11/2/16	1316		11/2/16	1321		200	200	X				X
SV-08-05	G0166869	INTERA-1	11/2/16	1347		11/2/16	1352		200	200	X				X
SV-08-05	H0231858	INTERA-1	11/2/16	1347		11/2/16	1352		200	200	X				X
SV-08-06	H0232630	INTERA-1	11/2/16	1410		11/2/16	1415		200	200	X				X
SV-08-06	G0164508	INTERA-1	11/2/16	1410		11/2/16	1415		200	200	X				X
SV-08-02	1101399	INTERA-1	11/2/16	1445		11/2/16	1450		200	200	X				X
SV-08-02	G0177907	INTERA-1	11/2/16	1445		11/2/16	1450		200	200	X				X
SV-08-09	H0234844	INTERA-1	11/2/16	1631		11/2/16	1636		200	200	X				X
SV-08-09	1100861	INTERA-1	11/2/16	1631		11/2/16	1636		200	200	X				X

Ambient Conditions When Sampling	Temperature (F)	Barometric Pressure (mmHg)	Date
Start			
Stop			

Pump(s) Calibration and Flow Rate Check:	Cal. Tube ID:	Date	Lab or Field	Flow Meter Make/Serial #
Pre-Survey				
Post-Survey				

Special Notes/Instructions:
Install date is date vapor pin set. Pins sit idle 24-hours before sampling. Retrieve date is sampling date. Sample for 5 min @ 200cc/min

Relinquished by: (signature)	Date/Time: 11/7/2016 1137	Received by: (signature) Augusto Bermudez	Date/Time: 11/8/2016 14:28h
Relinquished by: (signature)	Date/Time:	Received by: (signature)	Date/Time:
Relinquished by: (signature)	Date/Time:	Received by: (signature)	Date/Time:

Lab Use Only	Courier Name	Shipment Condition	Sample Delivery Group ID	Custody Seal Intact	Custody Seal No.
	FedEx	Good		Yes No (None)	

CHAIN-OF-CUSTODY RECORD

2203A Commerce Road, Suite 1
Forest Hill, MD 21050
410-838-8780 / fax: 410-838-8740

Client Contact Information		Project Manager: Joe Tracy, JTracy@intera.com	BEACON Project No.: 3588B
Company: INTERA		Phone: 505-246-1600	Client PO No.
Address: 6000 Uptown Blvd NE, Ste 220		Project Name: Abq Railyard	Analysis Turnaround Time
City/State/Zip: Albuquerque, NM 87110		Location: Albuquerque, NM	☑ Normal
Phone: 505-246-1600		Sampler Name(s): M.H Sply, Frank Roecker, Clark Short	☐ Rush (Specify): _____ days

Location ID	Tube ID Number	Pump ID Number	Start Time Date	Start Time Time	Temp. (F)	Stop Time Date	Stop Time Time	Temp. (F)	Pre-survey Measured Pump Flow Rate (mL/min)	Post-survey Measured Pump Flow Rate (mL/min)	Analysis: TO-17	Analysis: 8260B	Analysis: TICs	Matrix: Indoor / Ambient Air	Matrix: Soil Gas
SV-06-10	G0177969	INTERA 1	11/2/16	1651		11/2/16	1656		200	200	X				X
SV-08-10	1049357	INTERA 1	11/2/16	1651		11/2/16	1656		200	200	X				X
SV-03-03	H0234580	INTERA 1	11/3/16	0905		11/3/16	0910		200	200	X				X
SV-03-03	H0233696	INTERA 1	11/3/16	0905		11/3/16	0910		200	200	X				X
SV-03-02	G0178581	INTERA 1	11/3/16	0921		11/3/16	0926		200	200	X				X
SV-03-02	G0177972	INTERA 1	11/3/16	0921		11/3/16	0926		200	200	X				X
SV-03-01	H0234875	INTERA 1	11/3/16	0936		11/3/16	0941		200	200	X				X
SV-03-01	G0177464	INTERA 1	11/3/16	0936		11/3/16	0941		200	200	X				X
SV-08-07	G0164568	INTERA 1	11/3/16	1036		11/3/16	1041		200	200	X				X
SV-08-07	H0231896	INTERA 1	11/3/16	1036		11/3/16	1041		200	200	X				X

Ambient Conditions When Sampling	Temperature (F)	Barometric Pressure (mmHg)	Date
Start			
Stop			

Pump(s) Calibration and Flow Rate Check:	Cal. Tube ID:	Date	Lab or Field	Flow Meter Make/Serial #
Pre-Survey				
Post-Survey				

Special Notes/Instructions:
Install date is date vapor pin set. Pins sit idle for 24-hrs before sampling. Retrieve date is sampling date. Sample for 5 min at 200cc/min

Relinquished by: (signature) M.H Sply	Date/Time: 11/7/2016 1137	Received by: (signature) August Beaverbes	Date/Time: 11/8/2016 14:28
Relinquished by: (signature)	Date/Time:	Received by: (signature)	Date/Time:
Relinquished by: (signature)	Date/Time:	Received by: (signature)	Date/Time:

Lab Use Only	Courier Name	Shipment Condition	Sample Delivery Group ID	Custody Seal Intact	Custody Seal No.
	Fed Ex	good		Yes No (None)	

CHAIN-OF-CUSTODY RECORD

2203A Commerce Road, Suite 1
Forest Hill, MD 21050
410-838-8780 / fax: 410-838-8740

Client Contact Information		Project Manager: Joe Tracy, jtracy@intera.com	BEACON Project No.: 3588B
Company: INTERA		Phone: 505-246-1600	Client PO No.
Address: 6000 Uptown Blvd NE, Ste. 220		Project Name: Abq Railyard	Analysis Turnaround Time
City/State/Zip: Albuquerque, NM 87110		Location: Albuquerque, NM	☑ Normal
Phone: 505-246-1600		Sampler Name(s): M.H Sophy, Frank Roecker, Clark Shul	☐ Rush (Specify): _____ days

Location ID	Tube ID Number	Pump ID Number	Start Time Date	Start Time Time	Temp. (F)	Stop Time Date	Stop Time Time	Temp. (F)	Pre-survey Measured Pump Flow Rate (mL/min)	Post-survey Measured Pump Flow Rate (mL/min)	Analysis: TO-17	Analysis: 8260B	Analysis: TICs	Matrix: Indoor / Ambient Air	Matrix: Soil Gas
SV-08-08	H0234589	INTERA 2	11/3/16	1100		11/3/16	1105		200	200	X				X
SV-08-08	1101002	INTERA 1	11/3/16	1100		11/3/16	1105		200	200	X				X
SV-08-01	G0164999	INTERA 1	11/3/16	1126		11/3/16	1131		200	200	X				X
SV-08-01	H0233606	INTERA 1	11/3/16	1126		11/3/16	1131		200	200	X				X
SV-05-01	1100817	INTERA 1	11/3/16	1317		11/3/16	1322		200	200	X				X
SV-05-01	H0234865	INTERA 1	11/3/16	1317		11/3/16	1322		200	200	X				X
SV-05-02	1049459	INTERA 1	11/3/16	1337		11/3/16	1342		200	200	X				X
SV-05-02	1049361	INTERA 1	11/3/16	1337		11/3/16	1342		200	200	X				X
SV-05-03	1049520	INTERA 1	11/3/16	1405		11/3/16	1410		200	200	X				X
SV-05-03	1049196	INTERA 1	11/3/16	1405		11/3/16	1410		200	200	X				X

Ambient Conditions When Sampling	Temperature (F)	Barometric Pressure (mmHg)	Date
Start			
Stop			

Pump(s) Calibration and Flow Rate Check:	Cal. Tube ID:	Date	Lab or Field	Flow Meter Make/Serial #
Pre-Survey				
Post-Survey				

Special Notes/Instructions:
Install date is date vapor pin set. Pins sit idle for 24-hrs prior to sampling. Retrieve date is sampling date. Sample for 5min at 200cc/min.

Relinquished by: (signature)	Date/Time: 11/7/2016 1137	Received by: (signature) Agnes Benavidez	Date/Time: 11/8/2016 14:28h
Relinquished by: (signature)	Date/Time:	Received by: (signature)	Date/Time:
Relinquished by: (signature)	Date/Time:	Received by: (signature)	Date/Time:

Lab Use Only	Courier Name	Shipment Condition	Sample Delivery Group ID	Custody Seal Intact	Custody Seal No.
	Fed Ex	good		Yes No (None)	

CHAIN-OF-CUSTODY RECORD

2203A Commerce Road, Suite 1
Forest Hill, MD 21050
410-838-8780 / fax: 410-838-8740

Client Contact Information		Project Manager: Joe Tracy, JTracy@intera.com	BEACON Project No.: 3588B
Company: INTERA		Phone: 505-246-1600	Client PO No.
Address: 6000 Uptown Blvd NE, Ste 220		Project Name: Abq Railyard	Analysis Turnaround Time
City/State/Zip: Albuquerque, NM 87110		Location: Albuquerque, NM ~~87110~~	☑ Normal
Phone: 505-246-1600		Sampler Name(s): M.H Sybl, Frank Roecker, Clark Shoul	☐ Rush (Specify): _____ days

Location ID	Tube ID Number	Pump ID Number	Start Time Date	Start Time Time	Temp. (F)	Stop Time Date	Stop Time Time	Temp. (F)	Pre-survey Measured Pump Flow Rate (mL/min)	Post-survey Measured Pump Flow Rate (mL/min)	Analysis: TO-17	Analysis: 8260B	Analysis: TICs	Matrix: Indoor / Ambient Air	Matrix: Soil Gas
SV-05-05	G01779801	INTERA-1	11/3/16	1437		11/3/16	1442		200	200	X				X
SV-05-05	G01650S4	INTERA-1	11/3/16	1437		11/3/16	1442		200	200	X				X
SV-05-04	H0231898	INTERA-1	11/3/16	1423		11/3/16	1428		200	200	X				X
SV-05-04	H0234573	INTERA-1	11/3/16	1423		11/3/16	1428		200	200	X				X
SV-05-06	11011163	INTERA-1	11/3/16	1501		11/3/16	1506		200	200	X				X
SV-05-06	11008803	INTERA-1	11/3/16	1501		11/3/16	1506		200	200	X				X

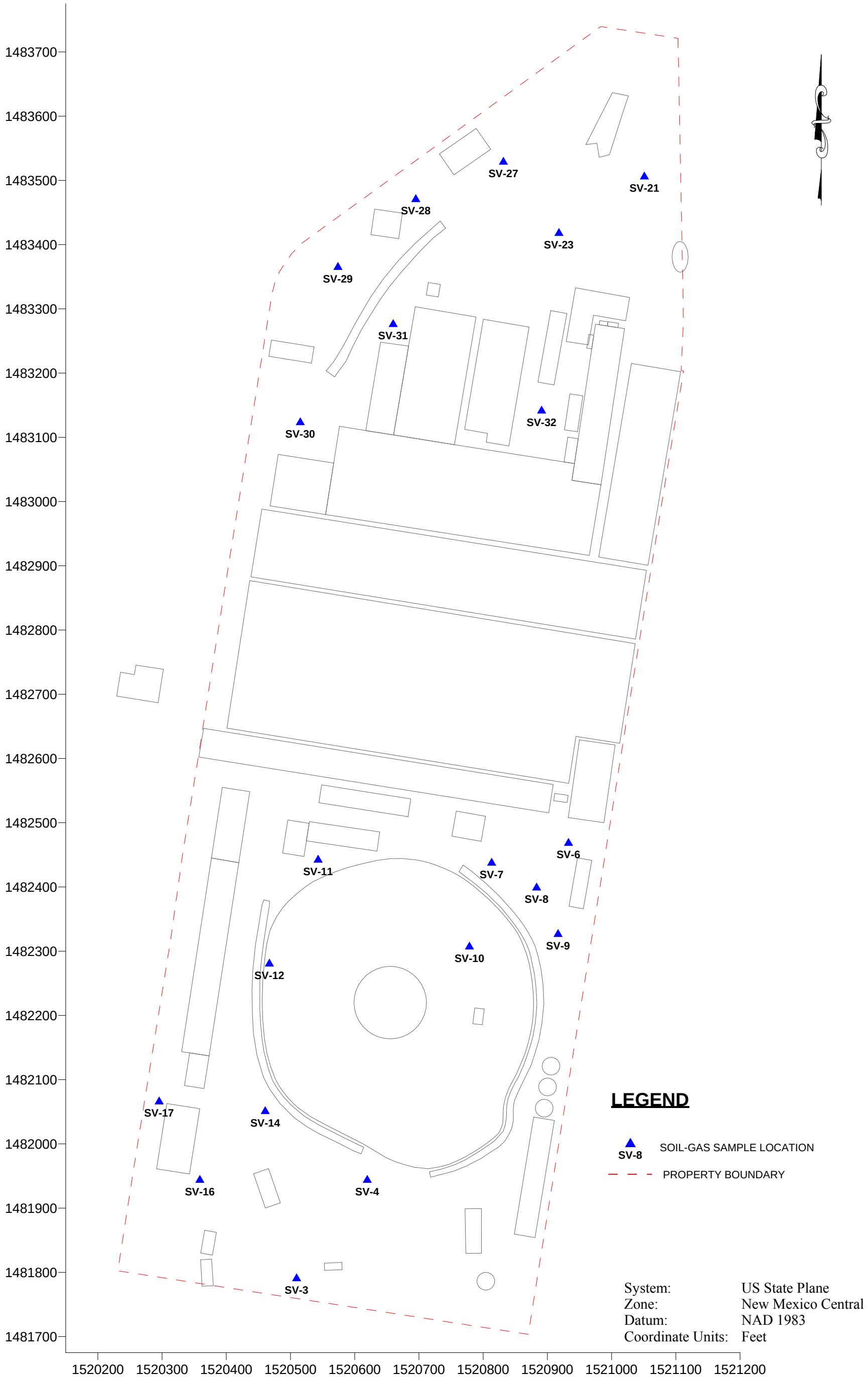
Ambient Conditions When Sampling	Temperature (F)	Barometric Pressure (mmHg)	Date
Start			
Stop			

Pump(s) Calibration and Flow Rate Check:	Cal. Tube ID:	Date	Lab or Field	Flow Meter Make/Serial #
Pre-Survey				
Post-Survey				

Special Notes/Instructions:
Install date is date vapor pin set. Pins sit idle 24-hrs before sampling. Retrieve date is sampling date. Sample for 5 min at 200 cc/min.

Relinquished by: (signature)	Date/Time: 11/3/2016 1137	Received by: (signature) August Benavides	Date/Time: 11/8/2016 14:28
Relinquished by: (signature)	Date/Time:	Received by: (signature)	Date/Time:
Relinquished by: (signature)	Date/Time:	Received by: (signature)	Date/Time:

Lab Use Only	Courier Name	Shipment Condition	Sample Delivery Group ID	Custody Seal Intact	Custody Seal No.
	FedEx	good		Yes No (None)	



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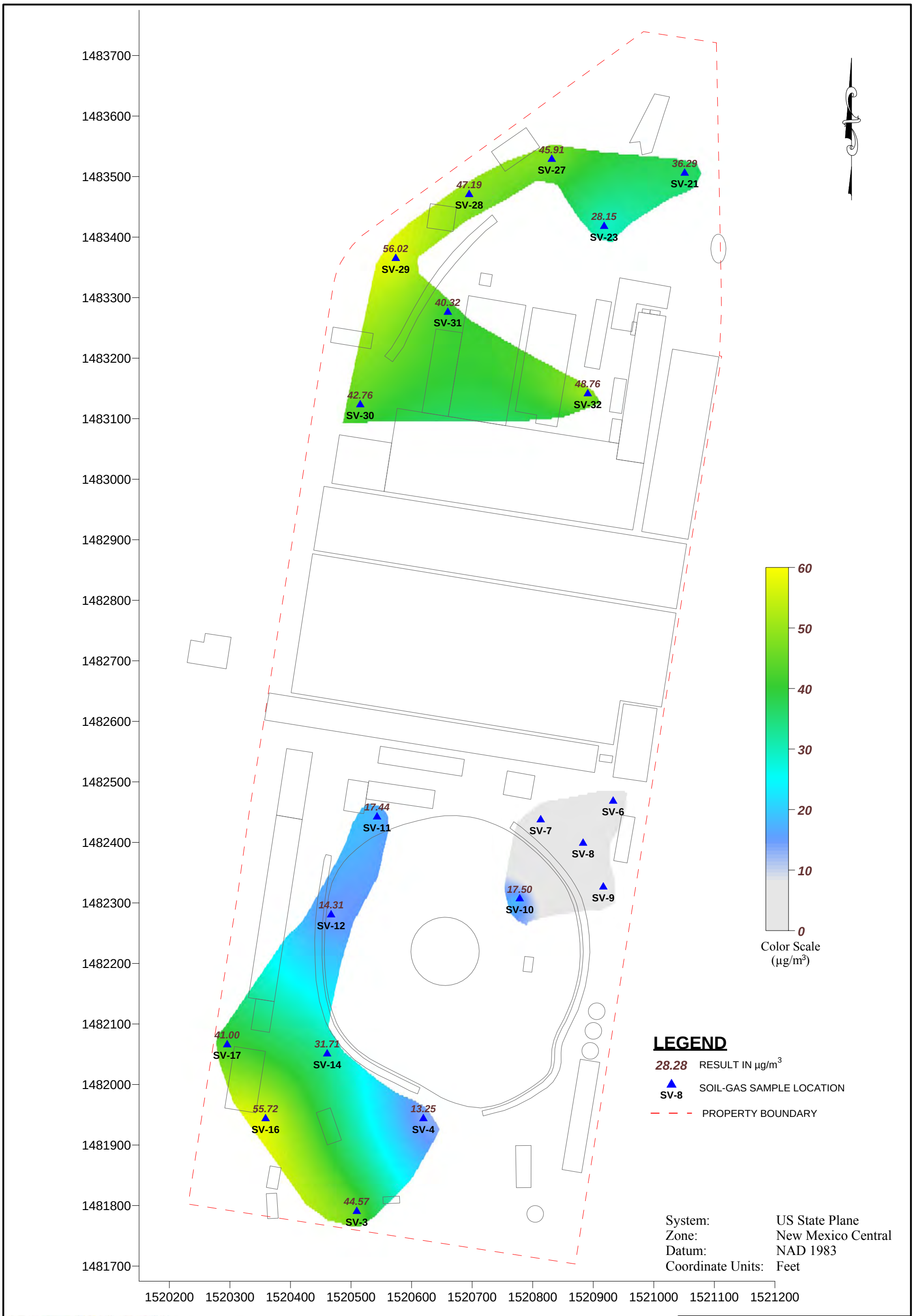
www.Beacon-USA.com 1-410-838-8780
Beacon Project No. 3588, November 2016

Figure 1
Soil-Gas Survey
Soil-Vapor Sample Locations

Albuquerque Railyards
Albuquerque, NM



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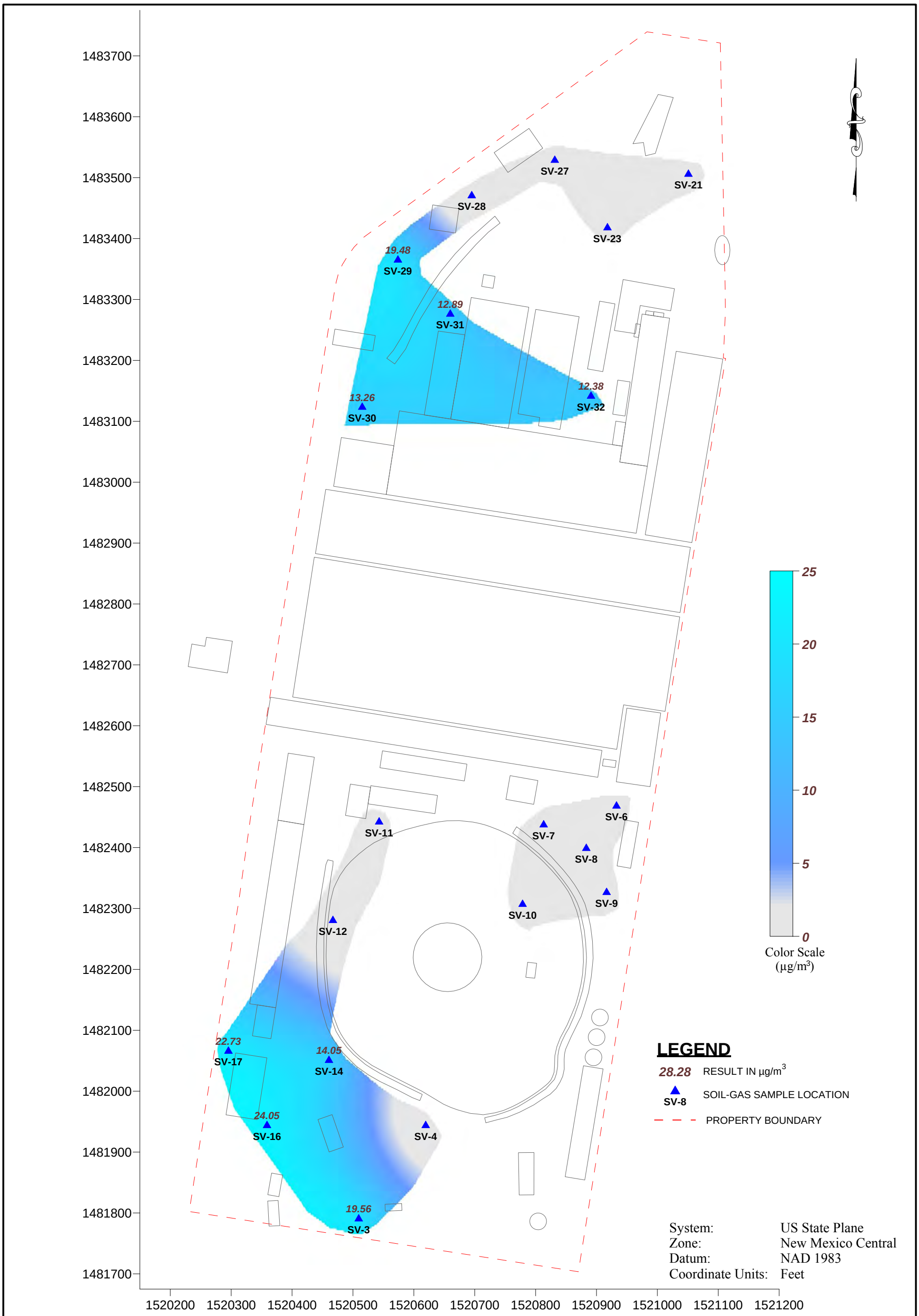
Beacon Project No. 3588, November 2016

Figure 2
Soil-Gas Survey
Toluene

Albuquerque Railyards
Albuquerque, NM



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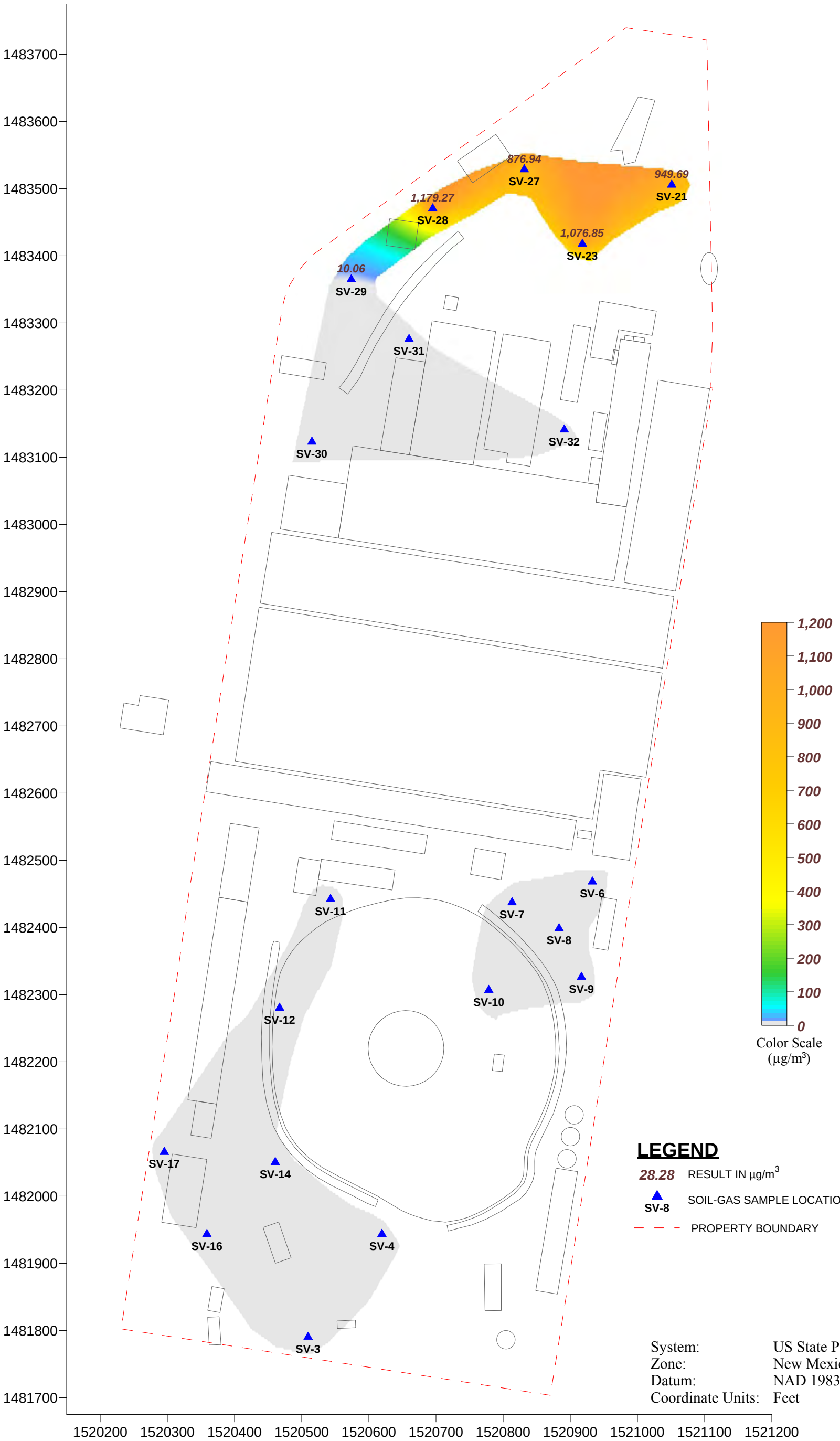
Beacon Project No. 3588, November 2016

Figure 3
Soil-Gas Survey
Naphthalene

Albuquerque Railyards
Albuquerque, NM



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Beacon Project No. 3588, November 2016

Figure 4
Soil-Gas Survey
1,3-Dichlorobenzene

Albuquerque Railyards
Albuquerque, NM

Appendix D

Calculation of Vapor Intrusion Screening Levels for Evaluation of Soil Gas Vapor Concerns at the City of Albuquerque Rail Yards, Albuquerque, Bernalillo County, New Mexico

CALCULATION OF VAPOR INTRUSION SCREENING LEVELS (VISLs) FOR EVALUATION OF SOIL GAS VAPOR CONCERNS AT THE CITY OF ALBUQUERQUE RAIL YARDS, ALBUQUERQUE, BERNALILLO COUNTY, NEW MEXICO

INTERA Incorporated (INTERA) calculated Vapor Intrusion Screening Levels (VISLs) using the U.S. Environmental Protection Agency (EPA) VISLs Calculator for detected constituents where the New Mexico Environmental Department (NMED) does not have established VISLs. These VISLs were calculated in order to evaluate soil vapor data collected at the City of Albuquerque (COA) Rail Yards, Albuquerque, Bernalillo County, New Mexico (Site). A list of VISLs calculated by INTERA using the EPA VISL Calculator for the Site are presented in the following table:

Table 1
EPA VISLs calculated for the COA Rail Yards, Albuquerque, New Mexico

Chemical of Potential Concern (COPC)	CAS Number	EPA VISL ($\mu g/m^3$)
1,2,4-Trimethylbenzene	95-63-6	240
1,4-Dioxane	123-91-1	190

These VISLs represent target sub-slab and exterior soil gas concentrations for Site chemicals of potential concern (COPCs) and were calculated using default exposure parameters and factors altered to reflect Site-specific parameter options as provided in EPA's VISL Calculator (Version 3.5.1). The VISL Calculator incorporates basic guidance documented in EPA's VISL Calculator User's Guide (EPA, 2014) and is available for download at the following EPA website: https://www.epa.gov/vaporintrusion/vapor-intrusion-screening-levels-visls. A brief description of default exposure parameters and factors used to in the calculation of EPA VISLs as well as the rationale for Site-specific inputs utilized by INTERA in the VISL Calculator are discussed further below.

As documented in the EPA VISL Calculator User's Guide (EPA, 2014), VISLs are calculated using recommended approaches in existing guidance and reflect target EPA indoor air concentrations modified to incorporate empirically-based conservative "generic" attenuation factors that reflect generally reasonable worst-case conditions. Standard default (generic) VISLs are based on default exposure parameters and factors that represent Reasonable Maximum Exposure [RME] conditions for long-term/chronic exposures and incorporate the latest toxicity values in the Regional Screening Levels (RSL) tables (EPA, 2014). The EPA RSL tables were last updated in May 2016 and are available for download at the following EPA website: http://www.epa.gov/region9/superfund/prg/.

When using the VISL Calculator, standard default VISLs can be adjusted slightly to reflect the following Site-specific criteria: (1) applicable site exposure scenario (either residential or commercial), (2) target risk for carcinogens, (3) target hazard quotient for non-carcinogens, and (4) average in-situ ground water temperature (stabilized temperature measured during well purging prior to ground water sampling).

INTERA inputted the following site specific information to calculate site-specific VISLs for the Site.

(1) Exposure scenario: Residential, and
(2) Total Target Carcinogenic Risk: 10E-5

These parameters were considered most appropriate to represent Site conditions reflective of future decision-making needs: Assigning a less conservative total target carcinogenic risk of 10E-5 is standard practice for assessing carcinogenic risk within the State of New Mexico as described in the New Mexico Environment Department (NMED) document, Risk Assessment Guidance for Site Investigations and Remediation (NMED, 2015). All other parameters used to calculate VISLs for the Site were reflective of default values, listed for completeness, below:

- Target Hazard Quotient for Non-carcinogens: 1
- Average Ground Water Temperature: 25 (degrees C)
- Default Inhalation Pathway Exposure Parameters (RME) for the Residential Exposure Scenario:
    - Averaging time for carcinogens: 70 (yrs)
    - Averaging time for non-carcinogens: 26 (yrs)
    - Exposure duration: 26 (yrs)
    - Exposure frequency: 350 (days/yr)
    - Exposure time: 24 (hr/day)
- Generic Attenuation Factors:
    - Groundwater Source for Vapors: 0.001
    - Sub-Slab and Exterior Soil Gas Source for Vapors: 0.03
- Inhalation Unit Risk for Trichloroethylene (TCE) for the Residential Exposure Scenario:
    - Mutagenic component: 1.00E-6
    - Non-mutagenic component: 3.10E-6
- Mutagenic-mode-of-action (MMOA) adjustment factor: 72
- Exposure Durations and Age-Dependent Adjustment Factors for MMOAs:
    - 0 to 2 years: 10
    - 2 to 6 years: 3
    - 6 to 16 years: 3
    - 16-26 years: 1

These default parameters are exposure factors based on EPA's Risk Assessment Guidance for Superfund [RAGS] (EPA, 1989) or EPA vapor intrusion guidance. In general, EPA discourages the alteration of these default parameters (EPA, 2014).

Several COPCs identified for the Site were unable to have an EPA VISL calculated for the following reasons:

(1) 1,3-Dichlorobenzene (CAS # 541-73-1): no information for this chemical is currently listed
(2) 2-Methylnaphthalene (CAS # 91-57-6): no inhalation toxicity information for this chemical is currently available
(3) 1,3,5-Trimethylbenzene (CAS # 108-67-8): no inhalation toxicity information for this chemical is currently available.

REFERENCES

Environmental Protection Agency (EPA). 2014. Vapor Intrusion Screening Level (VISL) Calculator User's Guide. Office of Solid Waste and Emergency Response Office of Superfund Remediation and Technology Innovation. May.

———. 2016. EPA VISL Calculator from https://www.epa.gov/vaporintrusion/vapor-intrusion-screening-levels-visls. Updated May.

———. 1989. Risk Assessment Guidance for Superfund Volume I Human Health Evaluation Manual (Part A). Interim Final. Office of Emergency and Remedial Response Document EPA/540/1-89/002. December.

New Mexico Environment Department. 2015. Risk Assessment Guidance for Site Investigations and Remediation. July 2015.

Appendix E

Contaminant Site Maps – All Parcels

Legend

SSL Exceedance
- Soil Boring
- Surface Soil
- Test Pit

Detect below SSL
- Soil Boring
- Surface Soil
- Test Pit

Non-Detect
- Soil Boring
- Surface Soil; Subslab
- Test Pit

Non-Detect; Detection Limit exceeds SSL
- Soil Boring
- Surface Soil
- Test Pit

- 2016 Soil Boring - Soil Sample >10 ft bgs
- Parcel Boundary

N

160 80 0 160

Feet

Note: Some sample depths include a portion greater than 10 ft bgs (i.e., sample interval = 8 - 12 ft bgs).
SSL: Soil Screening Levels (NMED, 2015)

INTERA

Construction Worker SSL Exceedances (0-10 ft bgs), Manganese

Additional Characterization,
Voluntary Remediation Program Activities,
Albuquerque Rail Yards, Albuquerque,
Bernalillo County, New Mexico

FILE: S:\ABQ\COA On-Call 2014\Task_17_Railyard_VRP\Graphics\GIS\MapDocs\ContaminantMap_AllReports\ConsWorkSSL_Manganese.mxd 11/28/2016

Legend

- Monitoring Well; not located
- Monitoring Well
- Estimated Groundwater Flow Direction
- Property Boundary
- Parcel Boundary

Well ID
Analyte: Results in µg/L (micrograms per liter),
Red/Bold indicates value or laboratory reporting limit in excess of the NMWQCC standards.

B= Benzene
EDB = 1,2-dibromoethane
Σ Naph = Naphthalene + 1,Methylnaphthalene + 2, Methylnaphthalene

N

160 80 0 160
Feet

INTERA

Source(s): Aerial – BERNCO GIS website, dated 2014.

Distribution of Dissolved-Phase Contaminants, November 4, 2016

Additional Characterization of
Groundwater Report, City of Albuquerque Rail Yards,
Albuquerque, Bernalillo County, New Mexico

Document Path: S:\ABQ\COA On-Call 2014\Task_17_Railyard_VRP\Graphics\GIS\MapDocs\ContaminantMap_AllReports\GWR2016_GWresults.mxd 12/20/2016

Legend

SSL Exceedance
- Soil Boring
- Surface Soil
- Test Pit

Non-Detect
- Soil Boring
- Surface Soil; Subslab
- Test Pit

Detect below SSL
- Soil Boring
- Surface Soil
- Test Pit

Non-Detect; Detection Limit exceeds SSL
- Soil Boring
- Surface Soil
- Test Pit

2016 Soil Boring - Soil Sample >10 ft bgs

Parcel Boundary

N

160 80 0 160

Feet

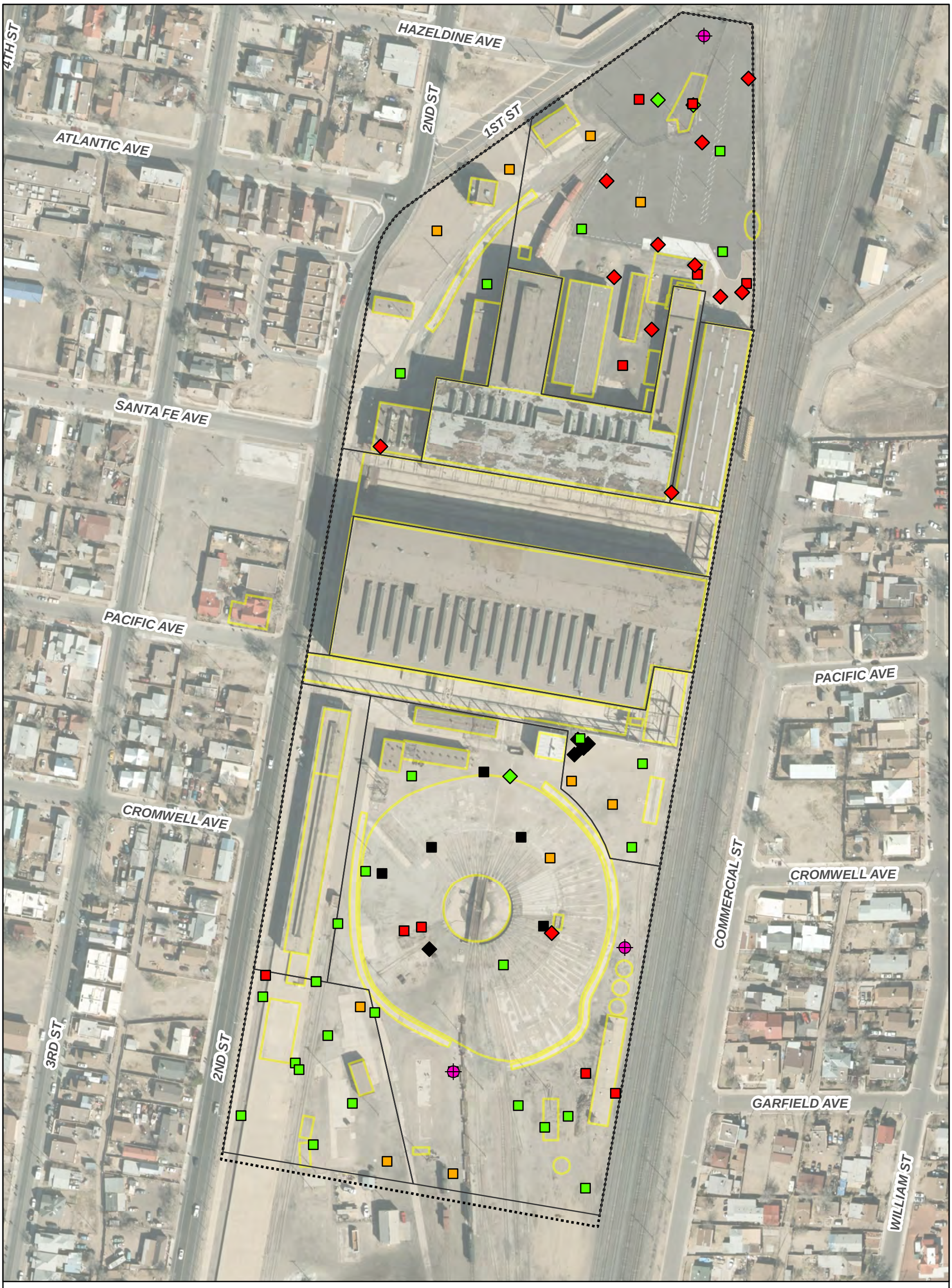
Note: Some sample depths include a portion greater than 10 ft bgs (i.e., sample interval = 8 - 12 ft bgs).
SSL: Soil Screening Levels (NMED, 2015)

Residential SSL Exceedances (0-10 ft bgs), Antimony

Additional Characterization,
Voluntary Remediation Program Activities,
Albuquerque Rail Yards, Albuquerque,
Bernalillo County, New Mexico

INTERA

FILE: S:\ABQ\COA On-Call 2014\Task_17_Railyard_VRP\Graphics\GIS\MapDocs\ContaminantMap_AllReports\ResidentialSSL_Antimony.mxd 11/28/2016



Legend

SSL Exceedance
- Soil Boring
- Surface Soil

Detect below SSL
- Soil Boring
- Surface Soil

Non-Detect
- Soil Boring
- Surface Soil

Non-Detect; Detection Limit exceeds SSL
- Soil Boring
- Surface Soil

2016 Soil Boring - Soil Sample >10 ft bgs

Parcel Boundary

Property Boundary

N

160 80 0 160

Feet

Note: Some sample depths include a portion greater than 10 ft bgs (i.e., sample interval = 8 - 12 ft bgs).
SSL: Soil Screening Levels (NMED, 2015)

INTERA

Residential SSL Exceedances (0-10 ft bgs), Arsenic

Additional Characterization,
Voluntary Remediation Program Activities,
Albuquerque Rail Yards, Albuquerque,
Bernalillo County, New Mexico

FILE: S:\ABQ\COA On-Call 2014\Task_17_Railyard_VRP\Graphics\GIS\MapDocs\ContaminantMap_AllReports\ResidentialSSL_Arsenic.mxd 11/28/2016

Legend

SSL Exceedance
- Soil Boring
- Surface Soil
- Test Pit

Non-Detect
- Soil Boring
- Surface Soil; Subslab
- Test Pit

Detect below SSL
- Soil Boring
- Surface Soil
- Test Pit

Non-Detect; Detection Limit exceeds SSL
- Soil Boring
- Surface Soil
- Test Pit

2016 Soil Boring - Soil Sample >10 ft bgs

Parcel Boundary

N

160 80 0 160

Feet

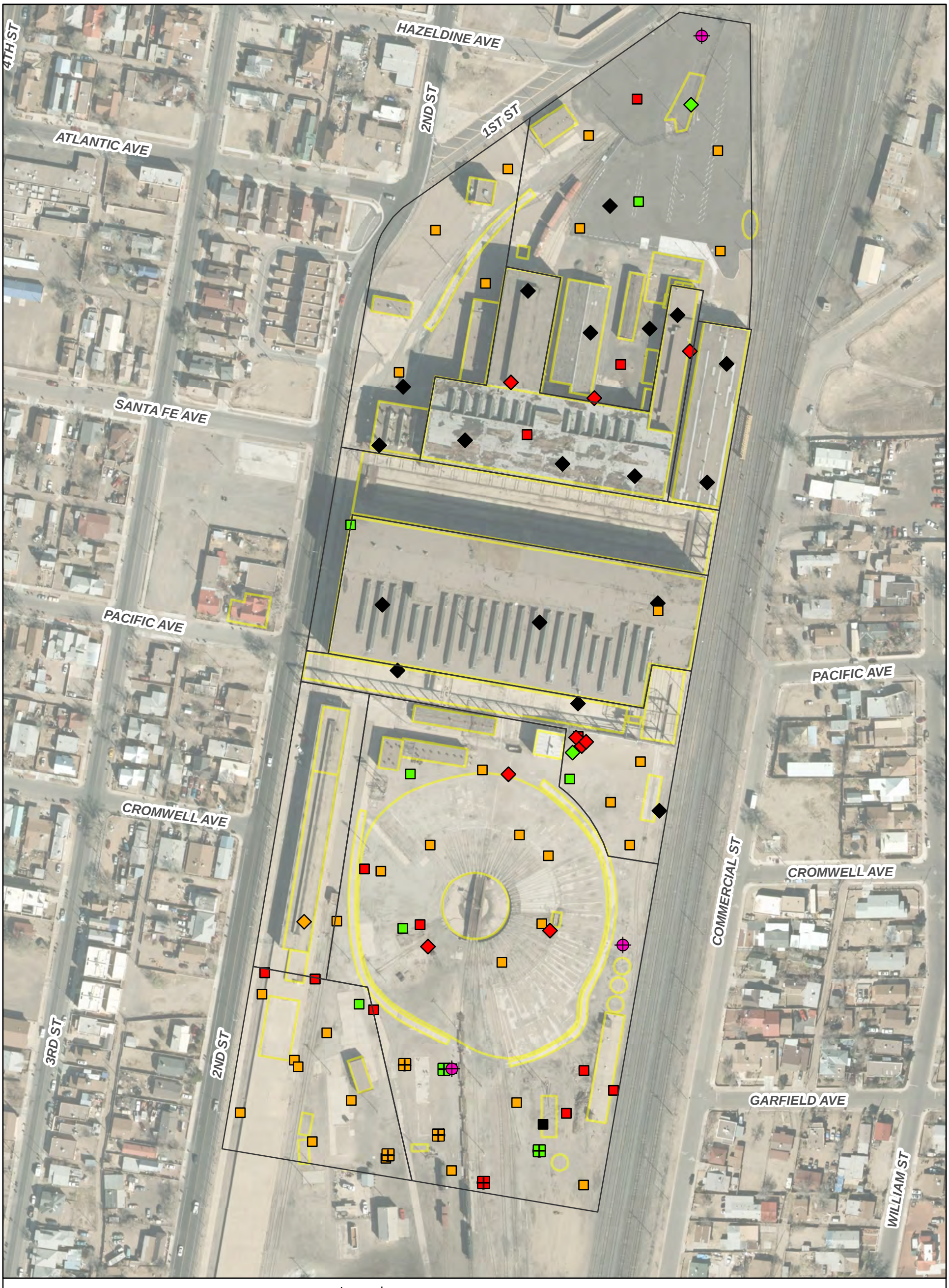
Note: Some sample depths include a portion greater than 10 ft bgs (i.e., sample interval = 8 - 12 ft bgs).
SSL: Soil Screening Levels (NMED, 2015)

Residential SSL Exceedances (0-10 ft bgs), Benzo(a)anthracene

Additional Characterization,
Voluntary Remediation Program Activities,
Albuquerque Rail Yards, Albuquerque,
Bernalillo County, New Mexico

INTERA

FILE: S:\ABQ\COA On-Call 2014\Task_17_Railyard_VRP\Graphics\GIS\MapDocs\ContaminantMap_AllReports\ResidentialSSL_benzoaanthracene.mxd 11/28/2016



Legend

SSL Exceedance
- Soil Boring
- Surface Soil
- Test Pit

Non-Detect
- Soil Boring
- Surface Soil; Subslab
- Test Pit

Detect below SSL
- Soil Boring
- Surface Soil
- Test Pit

Non-Detect; Detection Limit exceeds SSL
- Soil Boring
- Surface Soil
- Test Pit

2016 Soil Boring - Soil Sample >10 ft bgs

Parcel Boundary

N

160 80 0 160

Feet

INTERA

Note: Some sample depths include a portion greater than 10 ft bgs (i.e., sample interval = 8 - 12 ft bgs).
SSL: Soil Screening Levels (NMED, 2015)

Residential SSL Exceedances (0-10 ft bgs), Benzo(a)pyrene

Additional Characterization,
Voluntary Remediation Program Activities,
Albuquerque Rail Yards, Albuquerque,
Bernalillo County, New Mexico

FILE: S:\ABQ\COA On-Call 2014\Task_17_Railyard_VRP\Graphics\GIS\MapDocs\ContaminantMap_AllReports\ResidentialSSL_Benzoapyrene.mxd 11/28/2016

Legend

SSL Exceedance
- Soil Boring
- Surface Soil
- Test Pit

Non-Detect
- Soil Boring
- Surface Soil; Subslab
- Test Pit

Detect below SSL
- Soil Boring
- Surface Soil
- Test Pit

Non-Detect; Detection Limit exceeds SSL
- Soil Boring
- Surface Soil
- Test Pit

2016 Soil Boring - Soil Sample >10 ft bgs

Parcel Boundary

N

160 80 0 160

Feet

Note: Some sample depths include a portion greater than 10 ft bgs (i.e., sample interval = 8 - 12 ft bgs).
SSL: Soil Screening Levels (NMED, 2015)

Residential SSL Exceedances (0-10 ft bgs), Benzo(b)fluoranthene

Additional Characterization,
Voluntary Remediation Program Activities,
Albuquerque Rail Yards, Albuquerque,
Bernalillo County, New Mexico

INTERA

FILE: S:\ABQ\COA On-Call 2014\Task_17_Railyard_VRP\Graphics\GIS\MapDocs\ContaminantMap_AllReports\ResidentialSSL_benzobfluorantene.mxd 11/28/2016

Legend

SSL Exceedance
- Soil Boring
- Surface Soil
- Test Pit

Non-Detect
- Soil Boring
- Surface Soil; Subslab
- Test Pit

Detect below SSL
- Soil Boring
- Surface Soil
- Test Pit

Non-Detect; Detection Limit exceeds SSL
- Soil Boring
- Surface Soil
- Test Pit

2016 Soil Boring - Soil Sample >10 ft bgs

Parcel Boundary

N

160 80 0 160

Feet

Note: Some sample depths include a portion greater than 10 ft bgs (i.e., sample interval = 8 - 12 ft bgs).
SSL: Soil Screening Levels (NMED, 2015)

INTERA

Residential SSL Exceedances (0-10 ft bgs), Chromium

Additional Characterization,
Voluntary Remediation Program Activities,
Albuquerque Rail Yards, Albuquerque,
Bernalillo County, New Mexico

FILE: S:\ABQ\COA On-Call 2014\Task_17_Railyard_VRP\Graphics\GIS\MapDocs\ContaminantMap_AllReports\ResidentialSSL_chromium.mxd 11/28/2016

Legend

SSL Exceedance
- Soil Boring
- Surface Soil
- Test Pit

Non-Detect
- Soil Boring
- Surface Soil; Subslab
- Test Pit

Detect below SSL
- Soil Boring
- Surface Soil
- Test Pit

Non-Detect; Detection Limit exceeds SSL
- Soil Boring
- Surface Soil
- Test Pit

2016 Soil Boring - Soil Sample >10 ft bgs

Parcel Boundary

N

160 80 0 160

Feet

Note: Some sample depths include a portion greater than 10 ft bgs (i.e., sample interval = 8 - 12 ft bgs).
SSL: Soil Screening Levels (NMED, 2015)

INTERA

Residential SSL Exceedances (0-10 ft bgs), Dibenzo(a,h)anthracene

Additional Characterization,
Voluntary Remediation Program Activities,
Albuquerque Rail Yards, Albuquerque,
Bernalillo County, New Mexico

FILE: S:\ABQ\COA On-Call 2014\Task_17_Railyard_VRP\Graphics\GIS\MapDocs\ContaminantMap_AllReports\ResidentialSSL_dibenzoahanthracene.mxd 11/28/2016

Legend

SSL Exceedance
- Soil Boring
- Surface Soil
- Test Pit

Non-Detect
- Soil Boring
- Surface Soil; Subslab
- Test Pit

Detect below SSL
- Soil Boring
- Surface Soil
- Test Pit

Non-Detect; Detection Limit exceeds SSL
- Soil Boring
- Surface Soil
- Test Pit

2016 Soil Boring - Soil Sample >10 ft bgs

Parcel Boundary

N

160 80 0 160

Feet

Note: Some sample depths include a portion greater than 10 ft bgs (i.e., sample interval = 8 - 12 ft bgs).
SSL: Soil Screening Levels (NMED, 2015)

INTERA

Residential SSL Exceedances (0-10 ft bgs), Indeno(1,2,3-cd)pyrene

Additional Characterization,
Voluntary Remediation Program Activities,
Albuquerque Rail Yards, Albuquerque,
Bernalillo County, New Mexico

FILE: S:\ABQ\COA On-Call 2014\Task_17_Railyard_VRP\Graphics\GIS\MapDocs\ContaminantMap_AllReports\ResidentialSSL_indeno123cdpyrene.mxd 11/28/2016

Legend

SSL Exceedance
- Soil Boring
- Surface Soil
- Test Pit

Non-Detect
- Soil Boring
- Surface Soil; Subslab
- Test Pit

Detect below SSL
- Soil Boring
- Surface Soil
- Test Pit

Non-Detect; Detection Limit exceeds SSL
- Soil Boring
- Surface Soil
- Test Pit

2016 Soil Boring - Soil Sample >10 ft bgs

Parcel Boundary

N

160 80 0 160

Feet

Note: Some sample depths include a portion greater than 10 ft bgs (i.e., sample interval = 8 - 12 ft bgs).
SSL: Soil Screening Levels (NMED, 2015)

INTERA

Residential SSL Exceedances (0-10 ft bgs), Iron

Additional Characterization,
Voluntary Remediation Program Activities,
Albuquerque Rail Yards, Albuquerque,
Bernalillo County, New Mexico

FILE: S:\ABQ\COA On-Call 2014\Task_17_Railyard_VRP\Graphics\GIS\MapDocs\ContaminantMap_AllReports\ResidentialSSL_ironmxd.mxd 11/28/2016

Legend

SSL Exceedance
- Soil Boring
- Surface Soil

Detect below SSL
- Soil Boring
- Surface Soil

Non-Detect
- Soil Boring
- Surface Soil; Subslab
- Test Pit

Non-Detect; Detection Limit exceeds SSL
- Soil Boring
- Surface Soil
- Test Pit

- 2016 Soil Boring - Soil Sample >10 ft bgs
- Parcel Boundary

N

160 80 0 160

Feet

Note: Some sample depths include a portion greater than 10 ft bgs (i.e., sample interval = 8 - 12 ft bgs).
SSL: Soil Screening Levels (NMED, 2015)

INTERA

Residential SSL Exceedances (0-10 ft bgs), Lead

Additional Characterization,
Voluntary Remediation Program Activities,
Albuquerque Rail Yards, Albuquerque,
Bernalillo County, New Mexico

FILE: S:\ABQ\COA On-Call 2014\Task_17_Railyard_VRP\Graphics\GIS\MapDocs\ContaminantMap_AllReports\ResidentialSSL_Lead.mxd 11/28/2016

Legend

SSL Exceedance
- Soil Boring
- Surface Soil
- Test Pit

Non-Detect
- Soil Boring
- Surface Soil; Subslab
- Test Pit

Detect below SSL
- Soil Boring
- Surface Soil
- Test Pit

Non-Detect; Detection Limit exceeds SSL
- Soil Boring
- Surface Soil
- Test Pit

2016 Soil Boring - Soil Sample >10 ft bgs

Parcel Boundary

N

160 80 0 160

Feet

Note: Some sample depths include a portion greater than 10 ft bgs (i.e., sample interval = 8 - 12 ft bgs).
SSL: Soil Screening Levels (NMED, 2015)

INTERA

Residential SSL Exceedances (0-10 ft bgs), Thallium

Additional Characterization,
Voluntary Remediation Program Activities,
Albuquerque Rail Yards, Albuquerque,
Bernalillo County, New Mexico

FILE: S:\ABQ\COA On-Call 2014\Task_17_Railyard_VRP\Graphics\GIS\MapDocs\ContaminantMap_AllReports\ResidentialSSL_thallium.mxd 11/28/2016

Legend

SSL Exceedance
- Soil Boring
- Surface Soil
- TP

Non-Detect
- GWMW
- Soil Boring
- Surface Soil; Subslab

Detect below SSL
- Soil Boring
- Surface Soil
- TP

Non-Detect; Detection Limit exceeds SSL
- Soil Boring
- Surface Soil
- Test Pit

2016 Soil Boring - Soil Sample >10 ft bgs

Parcel Boundary

N

160 80 0 160

Feet

Note: TPH DRO + MRO is the summation of TPH DRO and TPH MRO, if non-detect than the laboratory reporting limit was used. Older TPH results from are reported as Total TPH. Some sample depths include a portion greater than 10 ft bgs (i.e., sample interval = 8 - 12 ft bgs).
SSL: Soil Screening Levels (NMED, 2015)

Residential SSL Exceedances (0-10 ft bgs), TPH DRO + MRO, TPH

Additional Characterization,
Voluntary Remediation Program Activities,
Albuquerque Rail Yards, Albuquerque,
Bernalillo County, New Mexico

INTERA

FILE: S:\ABQ\COA On-Call 2014\Task_17_Railyard_VRP\Graphics\GIS\MapDocs\ContaminantMap_AllReports\ResidentialSSL_TPH-DRO-MRO.mxd 11/28/2016

Legend

VISL Exceedence
- Soil Gas Sample
- Sub-Slab Soil Vapor Sample

Non-Detect
- Soil Gas Sample
- Sub-Slab Soil Vapor Sample

Detect below VISL
- Sub-Slab Soil Vapor Sample

- Monitoring Well
- Monitoring Well; not located
- Parcel 1 Boundary
- Property Boundary

N

80 40 0 80

Feet

Naphthalene Soil Gas and Sub-Slab Soil Vapor Residential VISL Exceedance

Additional Characterization,
Voluntary Remediation Program Activities,
Albuquerque Rail Yards, Albuquerque,
Bernalillo County, New Mexico

INTERA

Note: VISL: Vapor Instrusion Screening Levels (NMED, 2015)

FILE: S:\ABQ\COA On-Call 2014\Task_17_Railyard_VRP\Graphics\GIS\MapDocs\ContaminantMap_AllReports\ResidentialVISL_Naphthalene.mxd 12/20/2016

Appendix F

Asbestos and Lead-Based Paint Report(s)

DC Environmental
Consulting and Training Services

ASBESTOS AND LEAD BASED PAINT SURVEY
City of Albuquerque
Railyard North Wash Room
Parcel 10
Albuquerque, NM

PREPARED FOR:
Intera, Inc.
6000 Uptown Blvd, Suite 220
Albuquerque, New Mexico

PREPARED BY:
DC Environmental
PO Box 9315
Albuquerque, New Mexico 87119

November 9, 2016
Project No. 16-187

DC Environmental
Consulting and Training Services

November 9, 2016
Project No. 16-187

Mr. Joe Tracy
Intera Inc.
6000 Uptown Boulevard, NE
Suite 200
Albuquerque, NM 87110

Subject: Asbestos and Lead Based Paint inspection of the North Wash Room Parcel 10 – City of Albuquerque Railyard

Dear Mr. Joe Tracy;

In accordance with our proposal, DC Environmental has performed asbestos and lead based paint inspections of the above-referenced facility, located at the City of Albuquerque Railyard, 1100 2nd St SW, Albuquerque, New Mexico. The attached report presents our methodology, findings, opinions, and recommendations regarding the survey.

Lead Containing materials were identified at the North Wash Room. Asbestos-containing materials containing 1% or more of asbestos were not identified at the North Wash Room. The window putty contained <1% asbestos.

We appreciate the opportunity to be of service to you on this project. Should you have any questions regarding this report, please contact the undersigned at your convenience.

Sincerely,
ACME ENVIRONMENTAL INDUSTRIAL HYGIENE, INC.
dba DC Environmental

David Charlesworth, CIH
Certified Industrial Hygienist

Karen Dremann, BS
Senior Scientist

Distribution: (2) Addressee

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EXECUTIVE SUMMARY

On October 26, 2016, DC Environmental performed an inspection of the North Wash Room located at the City of Albuquerque Railyard on 2nd street in Albuquerque, New Mexico. The inspection was conducted in a response to a request to identify materials which may be impacted during future renovation or demolition activities. The focus of our inspection was to determine the presence, location and quantity of asbestos remaining within the facility, and to establish the basis for the presence of lead containing finishes within the structure. The space is being evaluated for a confidential client and the concern is that existing materials may contain asbestos and lead in the finishes.

The inspection design was to conduct a room-by-room investigation for asbestos-containing building materials. Access the functional spaces, where appropriate; evaluate the exterior surfaces; and sample materials suspect for asbestos within the North Wash Room.

Asbestos-containing building materials are those containing greater than one percent asbestos as determined by polarized light microscopy. Asbestos was detected in the window putty at <1 percent. Materials with less than or equal to one percent asbestos should be further Characterized by Point Count Method to determine if the materials may be disposed as municipal waste and not as regulated Asbestos Waste under the New Mexico Solid Waste Regulations.

Lead-based paint is defined as coatings containing surface area lead of 1.0 milligrams per square centimeter (1.0 mg/cm^2) when evaluated by X-Ray Fluorescence. Lead based paint is further defined if laboratory analysis determines the lead content to be one half (0.5 %) percent by weight or greater. The lead inspection of the facility was conducted using an X-Ray Fluorescence (XRF) handheld instrument of select components or areas. The inspector **did** identify painted surfaces with excess lead above the stated regulatory limit. Interior lead-based paint surfaces included interior; white paint on brick, white paint on wood, and exterior; red paint on wood, red paint on cast iron, and red paint on hydrant and hydrant rail.

Contractors bidding for work should be aware of the presence of lead when performing demolition and renovation activities involving these items.

1. INTRODUCTION

In accordance with our proposal, DC Environmental has performed an investigation of the North Wash Room located at the City of Albuquerque Railyard in Albuquerque, New Mexico.

The inspection was conducted in a response to a request to have building materials evaluated for future renovation or demolition activities. The focus of our inspection was to determine the presence, location and quantity of asbestos and lead based paint present within the facility. The building is being inspected for a confidential client and the concern is that existing materials may contain asbestos in building materials and lead in the painted finishes.

This report has been prepared in accordance with generally accepted environmental science and engineering practices. This report is based upon conditions at the subject building at the time of the sampling activities and provides documentation of our findings and recommendations.

2. PURPOSE AND SCOPE OF SERVICES

The inspection design was to conduct a room-by-room investigation and assess the facility for the presence of asbestos-containing building materials, and lead-based paint.

The objective of this inspection was to perform the requisite sampling and present the findings along with any recommendations. The services performed by DC Environmental are outlined below.

- A reconnaissance of the area was conducted by Mr. David Charlesworth, Mr. Michael Neiman, and Mr. Steven Gutierrez all accredited Asbestos Building Inspectors and David Charlesworth a Certified Lead Assessor (See Appendix F Certifications).
- Sampling was conducted using several different types of inspection tools and laboratory techniques including Polarized Light Microscopy and X-Ray Fluorescence.
- Report preparation summarizing our sampling methods and laboratory analysis are included. This report further details our conclusions and recommendations for the project.

3. SITE DESCRIPTION

The subject site consists of one structure, the North Wash Room.

The North Wash Room

The North Wash Room consists of a single building, roof and exterior. The North Wash Room is a concrete frame and concrete siding construction. Roofing appeared to be gravel and tar over felt paper on top of concrete.

4. ACTIVITIES

DC Environmental conducted a lead-based paint investigation and asbestos-containing building materials inspection on October 26, 2016 of the North Wash Room. Analysis of the Interior and exterior painted surfaces incorporated the use of an X-Ray Fluorescence Device. The Radiation Monitoring Device (RMD) LPA-1 X-Ray Fluorescence device was used to measure the lead content of surface coatings on representative homogenous components. Multiple XRF readings were recorded.

The site sampling activities are described below.

4.1. Asbestos-Containing Building Materials

Mr. David Charlesworth, Mr. Michael Nieman, and Mr. Steven Gutierrez conducted a visual inspection for asbestos-containing building materials at the above referenced building. Mr. Nieman collected a total of (2) samples that were tested for asbestos using Polarized Light Microscopy and stereomicroscopy bulk asbestos analysis. Analysis was conducted by Crisp Analytical, LLC of Carrollton, Texas. Crisp Analytical is an accredited laboratory and recognized by the National Voluntary Laboratory Accreditation Program. Based upon the samples tested, one of the materials sampled was identified as an asbestos-containing material. The window putty samples has <1 percent asbestos. Materials with less than or equal to one percent asbestos should be further Characterized by Point Count Method to determine if the materials may be disposed as municipal waste and not as regulated Asbestos Waste under the New Mexico Solid Waste Regulations.

The Environmental Protection Agency has established terminology regarding asbestos and specifically asbestos-containing building materials. Material which is friable are those materials which can be crushed, crumbled or reduced to powder by hand pressure. Non-friable materials are further characterized as Category I Non-Friable or Category II Non-Friable. Category I Non Friable includes four specific items: Packings, Gaskets, Resilient Flooring and Asphalt Roofing. Category II Non-Friable is everything else which cannot be crumbled or pulverized by hand pressure. These items include materials of drywall systems, plasters, asbestos-containing cements (Transite ®) and other materials declared non-friable by the asbestos inspector.

The EPA then clarifies that certain materials are Regulated Asbestos Containing Materials (RACM) and these include the following four designations:

- Friable materials;
- Category I Non-Friable Materials which have become friable;
- Category I Non-Friable Materials which have been subject to sanding, grinding, cutting and abrading; and
- Category II Non-friable materials which will be, or have been, subject to force during demolition or renovation.

Regulated Asbestos Containing Materials were **not** present within the structure.

4.2. Lead Based Paint Inspection

The presence of lead based paint was assessed in substantial compliance with the Housing and Urban Development guidelines. DC Environmental conducted a lead-based surface coating screening survey of the interior and exterior of the property to generally identify building components coated with lead. The survey consisted of testing the lead concentrations of each of the accessible surfaces.

To complete the survey, an X- Ray Fluorescence device was used to perform the lead based paint inspection. The Radiation Monitoring Device (RMD) LPA-1 X-Ray Fluorescence device is capable of detecting lead in lead-based paint. The determination of lead in paint is defined as a surface content of at least 1.0 milligrams per square centimeter. If the readings were between the 0.9 to 1.0 mg/cm^2 range, then the readings are declared as either lead-based paint or lead-containing materials and sampling is recommended.

Surfaces that were tested with the XRF device included, but were not limited to the following: doors, ceiling, painted walls, structural steel support, painted door components, roof components, ventilation duct, gates, and framing.

To determine the wall designations, the front entry off of the street or primary doorway is the A wall and interior in a clockwise direction are the B, C and D walls respectively. Exterior walls are similar in the designations.

The XRF device recorded readings did indicate lead based paint in surfaces on the interior and exterior of architectural details and finishes. Please refer to the XRF readings in the appendix to this document.

5. ANALYSES AND RESULTS

The results of samples and analysis are presented in the following tables. Copies of the laboratory analytical results are included in appendix A, B and D to this document.

5.1. Table 1: Asbestos Sample Analysis

Sample #	North Wash Room Analyst physical description of subsample	Asbestos Type/calibrated/Visual estimate percent
16-187-100	**Window Putty North Wash Room**	<1% Chrysotile
16-187-101	**Red Roofing Material North Wash Room**	ND

ND – None Detected

4.2 Table 2 Lead Based Paint Chip Analysis

Sample #	North Wash Room Analyst physical description of subsample	Lead Based Paint Concentration % by weight
16-187-1000	**White Paint from Ceiling North wash Room**	**16**
16-187-1001	**Beige Paint from Window Sill North wash Room**	**0.52**
16-187-1002	**Red Paint Exterior Window North Wash Room**	**4.3**
16-187-1003	**Red Paint Interior Floor North Wash Room**	**0.62**

LBP = 0.5 percent by weight or more.

5. FINDINGS AND CONCLUSIONS

The findings of this inspection are based on our visual observations and analysis of the measurements collected from the facility. Our findings are presented below.

5.1 Asbestos Sampling Analysis

The current visual inspection and sampling of building materials revealed previously undocumented sources of asbestos-containing building materials. Asbestos-containing building materials were identified in the North Wash Room. The window putty contained <1 asbestos. Materials with less than or equal to one percent asbestos should be further Characterized by Point Count Method to determine if the materials may be disposed as municipal waste and not as regulated Asbestos Waste under the New Mexico Solid Waste Regulations.

5.2 Lead Based Paint Analysis

DC Environmental conducted a lead-based surface coating inspection of the interior and exterior of the property to generally identify building components coated with or containing lead. The survey consisted of testing the lead concentrations of over the majority of the interior and exterior surfaces.

During the survey, testing combinations in representative room equivalents were sampled by X-Ray Fluorescence (XRF) in substantial compliance with the XRF protocols established by EPA and presented as guidance in the Housing and Urban Development (HUD) publications. Performance of this survey is consistent and in substantial compliance with the documented methodologies identified by EPA and HUD.

Based on the readings from the XRF devices materials at the North Wash Room were considered painted with Lead-based Paint (LBP).

Lead-Based Paint (LBP) is defined by HUD and the EPA as paint containing lead in amounts greater than or equal to 1.0 mg/cm^2 lead when analyzed by XRF or greater than 5000 parts per million or 0.5 percent by weight when analyzed by Flame Atomic Absorption.

There are materials in this building though, that are considered "lead-containing". Those materials are listed in Appendix B, XRF Lead Measurements and Appendix D Lead Based Paint Laboratory Analysis. Contractors should follow the elements of the standard promulgated by the Occupational Safety and Health Administration. The Lead in Construction Standard 29 CFR 1926.62 applies to exposures to materials containing lead. Individuals bidding for work should be aware of the presence of lead when performing demolition and renovation activities involving these items.

6 RECOMMENDATIONS

Based on our visual observations and the laboratory results, DC Environmental recommends the following:

- The Lead-based Paint inspection **did** identify "lead-based paint" at the North Wash Room. Those materials are listed in Appendix B, XRF Lead Measurements and Appendix D. Lead Based Paint Laboratory Results. These materials are regulated by OSHA in regards to those individuals which could be exposed during repair, renovation or demolition. It is recommended to have trained professionals in the OSHA Lead Construction standard handle the lead-based paint and lead-containing materials during disturbance of the material. At the conclusion of the construction activities we recommend a Lead Risk Assessment to include soil testing and settled dust be performed. A Lead Risk Assessment is recommended for this property based on the age and that children **may/are** expected to be present. A Risk Assessment should be conducted at the conclusions of operations to repair, renovate or abate the lead based coating.

- Asbestos containing materials were present, window putty < 1%. Materials with less than or equal to one percent asbestos should be further Characterized by Point Count Method to determine if the materials may be disposed as municipal waste and not as regulated Asbestos Waste under the New Mexico Solid Waste Regulations.

We appreciate the opportunity to provide sampling and inspection of this area. Should you have additional questions, or if conditions change substantially, please contact us at your earliest convenience.

Sincerely,

DC Environmental
David Charlesworth
Certified Industrial Hygienist

LIMITATIONS

The environmental services described in this report have been conducted in general accordance with current regulatory guidelines and the standard-of-care exercised by environmental consultants performing similar work in the project area. No warranty, expressed or implied, is made regarding the professional opinions presented in this report. Variations in site conditions may exist and conditions not observed or described in this report may be encountered during subsequent activities.

The environmental interpretations and opinions contained in this report are based on the results of instrumentation, laboratory tests and/or analyses Acme Environmental Industrial Hygiene, Inc., has no involvement in, or control over, such equipment, testing and/or analysis. Acme Environmental Industrial Hygiene, Inc, dba DC Environmental therefore, disclaims responsibility for any inaccuracy in such laboratory results.

Our conclusions, recommendations, and opinions are based on an analysis of the observed site conditions. It should be understood that the conditions of a site could change with time as a result of natural processes or the activities of man at the subject site or nearby sites. In addition, changes to the applicable laws, regulations, codes, and standards of practice may occur due to government action or the broadening of knowledge. The findings of this report may, therefore, be invalidated over time, in part or in whole, by changes over which Acme Environmental Industrial Hygiene, Inc., has no control.

This document is intended to be used only in its entirety. No portion of the document, by itself, is designed to completely represent any aspect of the project described herein. Acme Environmental Industrial Hygiene, Inc., should be contacted if the reader requires any additional information, or has questions regarding content, interpretations presented, or completeness of this document.

This report is intended exclusively for use by the client. Any use or reuse of the findings, conclusions, and/or recommendations of this report by parties other than the client is undertaken at said parties' sole risk.

Appendix A
Asbestos Laboratory Results

CA Labs
Dedicated to Quality

Crisp Analytical, L.L.C.
1929 Old Denton Road
Carrollton, TX 75006
Phone 972-242-2754
Fax 972-242-2798

CA Labs, L.L.C.
12232 Industriplex, Suite 32
Baton Rouge, LA 70809
Phone 225-751-5632
Fax 225-751-5634

Materials Characterization - Bulk Asbestos Analysis

Laboratory Analysis Report - Polarized Light

DC Environmental
PO Box 9315
Albuquerque, NM 87119

Attn: David Charlesworth
Customer Project: DCE 16-187, City Of Albuquerque (Intera), Rail Yard
Reference #: CAL16117627JE Date: 11/14/2016

Analysis and Method

Summary of polarizing light microscopy (PLM / Stereomicroscopy bulk asbestos analysis) using the methods described in 40CFR Part 763 Appendix E to Subpart E (Interim and EPA 600 / R-93 / 116 (Improved). The sample is first viewed with the aid of stereomicroscopy. Numerous liquid slide preparations are created for analysis under the polarized microscope where identifications and quantifications are preformed. Calibrated liquid refractive oils are used as liquid mouting medium. These oils are used for identification (dispersion staining). A calibrated visual estimation is reported, should any asbestiform mineral be present. Other techniques such as acid washing are used in conjugation with refractive oils for detection of smaller quantities of asbestos. All asbestos percentages are based on calibrated visual estimation traceable to NIST standards for regulated of asbestos. Traceability to measurement and calibration is achieved by using known amounts and types of asbestos from standards where analyst and laboratory accuracy are measured. As little as 0.001% asbestos can be detected in favorable samples, while detection in unfavorable samples may approach the detection limit of 0.50% (well above the laboratory definition of trace).

Discussion

Vermiculite containing samples may have trace amounts of actinolite-tremolite, where not found be PLM should be analyzed using TEM methods and / or water separation techniques. Suspected actinolite/vermiculite presence will be indicated through the sample comment section of this report.

Fibrous talc containing samples may even contain a related asbestos fiber known as anthophyllite. Under certain conditions the same fiber may actually contain both talc and anthophyllite (a phenomenon called intergrowth). Again, TEM detection methods are recommended. CA Labs PLM report comments will denote suspected amounts of asbestiform anthophyllite with talc, where further analysis is recommended.

Some samples (floor tiles, surfacings, etc.) may contain fibers too small to be delectable by PLM analysis and should be analyzed by TEM bulk protocols.

A "trace asbestos" will be reported if the analyst observes far less than 1% asbestos. CA Labs defines "trace asbestos" as a few fibers detected by the analyst in several preparations and will indicate as such under these circumstances.

Quantification of <1% will actually be reported as <=1% (allowable variance close to 1% is high). Such results are ideal for point counting, and the technique is mandatory for friable samples (NESHAP, Nov. 1990 and clarification letter 8 May 1991) under 1% percent asbestos and the "trace asbestos". **In order to make all initial PLM reports issued from CA Labs NESHAP compliant, all <1% asbestos results (except floor tiles) will be point counted at no additional charge.**

Qualifications

CA Labs is accredited by the National Voluntary Accreditation Program (NVLAP) for selected test methods for airborne fiber analysis (TEM), and for bulk asbestos fiber analysis (PLM). CA Labs is also accredited by AIHA LAP, LLC. in the PLM asbestos field of testing for Industrial Hygiene. All analysts have a college degree in a natural science (geology, biology, or environmental science) or are recognized by a state professional board in one these disciplines .Extensive in-house training programs are used to augment education background of the analyst. The group leader of polarized light has received supplemental McCrone Research training for asbestos identification. Analysis performed at Crisp Analytical Labs, LLC 1929 Old Denton Road Carrollton, TX 75006

Dallas NVLAP Lab Code 200349-0 TEM/PLM TCEQ# T104704513-15-3 TDH 30-0235
AIHA LAP, LLC Laboratory #102929

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Overview of Project Sample Material Containing Asbestos

Customer Project: DCE 16-187, City Of Albuquerque (Intera), Rail Yard **CA Labs Project #:** CAL16117627JE

Sample #	Layer #	Analysts Physical Description of Subsample	Asbestos type / calibrated visual estimate percent	List of Affected Building Material Types
16-187-100	*100-1*	***Window Putty north Wash Room**/ tan sealant*	***<1% Chrysotile***	***tan sealant***

Dallas NVLAP Lab Code 200349-0 TEM/PLM TCEQ# T104704513-15-3 TDH 30-0235
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Glossary of abbreviations (non-asbestos fibers and non-fibrous minerals):

ca - carbonate
gypsum - gypsum
bi - binder
or - organic
ma - matrix
mi - mica
ve - vermiculite
ot - other
pe - perlite
qu - quartz
fg - fiberglass
mw - mineral wool
wo - wollastinite
ta - talc
sy - synthetic
ce - cellulose
br - brucite
ka - kaolin (clay)
pa - palygorskite (clay)

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Polarized Light Asbestiform Materials Characterization

Customer Info: **Attn:** David Charlesworth
DC Environmental
PO Box 9315
Albuquerque, NM 87119

Phone # 505-869-8000
Fax # 505-869-9453

Customer Project:
DCE 16-187, City Of Albuquerque (Intera), Rail Yard Parcel 10
Turnaround Time:
2 Days

CA Labs Project #:
CAL16117627JE

Date: 11/14/2016
Samples Received: 11/11/16 10:30am
Date Of Sampling: 10/26/2016
Purchase Order #:

Sample #	Comment	Layer #	Analysts Physical Description of Subsample	Homogeneous (Y/N)	Asbestos type / calibrated visual estimate percent	Non-asbestos fiber type / percent	Non-fibrous type / percent
16-187-100		*100-1*	***Window Putty north Wash Room**/ tan sealant*	*n*	***<1% Chrysotile***		100% qu,ca
16-187-101		*101-1*	***Red Roofing Material North Wash Room**/ brown roofing material*	*n*	***None Detected***	4% ce	96% qu,bi

Dallas NVLAP Lab Code 200349-0 TEM/PLM TCEQ# T104704513-15-3 TDH 30-0235

AIHA LAP, LLC Laboratory #102929

Analysis Method: Interim (40CFR Part 763 Appendix E to Subpart E) / Improved (EPA-600 / R-93/116). *All samples received in good condition unless noted.*
Preparation Method: HCL acid washing for carbonate based samples, chemical reduction for organically bound components, oil immersion for identification of asbestos types by dispersion attaining / becke line method.

ca - carbonate	mi - mica	fg - fiberglass	ce - cellulose
gypsum - gypsum	ve - vermiculite	mw - mineral wool	br - brucite
bi - binder	ot -other	wo - wollastinite	ka - kaolin (clay)
or - organic	pe - perlite	ta - talc	pa - palygorskite (clay)
ma - matrix	qu - quartz	sy - synthetic	

Approved Signatories:

Stanley Massett
Analyst

QAC
Leslie Crisp, P.G.

Technical Manager
Chad Lytle

1. Fire Damage significant fiber damage - reported percentages reflect unaltered fibers
2. Fire Damage no significant fiber damages effecting fibrous percentages
3. Actinolite in association with Vermiculite
4. Layer not analyzed - attached to previous positive layer and contamination is suspected
5. Not enough sample to analyze
6. Anthophyllite in association with Fibrous Talc
7. Contamination suspected from other building materials
8. Favorable scenario for water separation on vermiculite for possible analysis by another method
9. < 1% Result point counted positive
10. TEM analysis suggested

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Polarized Light Asbestiform Materials Point Count

Laboratory Analysis Report - Point Count

Analysis and Method

Point counting was performed on a polarized light microscope with a calibrated reticle according to the revised NESHAP method of November 20, 1990 (Federal Register, V.55, N.224, 11/20/90). Origional asbestos content of bulk materials was determined using procedures outlined in the interim method (40 CFR part 763, Appendix E to subpart E) and AHERA method (EPA-600/R-93/116). Samples were prepared using HCL acid washing for carbonate based samples, chemical reduction for organically bound components, oil immersion for identification of asbestos types by dispersion staining / becke line method.

Qualifications

CA Labs is accredited by the National Voluntary Accreditation Program (NVLAP) for selected test methods for airborne fiber analysis (TEM), and for bulk asbestos fiber analysis (PLM). CA Labs is also accredited by AIHA LAP, LLC. in the PLM asbestos field of testing for Industrial Hygiene. All analysts have a college degree in a natural science (geology, biology, or environmental science) or are recognized by a state professional board in one of these disciplines. Extensive in-house training programs are used to augment education background of the analyst. The group leader of polarized light has received supplemental McCrone Research training for asbestos identification. This report is not covered by the scope of NVLAP accreditation. Analysis performed at Crisp Analytical Labs, LLC 1929 Old Denton Road Carrollton, TX 75006

Customer Info: **Attn:** David Charlesworth
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PO Box 9315
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Phone # 505-869-8000
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Customer Project:
DCE 16-187, City Of Albuquerque (Intera), Rail Yard Parcel 10
Turnaround Time:
2 Days

CA Labs Project #:
CAL16117627JE

Date: 11/14/2016
Samples Received: 11/11/16 10:30am
Date Of Sampling: 10/26/2016
Purchase Order #:

Sample #	Layer #	Analysts Physical Description of Subsample	Homo-geneous (Y/N)	Point Counted % / Asbestos Type
16-187-100	*100-1*	***Window Putty north Wash Room**/ tan sealant*	*n*	***0.25% Chrysotile***

Dallas NVLAP Lab Code 200349-0 TEM/PLM TCEQ# T104704513-15-3 TDH 30-0235

AIHA LAP, LLC Laboratory #102929

Approved Signatories:

Stanley Massett
Analyst

QAC
Leslie Crisp, P.G.

Technical Manager
Chad Lytle

CAR1611760 27

DC Environmental Consulting and Training Services

"Promoting Safety in the Workplace"

DC Environmental
PO Box 9315
Albuquerque, NM 87119

Contact:
J. David Charlesworth

Phone: 505.869.8000
Fax: 505.869.9453

E-mail:
JDCharlesworthcih@gmail.com

Site: City of Albuquerque (Intera)

Site Location: Rail Yard Parcel 10 North Wash Room

PO / Job#: DCE 16-187 Date: 10/26/2016

Turn Around Time: Same Day / 1Day / 2Day / 3Day / 4Day / 5Day

❒ PCM: ❒ NIOSH 7400A / ❒ NIOSH 7400B ❒ Rotometer

❒ PLM: ❒ Standard / ❒ Point Count 400 - 1000 / ❒ CARB 435

❒ TEM Air: ❒ AHERA / ❒ Yamate2 / ❒ NIOSH 7402
❒ TEM Bulk: ❒ Quantitative / ❒ Qualitative / ❒ Chatfield
❒ TEM Water: ❒ Potable / ❒ Non-Potable / ❒ Weight %
❒ TEM Microvac: ❒ Qual(+/-) / ❒ D5755(str/area) / ❒ D5756(str/mass)

❒ IAQ Particle Identification (PLM LAB) ❒ PLM Opaques/Soot
❒ Particle Identification (TEM LAB) ❒ Special Project

❒ Metals Analysis: Method:
Matrix:
Analytes:

Comments:

Sample ID	Date	Sample Location / Description / Task	FOR AIR SAMPLES ONLY				Sample Area / Air Volume
			Type	Time On/Off	Avg. LPM	Total Time	
16-187-100	10/26	Window Putty North Wash Room	A P C				
16-187-101	10/26	Red Roofing Material North Wash Room	A P C				
			A P C				
			A P C				
			A P C				
			A P C				
			A P C				
			A P C				
			A P C				
			A P C				

Sampled By: Steven Gutierrez

Shipped Via: ❒ Fed Ex ❒ DHL ❒ UPS ❒ US Mail ❒ Courier ❒ Drop Off ❒ Other:

Relinquished By: Steven Gutierrez Date / Time: 11/10/2016 5:00PM	Relinquished By: Date / Time:	Relinquished By: Date / Time:
Received By: Justin Date / Time: 11/11/16 10:30 Condition Acceptable? ❒ Yes ❒ No	Received By: Date / Time: Condition Acceptable? ❒ Yes ❒ No	Received By: Date / Time: Condition Acceptable? ❒ Yes ❒ No

Appendix B
XRF Lead Measurements

Project # 16-187 Project Name North Washroom Date 10/26/16
Address City of Albuquerque Railyards
Technician D. Charlesworth, M. Nieman and S. Gutierrez

	Time : 09:27		Unit	1141	Results	Average
1		Cal.			1.0	
2		Cal.			1.5	
3		Cal.			1.0	1.2
4		Cal.			0.2	
5		Cal			0.0	
6		Cal.			0.2	0.1
XRF Test Number	Location / Room	Component - Designation	Component Number	Color	Substrate	Result / Reading
7	Interior	A-Wall		White	Brick	2.5
8	Interior	B-Wall		White	Brick	2.7
9	Interior	C-Wall		White	Brick	-0.0
10	Interior	D-Wall		White	Brick	2.8
11	Interior	Door Frame	A-1	White	Wood	1.8
12	Interior	Window Frame	A-7	White	Wood	2.8
13	Interior	Window Sash	A-7	White	Wood	1.7
14	Interior	Window Apron	A-7	White	Wood	1.9
15	Interior	Chair Rail	A-1	White	Wood	1.3
16	Interior	Ceiling		White	Wood	4.2
17	Interior	Bathroom Divider Wall		White	Wood	-0.1
18	Interior	Pipe		White	Metal	1.0
19	Interior	Pipe		Yellow	Metal	-0.0
20	Interior	Floor		Red	Concrete	-0.1
21	Interior	Locker		Beige	Metal	0.2
22	Interior	Door Transum		White	Wood	2.5
23	Exterior	Door Frame	C-1	Red	Wood	0.6
24	Exterior	Window	C-5	Red	Wood	1.0
25	Exterior	Gutter downspout	C-2	Red	Cast Iron	1.0
26	Exterior	C-Wall		Pink	Brick	0.0
27	Exterior	Bollard		Off White	Metal	2.9
28	Exterior	Hydrant Rail		Yellow	Metal	1.0
29	Exterior	Hydrant		Red	Metal	>9.9
30	Exterior	D-Wall		Beige	Brick	0.1
31	Exterior	A-Wall Foundation Footing		Red	Concrete	-0.1
32	Exterior	Door Header	A-1	Red	Wood	0.4

33	Exterior	Brick Window Sill	A-10	Beige	Brick	-0.3
34	Exterior	Window Trim	B-2	Red	Wood	0.6
35	Exterior	B-Wall		Red	Brick	-0.2
	Time : 16:30		Unit		Results	Average
1		Cal.			1.0	
2		Cal.			1.0	
3		Cal.			1.1	1.0
4		Cal.			0.1	
5		Cal			-0.1	
6		Cal.			-0.1	-0.0

Appendix C
Asbestos and LBP Data

ID	ReadingNo/SampleID	Lead	Units	LBP	RoomNumber	Building	RoomName	Wall	Structure	Location	IMember	IMode	Substrate	Color	Location_2	Source
1	7	0.1	mg/cm2		1	Railyards Amtrack Office	Office	A	Window	Hgt	Sill	CMI	Wood	Brown	Interior	Innovar, 2011
2	8	0.1	mg/cm2		1	Railyards Amtrack Office	Office	A	Window	Hgt	Sash	CMI	Wood	Brown	Interior	Innovar, 2011
3	9	0.2	mg/cm2		1	Railyards Amtrack Office	Office	A	Window	Hgt	Lit casing	CMI	Wood	Brown	Interior	Innovar, 2011
4	10	0.2	mg/cm2		1	Railyards Amtrack Office	Office	A	Wall	LCtr		CMI	Plaster	White	Interior	Innovar, 2011
5	11	-0.2	mg/cm2		1	Railyards Amtrack Office	Office	B	Wall	UCtr		CMI	Plaster	White	Interior	Innovar, 2011
6	12	0	mg/cm2		1	Railyards Amtrack Office	Office	C	Door	Ctr	UCtr	CMI	Steel	Brown	Interior	Innovar, 2011
7	13	0	mg/cm2		1	Railyards Amtrack Office	Office	C	Door	Ctr	Lit casing	CMI	Steel	Brown	Interior	Innovar, 2011
8	14	0.2	mg/cm2		1	Railyards Amtrack Office	Office	B	Window	Ctr	Sill	CMI	Wood	Brown	Interior	Innovar, 2011
9	15	0.2	mg/cm2		3	Railyards Amtrack Office	Office	B	Window	Ctr	Lit casing	CMI	Wood	Brown	Interior	Innovar, 2011
10	16	0.2	mg/cm2		3	Railyards Amtrack Office	Office	B	Window	Ctr	Sash	CMI	Wood	Brown	Interior	Innovar, 2011
11	17	0	mg/cm2		3	Railyards Amtrack Office	Office	A	Wall	LCtr		CMI	Plaster	White	Interior	Innovar, 2011
12	18	-0.2	mg/cm2		3	Railyards Amtrack Office	Office	A	Wall	LHgt		CMI	Plaster	White	Interior	Innovar, 2011
13	19	-0.2	mg/cm2		3	Railyards Amtrack Office	Office	D	Door	Hgt	UHgt	CMI	Steel	Brown	Interior	Innovar, 2011
14	20	0.1	mg/cm2		3	Railyards Amtrack Office	Office	D	Door	Hgt	Lit casing	CMI	Steel	Brown	Interior	Innovar, 2011
15	21	0.7	mg/cm2		4	Railyards Amtrack Office	BreakRm	B	Chair rail	Ctr		CMI	Wood	Brown	Interior	Innovar, 2011
16	22	0.2	mg/cm2		4	Railyards Amtrack Office	BreakRm	B	Window	Ctr	Lit casing	CMI	Wood	Brown	Interior	Innovar, 2011
17	23	>999	mg/cm2	Yes	4	Railyards Amtrack Office	BreakRm	B	Wall	LCtr		CMI	Plaster	White	Interior	Innovar, 2011
18	24	0.2	mg/cm2		4	Railyards Amtrack	BreakRm	C	Baseboard	Ctr		CMI	Plaster	White	Interior	Innovar, 2011

						Office										
19	25	>99	mg/cm2	Yes	4	Railyards Amtrack Office	Break Rm	B	Wall	Ult		CMU	Plaster	White	Interior	Innovar, 2011
20	26	>99	mg/cm2	Yes	4	Railyards Amtrack Office	Break Rm	B	Wall	Lkgt		CMU	Plaster	White	Interior	Innovar, 2011
21	27	0.3	mg/cm2		4	Railyards Amtrack Office	Break Rm	C	Wall	Lctr		CMU	Drywall	White	Interior	Innovar, 2011
22	28	0.2	mg/cm2		3	Railyards Amtrack Office	Office	B	Wall	Lctr		CMU	Plaster	White	Interior	Innovar, 2011
23	29	>99	mg/cm2	Yes	10	Railyards Amtrack Office	Lobby	A	Wall	Lctr		CMU	Plaster	White	Interior	Innovar, 2011
24	30	0.3	mg/cm2		10	Railyards Amtrack Office	Lobby	D	Wall	Lctr		CMU	Plaster	White	Interior	Innovar, 2011
25	31	0.3	mg/cm2		10	Railyards Amtrack Office	Lobby	A	Window	Ctr	Sash	CMU	Wood	Brown	Interior	Innovar, 2011
26	32	>99	mg/cm2	Yes	10	Railyards Amtrack Office	Lobby	A	Column	Ctr		CMU	Plaster	White	Interior	Innovar, 2011
27	33	>99	mg/cm2	Yes	10	Railyards Amtrack Office	Lobby	A	Column	Ctr		CMU	Plaster	White	Interior	Innovar, 2011
28	34	1.1	mg/cm2	Yes	12	Railyards Amtrack Office	Hallway	B	Wall	Lctr		CMU	Plaster	White	Interior	Innovar, 2011
29	35	>99	mg/cm2	Yes	12	Railyards Amtrack Office	Hallway	D	Wall	Lctr		CMU	Plaster	White	Interior	Innovar, 2011
30	36	0.1	mg/cm2		9	Railyards Amtrack Office	Wms Rm	D	Wall	Lctr		CMU	Plaster	White	Interior	Innovar, 2011
31	37	0.1	mg/cm2		9	Railyards Amtrack Office	Wms Rm	A	Wall	Lctr		CMU	Plaster	White	Interior	Innovar, 2011
32	38	0.3	mg/cm2		9	Railyards Amtrack Office	Wms Rm	B	Door	Ctr	Lit casing	CMU	Wood	Brown	Interior	Innovar, 2011
33	39	0.2	mg/cm2		9	Railyards Amtrack Office	Wms Rm	B	Floor			CMU	Cement	Brown	Interior	Innovar, 2011
34	40	-0.1	mg/cm2		11	Railyards Amtrack Office	Number Only	C	Stairs	Ctr	Treads	CMU	Steel	Black	Interior	Innovar, 2011
35	41	0.1	mg/cm2		11	Railyards Amtrack Office	Number Only	C	Stairs	Ctr	Railing cap	CMU	Steel	Black	Interior	Innovar, 2011
36	42	-0.1	mg/cm2		15	Railyards Amtrack Office	Upstairs	C	Wall	Lctr		CMU	Plaster	White	Interior	Innovar, 2011
3	43	0.2	mg/cm		15	Railyard	Upstairs	B	Wall	Lctr		CMU	Plaster	White	Interior	Innovar

7			2			s Amtrack Office										,2011
38	44	>99	mg/cm2	Yes	15	Railyards Amtrack Office	Upstairs	A	Wall	Ltr		UVI	Plaster	White	Interior	Innovar,2011
39	45	6.6	mg/cm2	Yes	15	Railyards Amtrack Office	Upstairs	A	Door	Ctr	UCtr	UVI	Wood	White	Interior	Innovar,2011
40	46	0.3	mg/cm2		15	Railyards Amtrack Office	Upstairs	B	Wall	Ltr		UVI	Plaster	White	Interior	Innovar,2011
41	47	0.3	mg/cm2		15	Railyards Amtrack Office	Upstairs	A	Wall	Ltr		UVI	Plaster	White	Interior	Innovar,2011
42	54	0.2	mg/cm2		16	Railyards Amtrack Office	Museum	A	Floor			UVI	Cement	Gray	Interior	Innovar,2011
43	55	2.3	mg/cm2	Yes	16	Railyards Amtrack Office	Museum	A	Floor			UVI	Cement	White	Interior	Innovar,2011
44	56	0.3	mg/cm2		16	Railyards Amtrack Office	Museum	A	Floor			UVI	Cement	White	Interior	Innovar,2011
45	57	0.1	mg/cm2		16	Railyards Amtrack Office	Museum	D	Wall	Ltr		UVI	Cement	Gray	Interior	Innovar,2011
46	58	0.2	mg/cm2		16	Railyards Amtrack Office	Museum	B	Wall	Ltr		UVI	Cement	Gray	Interior	Innovar,2011

ID	Read No/Sample ID	Lead	Units	LBP	Room Number	Building	Room Name	Wall	Structure	Location	Member	Mode	Substrate	Color	Location_2	Source
47	59	0.1	mg/cm2		16	Railyards Amtrack Office	Museum	A	Wall	Ltr		UVI	Cement	Gray	Interior	Innovar, 2011
48	60	6.3	mg/cm2	Yes	16	Railyards Amtrack Office	Museum	A	Floor			UVI	Cement	Yellow	Interior	Innovar, 2011
49	61	0.1	mg/cm2		16	Railyards Amtrack Office	Museum	A	Door	Ctr	UCtr	UVI	Steel	Green	Interior	Innovar, 2011
50	62	0.1	mg/cm2		16	Railyards Amtrack Office	Museum	A	Door	Ctr	UCtr	UVI	Steel	Black	Interior	Innovar, 2011
51	63	0.5	mg/cm2		16	Railyards Amtrack Office	Museum	A	Door	Ctr	Lit casing	UVI	Steel	Black	Interior	Innovar, 2011
52	64	0.7	mg/cm2		16	Railyards Amtrack Office	Museum	A	Floor			UVI	Cement	Red	Interior	Innovar, 2011
53	65	1.8	mg/cm2	Yes	1	Railyards Amtrack Office	Facility	B	Railing	Ctr	Railing	UVI	Steel	Yellow	Exterior	Innovar, 2011
54	66	0.2	mg/cm2		1	Railyards Amtrack Office	Facility	B	Door	Ctr	UCtr	UVI	Steel	Red	Exterior	Innovar, 2011
55	67	-0.1	mg/cm2		1	Railyards Amtrack Office	Facility	D	Window	Ctr	Sill	UVI	Wood	Black	Exterior	Innovar, 2011
56	68	0.2	mg/cm2		1	Railyards Amtrack Office	Facility	D	Window	Ctr	Sash	UVI	Wood	Black	Exterior	Innovar, 2011
57	69	0	mg/cm		1	Railyards	Facility	C	Window	Rgt	Sill	UVI	Wood	Black	Exterior	Innovar,

57			2			Amtrack Office										2011
58	7	5	mg/cm2	Yes	1	Main Machine Shop	Number Only	B	Column	Otr		CMI	Steel	Silver	Interior	Innovar, 2011
59	8	11	mg/cm2	Yes	1	Main Machine Shop	Number Only	C	Door	Otr	OOtr	CMI	Steel	Silver	Interior	Innovar, 2011
60	9	22	mg/cm2	Yes	1	Main Machine Shop	Number Only	C	Column	Otr		CMI	Steel	Silver	Interior	Innovar, 2011
61	10	01	mg/cm2		1	Main Machine Shop	Number Only	A	Floor			CMI	Ceramic	Red	Interior	Innovar, 2011
62	11	18	mg/cm2	Yes	1	Main Machine Shop	Number Only	B	Unit Column	Otr		CMI	Steel	Silver	Interior	Innovar, 2011
63	12	07	mg/cm2		1	Main Machine Shop	Number Only	B	Stairs	Otr	Treads	CMI	Steel	Green	Interior	Innovar, 2011
64	13	19	mg/cm2	Yes	1	Main Machine Shop	Number Only	D	Column	Otr		CMI	Steel	Silver	Interior	Innovar, 2011
65	14	54	mg/cm2	Yes	1	Main Machine Shop	Number Only	D	Ceiling Beam	Beam	Otr	CMI	Steel	Silver	Interior	Innovar, 2011
66	15	42	mg/cm2	Yes	1	Main Machine Shop	Number Only	B	Column	Otr		CMI	Steel	Black	Exterior	Innovar, 2011
67	16	27	mg/cm2	Yes	1	Main Machine Shop	Number Only	B	Stairs	Otr	Treads	CMI	Wood	White	Interior	Innovar, 2011
68	1	34	mg/cm2	Yes		Boiler Shop	Number Only	B	Unit Column	Otr		CMI	Steel	Silver	Interior	Innovar, 2011
69	2	01	mg/cm2			Boiler Shop	Number Only	A	Floor			CMI	Cement	Red	Interior	Innovar, 2011
70	3	32	mg/cm2	Yes		Boiler Shop	Number Only	C	Unit Column	Otr		CMI	Steel	Silver	Interior	Innovar, 2011
71	4	25	mg/cm2	Yes		Boiler Shop	Number Only	A	Column	Lift		CMI	Steel	Silver	Interior	Innovar, 2011
72	5	-03	mg/cm2			Boiler Shop	Number Only	C	Door	Lift	OOtr	CMI	Steel	Silver	Interior	Innovar, 2011
73	1	11	mg/cm2	Yes		Blacksmith Shop	Number Only	B	Column	Otr		CMI	Steel	Silver	Interior	Innovar, 2011
74	2	31	mg/cm2	Yes		Blacksmith Shop	Number Only	C	Column	Otr		CMI	Steel	Silver	Interior	Innovar, 2011
75	3	21	mg/cm2	Yes		Blacksmith Shop	Number Only	D	Wall	LOtr		CMI	Brick	Silver	Interior	Innovar, 2011
76	4	02	mg/cm2			Blacksmith Shop	Number Only	D	Door	Otr	OOtr	CMI	Steel	Silver	Interior	Innovar, 2011
77	5	01	mg/cm2			Blacksmith Shop	Number Only	D	Window	Otr	Part. Bead	CMI	Steel	Silver	Interior	Innovar, 2011
78	7	27	mg/cm2	Yes		Bldg. North of Firehouse	Number Only	A	Bldg. North of Firehouse	LOtr		CMI	Cement	Silver	Interior	Innovar, 2011
79	8	23	mg/cm2	Yes		Bldg. North of Firehouse	Number Only	A	Window	Otr	Lit casing	CMI	Steel	Silver	Interior	Innovar, 2011
80	9	56	mg/cm2	Yes		Bldg. North of Firehouse	Number Only	A	Door	Otr	OOtr	CMI	Steel	Silver	Interior	Innovar, 2011
81	10	11	mg/cm2	Yes		Bldg. North of Firehouse	Number Only	A	Window	Otr	Hgt casin	CMI	Steel	Silver	Interior	Innovar, 2011
82	11	24	mg/cm2	Yes		Bldg. North of Firehouse	Number Only	C	Frame	Otr		CMI	Steel	Silver	Interior	Innovar, 2011
83	12	11	mg/cm2	Yes		Bldg. North of Firehouse	Number Only	C	Wall	LOtr		CMI	Cement	Silver	Interior	Innovar, 2011
84	13	02	mg/cm			Bldg.	Number	D	Wall	LOtr		CMI	Cement	Silver	Interior	Innovar,

4			2			North of Firehouse	Only									2011
85	1	1.1	mg/cm2	Yes		Bldg South of Firehouse	Number Only	A	Wall	Ltr		CMU	Cement	White	Interior	Innovar, 2011
86	2	0.1	mg/cm2			Bldg South of Firehouse	Number Only	B	Wall	Ltr		CMU	Cement	White	Interior	Innovar, 2011
87	3	0	mg/cm2			Bldg South of Firehouse	Number Only	A	Door Unit	Ctr	Lit casing	CMU	Cement	White	Interior	Innovar, 2011
88	4	1.1	mg/cm2	Yes		Bldg South of Firehouse	Number Only	A	Column	Ctr		CMU	Cement	Green	Interior	Innovar, 2011
89	5	1.2	mg/cm2	Yes		Bldg South of Firehouse	Number Only	B	Wall	Ltr		CMU	Cement	Green	Interior	Innovar, 2011
90	6	0.5	mg/cm2			Bldg South of Firehouse	Number Only	C	Door	Ctr	UCtr	CMU	Cement	Green	Interior	Innovar, 2011
91	13029.029-020513-01L	150	ppm			Blacksmith Shop			Interior Walls	NW Corner			Paint	Silver		Rhoades, 2013
92	13029.029-020513-02L	410	ppm			Blacksmith Shop			Interior Walls	NE Corner			Paint	Silver		Rhoades, 2013

ID	Read No/Sample ID	Lead	Units	LBP	Room Number	Building	Room Name	Wall	Structure	Location	Member	Mode	Substrate	Color	Location_2	Source
93	13029.029-020513-03L	100	ppm			Blacksmith Shop			Interior Walls	SW Corner			Paint	Silver		Rhoades, 2013
94	13029.029-020513-04L	150	ppm			Blacksmith Shop			Interior Walls	SE Corner			Paint	Silver		Rhoades, 2013
95	13029.029-020513-05L	2570	ppm			Blacksmith Shop			Overhead Piping				Paint	Red		Rhoades, 2013
96	13029.029-020513-06L	2640	ppm			Blacksmith Shop			Exterior Brick Walls		1 mm		Paint	Rust		Rhoades, 2013
97	13029.029-020513-07L	4040	ppm			Blacksmith Shop			Interior Walls Office Shack				Paint	Cream		Rhoades, 2013
98	13029.029-020513-08L	250	ppm			Blacksmith Shop			Building	NW Corner			Surface Dust			Rhoades, 2013
99	13029.029-020513-09L	400	ppm			Blacksmith Shop			Building	NE Corner			Surface Dust			Rhoades, 2013
100	13029.029-020513-10L	100	ppm			Blacksmith Shop			Building	Center			Surface Dust			Rhoades, 2013
101	13029.029-020513-11L	710	ppm			Blacksmith Shop			Building	SW Corner			Surface Dust			Rhoades, 2013
102	13029.029-020513-12L	970	ppm			Blacksmith Shop			Building	SE Corner			Surface Dust			Rhoades, 2013

ID	Sample Number	Date	Description	Location	Percent Asbestos	Asbestos Type	Classification	Source
1	577007-NB.NS.1	Sep-05	Silver glaze coating window pane	Boiler Shop, South Side	0%			Terracon, 2005
2	577007-NB.NS.2	Sep-05	Silver glaze coating window pane	Boiler Shop, South Side	0%			Terracon, 2005
3	577007-NB.NS.3	Sep-05	Silver glaze coating window pane	Boiler Shop, South Side	0%			Terracon, 2005
4	577007-NB.SS.4	Sep-05	Green painted window pane	Boiler Shop, South Side	0%			Terracon, 2005
5	577007-NB.SS.5	Sep-05	Green painted window pane	Boiler Shop, South Side	0%			Terracon, 2005
6	577007-NB.SS.6	Sep-05	Green painted window pane	Boiler Shop, North Side	0%			Terracon, 2005
7	577007-NB.NS.7	Sep-05	Silver glaze coating window pane	Boiler Shop, North Side	0%			Terracon, 2005
8	577007-NB.NS.8	Sep-05	Silver glaze coating window pane	Boiler Shop, North Side	0%			Terracon, 2005
9	577707-NB.NS.9	Sep-05	Silver glaze/black spray-on with pane	Boiler Shop, North Side	0%			Terracon, 2005
10	577007 -NB.NS.10	Sep-05	Silver glaze/black spray-on with pane	Boiler Shop, North Side	0%			Terracon, 2005
11	577007-NB.NS.11	Sep-05	Silver glaze/black spray-on with pane	Boiler Shop, North Side	0%			Terracon, 2005
12	577007-SB.SS.F1.1	Sep-05	Silver glaze coating window pane	Main Machine Shop, South Side, First Floor	0%			Terracon, 2005
13	577007 -SB.SS.F1.2	Sep-05	Glaze coating on window pane (silverlblack)	Main Machine Shop, South Side, First Floor	0%			Terracon, 2005
14	577007-SB.SS.F1.3	Sep-05	Glaze coating on window pane (silver)	Main Machine Shop, South Side, First Floor	0%			Terracon, 2005
15	577007 -SB.SS.F1.4	Sep-05	Glaze coating on window pane (silver)	Main Machine Shop, South Side, First Floor	0%			Terracon, 2005
16	577007 -SB.SS.F1.5	Sep-05	Glaze coating on window pane (silver)	Main Machine Shop, South Side, First Floor	0%			Terracon, 2005
17	577007-SB.SS.F1.6	Sep-05	Glaze coating on window pane (silver)	Main Machine Shop, South Side, First Floor	0%			Terracon, 2005
18	577007 -SB.SS.F1.7	Sep-05	Glaze coating on window pane (silver/green)	Main Machine Shop, South Side, First Floor	0%			Terracon, 2005
19	577007-SB.SS.F2.1	Sep-05	Glaze coating on window pane (beige/green)	Main Machine Shop, South Side, Second Floor	0%			Terracon, 2005
20	577007-SB.SS.F2.2	Sep-05	Glaze coating on window pane (tanJbrown)	Main Machine Shop, South Side, Second Floor	0%			Terracon, 2005
21	577007-SB.SS.F2.3	Sep-05	Glaze coating on window pane (off-white)	Main Machine Shop, South Side, Second Floor	0%			Terracon, 2005
22	577007-SB.SS.F2.4	Sep-05	Glaze coating on window pane (grey/green)	Main Machine Shop, South Side, Second Floor	0%			Terracon, 2005
23	577007-SB.SS.F2.5	Sep-05	Glaze coating on window pane (off-white)	Main Machine Shop, South Side, Second Floor	0%			Terracon, 2005
24	577007-SB.SS.F2.6	Sep-05	Plaster over cc wall (grey with paint)	Main Machine Shop, South Side, Second Floor	0%			Terracon, 2005
25	577007-SB.SS.F2.7	Sep-05	Plaster over cc wall (grey with paint)	Main Machine Shop, South Side, Second Floor	0%			Terracon, 2005
26	577007-NB.SS.1	Sep-05	Window glazing (tan)	Boiler Shops, South Side	Trace <1%			Terracon, 2005
27	577007-NB.SS.2	Sep-05	Window glazing (tan)	Boiler Shops, South Side	2%	Chrysotile	Non-Friable	Terracon, 2005
28	577007-NB.SS.3	Sep-05	Window glazing (tan)	Boiler Shops, South Side	2%	Chrysotile	Non-Friable	Terracon, 2005
29	577007-NB.SS.01	Sep-05	Window glazing (beige)	Boiler Shops, South Side	Trace <1%	Chrysotile		Terracon, 2005
30	577007-NB.SS.02	Sep-05	Window glazing (beige)	Boiler Shops, South Side	Trace <1%	Chrysotile		Terracon, 2005
31	577007-NB.SS.03	Sep-05	Window glazing (beige)	Boiler Shops, South Side	Trace <1%	Chrysotile		Terracon, 2005
32	577007 -NB.ES.01	Sep-05	Window glazing (beige)	Boiler Shops, East Side	Trace <1%	Chrysotile		Terracon, 2005
33	577007-NB.ES.02	Sep-05	Window glazing (beige)	Boiler Shops, East Side	Trace <1%	Chrysotile		Terracon, 2005

34	577007 -N.O.01	Sep-05	Outside shingle (red with granules)	Outside the Boiler Shop	0%			Terracon, 2005
35	577007-N.O.02	Sep-05	Outside shingle (red with granules)	Outside the Boiler Shop	0%			Terracon, 2005
36	577007-N.O.03	Sep-05	Outside shingle (red with granules)	Outside the Boiler Shop	0%			Terracon, 2005
37	577007-N.O.G.01	Sep-05	White insulation	100 ft North of CWE Strorage Shed	NA			Terracon, 2005
38	577007-N.O.G.02	Sep-05	White insulation	100 ft North of CWE Strorage Shed	NA			Terracon, 2005
39	577007-N.O.G.03	Sep-05	White insulation	100 ft North of CWE Strorage Shed	NA			Terracon, 2005
40	577007 -NTE. WS-1	Sep-05	Transite pipe (grey)	Former Transformer Area, West Side	25%	Chrysotile	Friable	Terracon, 2005
41	577007 -NTE. WS-1	Sep-05	Transite pipe (grey)	Former Transformer Area, West Side	5%	Crocidolite		Terracon, 2005
42	577007 -NTE.ES-3	Sep-05	Transite pipe (grey)	Former Transformer Area	25%	Chrysotile	Friable	Terracon, 2005
43	577007 -NTE.ES-3	Sep-05	Transite pipe (grey)	Former Transformer Area	5%	Crocidolite		Terracon, 2005
44	577007-NTE.ES-1 (577007-NTE.NS-1??)	Sep-05	Transite pipe (grey)	Former Transformer Area	25%	Chrysotile	Friable	Terracon, 2005
45	577007-NTE.ES-1 (577007-NTE.NS-1??)	Sep-05	Transite pipe (grey)	Former Transformer Area	3%	Crocidolite		Terracon, 2005
46	577007-SWB.WW.01	Sep-05	Window putty/glazing (beige)	Babbit Shop, West Wall	Trace <1%	Chrysotile		Terracon, 2005
47	577007-SWB.WW.02	Sep-05	Window putty/glazing (beige)	Babbit Shop, West Wall	Trace <1%	Chrysotile		Terracon, 2005
48	577007-FH.01	Sep-05	Insulation/plaster over brick	Fire House	0%			Terracon, 2005
49	577007-FH.02	Sep-05	Insulation/plaster over brick	Fire House	0%			Terracon, 2005
50	577007-FH.03	Sep-05	Insulation/plaster over brick	Fire House	4%	Chrysotile	Friable	Terracon, 2005
51	577007-FH.04	Sep-05	Insulation/plaster over brick	Fire House	5%	Chrysotile	Friable	Terracon, 2005
52	01-DW1-1	Aug-10	off-white surfaced white compound (drywall)	Amtrack Office	none detected			Innovar, 2011
53	01-DW1-2	Aug-10	white drywall with brown paper (drywall)	Amtrack Office	none detected			Innovar, 2011
54	02-DW1-1	Aug-10	white surfaced white compound (drywall)	Amtrack Office	none detected			Innovar, 2011

ID	Sample Number	Date	Description	Location	Percent Asbestos	Asbestos Type	Classification	Source
55	03-DW1-1	Aug-10	white surfaced white compound (drywall)	Amtrack Office	none detected			Innovar, 2011
56	04-P1-1	Aug-10	white surfaced tan plaster (plaster)	Amtrack Office	none detected			Innovar, 2011
57	05-P1-1	Aug-10	white surfaced tan plaster (plaster)	Amtrack Office	none detected			Innovar, 2011
58	06-P1-1	Aug-10	white surfaced white compound (plaster)	Amtrack Office	none detected			Innovar, 2011
59	06-P1-2	Aug-10	tan plaster (plaster)	Amtrack Office	none detected			Innovar, 2011
60	07-CB1-1	Aug-10	pink cover base (cover base)	Amtrack Office	none detected			Innovar, 2011
61	07-CB1-2	Aug-10	tan mastic (cover base)	Amtrack Office	none detected			Innovar, 2011
62	07-CB1-3	Aug-10	white surfaced white compound (cover base)	Amtrack Office	none detected			Innovar, 2011
63	07-CB1-4	Aug-10	brown mastic (cover base)	Amtrack Office	<1%	Anthophyllite		Innovar, 2011
64	07-CB1-5	Aug-10	tan plaster (cover base)	Amtrack Office	none detected			Innovar, 2011
65	08-CB1-1	Aug-10	pink cover base (cover base)	Amtrack Office	none detected			Innovar, 2011
66	08-CB1-2	Aug-10	tan mastic (cover base)	Amtrack Office	none detected			Innovar, 2011

67	08-CB1-3	Aug-10	brown mastic (cover base)	Amtrack Office	<1%	Anthophyllite		Innovar, 2011
68	08-CB1-4	Aug-10	tan plaster (cover base)	Amtrack Office	none detected			Innovar, 2011
69	09-CB1-1	Aug-10	pink cover base (cover base)	Amtrack Office	none detected			Innovar, 2011
70	09-CB1-2	Aug-10	tan mastic (cover base)	Amtrack Office	none detected			Innovar, 2011
71	09-CB1-3	Aug-10	brown mastic (cover base)	Amtrack Office	<1%	Anthophyllite		Innovar, 2011
72	09-CB1-4	Aug-10	tan plaster (cover base)	Amtrack Office	none detected			Innovar, 2011
73	10-CT1-1	Aug-10	white surfacing (ceiling tile)	Amtrack Office	none detected			Innovar, 2011
74	10-CT1-2	Aug-10	tan ceiling (ceiling tile)	Amtrack Office	none detected			Innovar, 2011
75	10-CT1-3	Aug-10	brown mastic (ceiling tile)	Amtrack Office	none detected			Innovar, 2011
76	11-CT1-1	Aug-10	white surfacing (ceiling tile)	Amtrack Office	none detected			Innovar, 2011
77	11-CT1-2	Aug-10	tan ceiling tile (ceiling tile)	Amtrack Office	none detected			Innovar, 2011
78	11-CT1-3	Aug-10	brown mastic (ceiling tile)	Amtrack Office	none detected			Innovar, 2011
79	12-CT1-1	Aug-10	tan ceilign tile (no surfacing) (ceiling tile)	Amtrack Office	none detected			Innovar, 2011
80	12-CT1-2	Aug-10	brown mastic (ceiling tile)	Amtrack Office	none detected			Innovar, 2011
81	13-WC1-1	Aug-10	black surfacing white caulking (Window Caulk)	Amtrack Office	none detected			Innovar, 2011
82	14-WC1-1	Aug-10	black surfacing white caulking (Window Caulk)	Amtrack Office	none detected			Innovar, 2011
83	15-WC1-1	Aug-10	black surfacing white caulking (Window Caulk)	Museum	none detected			Innovar, 2011
84	16-CT2-1	Aug-10	white surfacing (ceiling tile)	Museum	none detected			Innovar, 2011
85	16-CT2-2	Aug-10	Gray ceiling tile (ceiling tile)	Museum	none detected			Innovar, 2011
86	17-CT2-1	Aug-10	White Surfacing (ceiling tile)	Museum	none detected			Innovar, 2011
87	17-CT2-2	Aug-10	Gray ceiling tile (ceiling tile)	Museum	none detected			Innovar, 2011
88	18-CT2-1	Aug-10	white surfacing (ceiling tile)	Museum	none detected			Innovar, 2011
89	18-CT2-2	Aug-10	Gray ceiling tile (ceiling tile)	Museum	none detected			Innovar, 2011
90	19-W1-1	Aug-10	black woven covering (Wiring)	Museum	none detected			Innovar, 2011
91	20-W1-1	Aug-10	black woven covering (Wiring)	Museum	none detected			Innovar, 2011
92	13029.029-020513-01	Feb-13	12'' Spline Ceiling Tile	Office Shack, Blacksmith Shop	none detected		Poor/Friable	Roades, 2013
93	13029.029-020513-02	Feb-13	12'' Spline Ceiling Tile	Office Shack, Blacksmith Shop	none detected		Poor/Friable	Roades, 2013
94	13029.029-020513-03	Feb-13	12'' Spline Ceiling Tile	Office Shack, Blacksmith Shop	none detected		Poor/Friable	Roades, 2013
95	13029.029-020513-04	Feb-13	Interior Plaster - Surface Coat	Office Shack, Blacksmith Shop	none detected		Poor/Friable	Roades, 2013
96	13029.029-020513-05	Feb-13	Interior Plaster - Surface Coat	Office Shack, Blacksmith Shop	2%	Chrysotile	Poor/Friable	Roades, 2013
97	13029.029-020513-06	Feb-13	Interior Plaster - Surface Coat	Office Shack, Blacksmith Shop	2%	Chrysotile	Poor/Friable	Roades, 2013
98	13029.029-020513-07	Feb-13	Interior Plaster - Surface Coat	Office Shack, Blacksmith Shop	none detected		Poor/Friable	Roades, 2013
99	13029.029-020513-08	Feb-13	Interior Plaster - Surface Coat	Office Shack, Blacksmith Shop	none detected		Poor/Friable	Roades, 2013
100	13029.029-020513-09	Feb-13	Interior Plaster - Surface Coat	Office Shack, Blacksmith Shop	none detected		Poor/Friable	Roades, 2013
101	13029.029-020513-10	Feb-	Window Glazing	Reinforced Glass, Blacksmith Shop	none		Poor/Friable	Roades,

		13			detected			2013
102	13029.029-020513-11	Feb-13	Window Glazing	Reinforced Glass, Blacksmith Shop	none detected		Poor/Friable	Roades, 2013
103	13029.029-020513-12	Feb-13	Window Glazing	Reinforced Glass, Blacksmith Shop	none detected		Poor/Friable	Roades, 2013
104	13029.029-020513-13	Feb-13	Window Glazing	Clear Glass, Blacksmith Shop	2%	Chrysotile	Poor/Friable	Roades, 2013
105	13029.029-020513-14	Feb-13	Window Glazing	Clear Glass, Blacksmith Shop	none detected		Poor/Friable	Roades, 2013
106	13029.029-020513-15	Feb-13	Window Glazing	Clear Glass, Blacksmith Shop	none detected		Poor/Friable	Roades, 2013
107	13029.029-020513-16	Feb-13	Window Glazing	Wood Panes, Blacksmith Shop	<1%	Chrysotile	Poor/Friable	Roades, 2013
108	13029.029-020513-17	Feb-13	Window Glazing	Wood Panes, Blacksmith Shop	2%	Chrysotile	Poor/Friable	Roades, 2013

ID	Sample Number	Date	Description	Location	Percent Asbestos	Asbestos Type	Classification	Source
109	13029.029-020513-18	Feb-13	Window Glazing	Wood Panes, Blacksmith Shop	none detected		Poor/Friable	Roades, 2013
110	13029.029-020513-19	Feb-13	Gray Parapet Tar	Throughout Roof, Blacksmith Shop	10%	Chrysotile	Poor/Non-Friable	Roades, 2013
111	13029.029-020513-20	Feb-13	Gray Parapet Tar	Throughout Roof, Blacksmith Shop	10%	Chrysotile	Poor/Non-Friable	Roades, 2013
112	13029.029-020513-21	Feb-13	Gray Parapet Tar	Throughout Roof, Blacksmith Shop	10%	Chrysotile	Poor/Non-Friable	Roades, 2013
113	13029.029-020513-22	Feb-13	Black Roofing Tar	Throughout Roof, Blacksmith Shop	none detected		Poor/Non-Friable	Roades, 2013
114	13029.029-020513-23	Feb-13	Black Roofing Tar	Throughout Roof, Blacksmith Shop	none detected		Poor/Non-Friable	Roades, 2013
115	13029.029-020513-24	Feb-13	Black Roofing Tar	Throughout Roof, Blacksmith Shop	none detected		Poor/Non-Friable	Roades, 2013
116	13029.029-020513-25	Feb-13	Black Penetration Tar	Throughout Roof, Blacksmith Shop	none detected		Poor/Non-Friable	Roades, 2013
117	13029.029-020513-26	Feb-13	Black Penetration Tar	Throughout Roof, Blacksmith Shop	none detected		Poor/Non-Friable	Roades, 2013
118	13029.029-020513-27	Feb-13	Black Penetration Tar	Throughout Roof, Blacksmith Shop	none detected		Poor/Non-Friable	Roades, 2013
119	13029.029-020513-28	Feb-13	Gray Roofing Felt	Throughout Roof, Blacksmith Shop	none detected		Poor/Non-Friable	Roades, 2013
120	13029.029-020513-29	Feb-13	Gray Roofing Felt	Throughout Roof, Blacksmith Shop	none detected		Poor/Non-Friable	Roades, 2013
121	13029.029-020513-30	Feb-13	Gray Roofing Felt	Throughout Roof, Blacksmith Shop	none detected		Poor/Non-Friable	Roades, 2013
122	13029.029-020513-31	Feb-13	Black Parapet Tar	Throughout Roof, Blacksmith Shop	8%	Chrysotile	Poor/Non-Friable	Roades, 2013
123	13029.029-020513-32	Feb-13	Black Parapet Tar	Throughout Roof, Blacksmith Shop	none detected		Poor/Non-Friable	Roades, 2013
124	13029.029-020513-33	Feb-13	Black Parapet Tar	Throughout Roof, Blacksmith Shop	none detected		Poor/Non-Friable	Roades, 2013
125	13029.029-020513-34	Feb-13	Black Roofing Felt - Patching	Throughout Roof, Blacksmith Shop	none detected		Poor/Non-Friable	Roades, 2013
126	13029.029-020513-35	Feb-13	Black Roofing Felt - Patching	Throughout Roof, Blacksmith Shop	none detected		Poor/Non-Friable	Roades, 2013
127	13029.029-020513-36	Feb-13	Black Roofing Felt - Patching	Throughout Roof, Blacksmith Shop	none detected		Poor/Non-Friable	Roades, 2013
128	13029.029-020513-34a	Feb-13	Black Roofing Felt - Patching	Throughout Roof, Blacksmith Shop	none detected		Poor/Non-Friable	Roades, 2013
129	13029.029-020513-35a	Feb-13	Black Roofing Felt - Patching	Throughout Roof, Blacksmith Shop	none detected		Poor/Non-Friable	Roades, 2013
130	13029.029-020513-36a	Feb-13	Black Roofing Felt - Patching	Throughout Roof, Blacksmith Shop	none detected		Poor/Non-Friable	Roades, 2013
131	13029.029-020513-37	Feb-13	Window Glazing	Plastic Panes, Blacksmith Shop	2%	Chrysotile	Poor/Friable	Roades, 2013
132	13029.029-020513-38	Feb-13	Window Glazing	Plastic Panes, Blacksmith Shop	3%	Chrysotile	Poor/Friable	Roades, 2013
133	13029.029-020513-39	Feb-13	Window Glazing	Plastic Panes, Blacksmith Shop	3%	Chrysotile	Poor/Friable	Roades, 2013

Appendix D
Lead Based Paint Laboratory Analysis

CEI Labs
730 SE Maynard Road, Cary, NC 27511
Phone: (919) 481-1413 Fax: (919) 481-1442

LABORATORY REPORT
LEAD IN PAINT

Client: **DC Environmental**
PO Box 9315
Albuquerque , NM 87119

CEI Lab Code: C16-0819
Received: 11-14-16
Analyzed: 11-18-16
Reported: 11-18-16

Project: Rail Yard Parcel 10 North Wash Room; DCE 16 -187

ANALYSIS METHOD: EPA SW846 7000B

CLIENT ID	CEI LAB ID	PPM (µg/g)	CONCENTRATION % BY WEIGHT
16-187-1000	CA58070	160000	**16**
16-187-1001	CA58071	5200	**0.52**
16-187-1002	CA58072	43000	**4.3**
16-187-1003	CA58073	6200	**0.62**

CEI Labs
107 New Edition Court, Cary, NC 27511
Tel: 919-481-1413 Fax: 919-481-1442

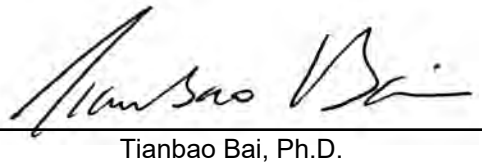
Project: Rail Yard Parcel 10 North Wash Room; DCE 16-187

Lab Code: C16-0819

ANALYSIS METHOD: EPA SW846 7000B

CLIENT ID	CEI LAB ID	PPM (µg/g)	CONCENTRATION % BY WEIGHT

Reviewed By:



Tianbao Bai, Ph.D.
Laboratory Director

This method has been validated for sample weights of 0.020g or greater. When samples with a weight of less than that are analyzed those results fall outside of the scope of accreditations.
*** The analysis of composite wipe samples as a single samples is not included under AIHA accreditation.**

Minimum reporting limit is 10 µg total lead. Sample results denoted with a “less than” (<) sign contain less than 10.0 µg total lead, based on a 40ml sample volume.

Lead samples are not analyzed by CEI Labs Lead samples are submitted to an AIHA ELLAP accredited laboratory for lead analysis of soil, dust, paint, and TCLP samples.
Laboratory results represent the analysis of samples as submitted by the client. Information regarding sample location, description, area, volume, etc., was provided by the client. Unless notified in writing to return samples, CEI Labs discards client samples after 30 days. This report shall not be reproduced, except in full, without the written consent of CEI Labs.

REGULATORY LIMITS
OSHA Standard: No safe limit.
Consumer Products Safety Standard: Greater than 0.06% lead by weight.
Federal Lead Standard / HUD: 0.5% lead by weight.

LEGEND
µg = microgram
ml = milliliter
ppm = parts per million
Pb = lead
g = grams
wt = weight

End of Report

C16-0819 (4)
CAS8070-CAS8073

DC Environmental
Consulting and Training Services
"Promoting Safety in the Workplace"

DC Environmental
PO Box 9315
Albuquerque, NM 87119

PO / Job#: DCE 16-187 Date: 10/26/2016

Turn Around Time: Same Day / 1Day / 2Day / 3Day / 4Day / 5Day

☐ PCM: ☐ NIOSH 7400A / ☐ NIOSH 7400B ☐ Rotometer

☐ PLM: ☐ Standard / ☐ Point Count 400 - 1000 / ☐ CARB 435

Contact:
J. David Charlesworth

Phone: 505.869.8000
Fax: 505.869.9453

E-mail:
JDCharlesworthcih@gmail.com

☐ TEM Air: ☐ AHERA / ☐ Yamate2 / ☐ NIOSH 7402
☐ TEM Bulk: ☐ Quantitative / ☐ Qualitative / ☐ Chatfield
☐ TEM Water: ☐ Potable / ☐ Non-Potable / ☐ Weight %
☐ TEM Microvac: ☐ Qual(+/-) / ☐ D5755(str/area) / ☐ D5756(str/mass)

☐ IAQ Particle Identification (PLM LAB) ☐ PLM Opaques/Soot
☐ Particle Identification (TEM LAB) ☒ Special Project

Site: City of Albuquerque (Intera)

☐ Metals Analysis: Method:

Site Location: Rail Yard Parcel 10 North Wash Room

Matrix:

Analytes:

Comments: `Paint chips to be analyzed for Lead Based Paint

Sample ID	Date	Sample Location / Description / Task	FOR AIR SAMPLES ONLY				Sample Area / Air Volume
			Type	Time On/Off	Avg. LPM	Total Time	
16-187-1000	10/26	White Paint from Ceiling North wash Room	A P C				
16-187-1001	10/26	Beige Paint from Window Sill North wash Room	A P C				
16-187-1002	10/26	Red Paint Exterior Window North Wash Room	A P C				
16-187-1003	10/26	Red Paint Interior Floor North Wash Room	A P C				
			A P C				
			A P C				
			A P C				
			A P C				
			A P C				
			A P C				

Sampled By: Steven Gutierrez

Shipped Via: ☐ Fed Ex ☐ DHL ☐ UPS ☐ US Mail ☐ Courier ☐ Drop Off ☐ Other:

Relinquished By: Steven Gutierrez Date / Time: 11/11/2016 5:00PM	Relinquished By: Date / Time:	Relinquished By: Date / Time:
Received By: AC Date / Time: 11/14/16 9:10 Condition Acceptable? ☑ Yes ☐ No	Received By: Date / Time: Condition Acceptable? ☐ Yes ☐ No	Received By: Date / Time: Condition Acceptable? ☐ Yes ☐ No

Appendix E
Photography Log

Photographc Log	
 Figure 1 Front Exterior of North Wash Room	 Figure 2 Exterior of North Wash Room
 Figure 3 Window Exterior of North Wash Room	 Figure 4 Interior of North Wash Room
 Figure 5 Interior of North Wash Room	 Figure 6 Interior of North Wash Room

Appendix F
Certificates

CERTIFICATE OF TRAINING

EPA/AHERA Training Program

This is to certify that

MICHAEL NIEMAN

NM. DL. 006 087 493

Has completed 4 hours of training and **PASSED** the test required by **Section 206 of TSCA Title II** and in accordance with **LOUISIANA STATE ASBESTOS REGULATIONS** entitled,

ASBESTOS BUILDING INSPECTOR REFRESHER

PRESENTED BY
Mendez Environmental™
1005 Veterans Mem Blvd
Suite, 101
Kenner, LA 70062
Tel: (504) 468-8858

Director: Rodolfo G. Mendez

IN COLLABORATION WITH
DC Environmental
P.O. Box 9315
Albuquerque, NM 87119
Tel: (505) 869-8000
www.dcenvironmental.net

NM Program Manager: David Charlesworth

Course Date: 04-12-2016
Certificate Number: AS0416KNMPMN17906

Test Date: 04-12-2016 Grade: **PASS**
Expiration Date: 04-12-2017

United States Environmental Protection Agency

This is to certify that

Michael Neiman

has fulfilled the requirements of the Toxic Substances Control Act (TSCA) Section 402, and has received certification to conduct lead-based paint activities pursuant to 40 CFR Part 745.226 as:

Inspector

In the Jurisdiction of:

New Mexico

This certification is valid from the date of issuance and expires September 25, 2017

NM-I-129246-1
Certification #

September 11, 2014
Issued On

Adrienne Priselac, Manager, Toxics Office
Land Division

United States Environmental Protection Agency

This is to certify that

Steven P Gutierrez

has fulfilled the requirements of the Toxic Substances Control Act (TSCA) Section 402, and has received certification to conduct lead-based paint activities pursuant to 40 CFR Part 745.226 as:

Inspector

In the Jurisdiction of:

All EPA Administered Lead-based Paint Activities Program States, Tribes and Territories

This certification is valid from the date of issuance and expires April 20, 2019

LBP-I-I159998-1

Certification #

April 06, 2016

Issued On

Adrienne Priselac, Manager, Toxics Office

Land Division

CERTIFICATE OF TRAINING

EPA/AHERA Training Program

This is to certify that

STEVEN GUTIERREZ

NM. DL. 121 014 475

Has completed **4** hours of training and **PASSED** the test required by **Section 206 of TSCA Title II** and in accordance with **LOUISIANA STATE ASBESTOS REGULATIONS** entitled,

ASBESTOS BUILDING INSPECTOR REFRESHER

PRESENTED BY
Mendez Environmental™
1005 Veterans Mem Blvd
Suite, 101
Kenner, LA 70062
Tel: (504) 468-8858

Director: _____
Josefina Mendez-Rosa

IN COLLABORATION WITH
DC Environmental
P.O. Box 9315
Albuquerque, NM 87119
Tel: (505) 869-8000
www.dcenvironmental.net

NM Program Manager: _____
David Charlesworth

Course Date: 11-08-2016
Certificate Number: AS1116KNMPSG18544

Test Date: 11-08-2016 Grade: **PASS**
Expiration Date: 11-08-2017

United States Environmental Protection Agency

This is to certify that

James Charlesworth

has fulfilled the requirements of the Toxic Substances Control Act (TSCA) Section 402, and has received certification to conduct lead-based paint activities pursuant to 40 CFR Part 745.226 as:

Risk Assessor

In the Jurisdiction of:

New Mexico

This certification is valid from the date of issuance and expires September 01, 2017

NM-R-3055-2
Certification #

August 18, 2014
Issued On

Adrienne Priselac, Manager, Toxics Office
Land Division

CERTIFICATE OF TRAINING

EPA/AHERA Training Program

This is to certify that

J. DAVID CHARLESWORTH

NM. DL. 037 723 452

Has completed **4** hours of training and **PASSED** the test required by **Section 206 of TSCA Title II** and in accordance with **LOUISIANA STATE ASBESTOS REGULATIONS** entitled,

ASBESTOS BUILDING INSPECTOR REFRESHER

PRESENTED BY
Mendez Environmental™
1005 Veterans Mem Blvd
Suite, 101
Kenner, LA 70062
Tel: (504) 468-8858

Director: _____
Rodolfo G. Mendez

IN COLLABORATION WITH
DC Environmental
P.O. Box 9315
Albuquerque, NM 87119
Tel: (505) 869-8000
www.dcenvironmental.net

NM Program Manager: _____
David Charlesworth

Course Date: 04-20-2016
Certificate Number: AS0416KNMPJC17938

Test Date: 04-20-2016 Grade: **PASS**
Expiration Date: 04-20-2017

DC Environmental
Consulting and Training Services

ASBESTOS AND LEAD BASED PAINT SURVEY
City of Albuquerque
Railyard Pattern House Parcel 10
Albuquerque, NM

PREPARED FOR:
Intera, Inc.
6000 Uptown Blvd, Suite 220
Albuquerque, New Mexico 87110

PREPARED BY:
DC Environmental
PO Box 9315
Albuquerque, New Mexico 87119

November 17, 2016
Project No. 16-186

DC Environmental
Consulting and Training Services

November 17, 2016
Project No. 16-186

Mr. Joe Tracy
Intera Inc.
6000 Uptown Boulevard, NE
Suite 200
Albuquerque, NM 87110

Subject: Asbestos and Lead Based Paint inspection of the Pattern House Parcel 10 – City of Albuquerque Railyard

Dear Mr. Joe Tracy;

In accordance with our proposal, DC Environmental has performed asbestos and lead based paint inspections of the above-referenced facility, located at the City of Albuquerque Railyard, 1100 2nd St SW, Albuquerque, New Mexico. The attached report presents our methodology, findings, opinions, and recommendations regarding the survey.

Lead based paint and lead containing materials were identified at the Pattern House building. Asbestos-containing materials were also identified at the Pattern House building.

We appreciate the opportunity to be of service to you on this project. Should you have any questions regarding this report, please contact the undersigned at your convenience.

Sincerely,
ACME ENVIRONMENTAL INDUSTRIAL HYGIENE, INC.
dba DC Environmental

David Charlesworth, CIH
Certified Industrial Hygienist

Karen Dremann, BS
Senior Scientist

Distribution: (2) Addressee

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Appendices

EXECUTIVE SUMMARY

On October 28, 2016, DC Environmental performed an inspection of the Pattern House Building located at the City of Albuquerque Railyard on 2nd street in Albuquerque, New Mexico. The inspection was conducted in a response to a request to identify materials which may be impacted during future renovation or demolition activities. Previous sampling and analysis of building materials for lead had been conducted at the property by Innovar in 2011 and Rhoades in 2013. Previous sampling for asbestos had been conducted by Terracon in 2005, Innovar in 2011 and Rhoades in 2013 (See Appendix C). The focus of our inspection was to verify and determine the presence, location and quantity of asbestos remaining within the facility, and to establish the basis for the presence of lead containing finishes within the structure. The space is being evaluated for a confidential client and the concern is that existing materials may contain asbestos and lead in the finishes.

The inspection design was to conduct a room-by-room investigation for asbestos-containing building materials. Access the functional spaces, where appropriate; evaluate the exterior surfaces; and sample materials suspect for asbestos within the Pattern House.

Asbestos-containing building materials are those containing greater than one percent asbestos as determined by polarized light microscopy. Asbestos has been identified at the Pattern House building in the: **door frame caulking and the roof mastic.**

Lead-based paint is defined as coatings containing surface area lead of 1.0 milligrams per square centimeter (1.0 mg/cm^2) when evaluated by X-Ray Fluorescence. Lead based paint is further defined if laboratory analysis determines the lead content to be one half (0.5 %) percent by weight or greater. The lead inspection of the facility was conducted using an X-Ray Fluorescence (XRF) handheld instrument of select components or areas. The inspector identified painted surfaces with excess lead above the stated regulatory limit. Interior lead-based paint surfaces included: **light green color paint on concrete and metal, teal color paint on concrete and metal, cream color paint on concrete, gray paint, and red color paint on concrete.**

Lead-containing materials are those with detectable levels of lead in the materials however not at levels above 1.0 mg/cm2. Lead containing materials **were** identified at the Storehouse Building (see Appendix B XRF Lead Measurements and Appendix D Lead Based Paint Chip Laboratory Analysis). Individuals bidding for work should be aware of the presence of lead when performing demolition and renovation activities involving these items.

1. INTRODUCTION

In accordance with our proposal, DC Environmental has performed an investigation of the Pattern House Building located at the City of Albuquerque Railyard in Albuquerque, New Mexico.

The inspection was conducted in a response to a request to have building materials evaluated for future renovation or demolition activities. The focus of our inspection was to determine the presence, location and quantity of asbestos and lead based paint present within the facility. The building is being inspected for a confidential client and the concern is that existing materials may contain asbestos in building materials and lead in the painted finishes.

This report has been prepared in accordance with generally accepted environmental science and engineering practices. This report is based upon conditions at the subject building at the time of the

sampling activities and provides documentation of our findings and recommendations.

2. PURPOSE AND SCOPE OF SERVICES

The inspection design was to conduct a room-by-room investigation and assess the facility for the presence of asbestos-containing building materials, and lead-based paint. The inspection included a quantitative determination of the asbestos and lead content within the structure.

The objective of this inspection was to perform the requisite sampling and present the findings along with any recommendations. The services performed by DC Environmental are outlined below.

- A reconnaissance of the area was conducted by Mr. Michael Nieman, and Mr. Nathan Lyons. Mr. Nieman is an accredited Asbestos Building Inspector, and Certified Lead Assessor and Inspector.
- Sampling was conducted using several different types of inspection tools and laboratory techniques including Polarized Light Microscopy and X-Ray Fluorescence.
- Report preparation summarizing our sampling methods and laboratory analysis are included. This report further details our conclusions and recommendations for the project.

3. SITE DESCRIPTION

The subject site consists of one structure, the Pattern House Building.

The Pattern House Building

The Pattern House Building consists of one building, roof and exterior. The Pattern House building is a concrete frame and concrete siding construction. Roofing appeared to be gravel and tar over felt paper on top of concrete.

4. ACTIVITIES

DC Environmental conducted an asbestos-containing building materials and lead-based paint investigation on October 28, 2016 of the Pattern House Building. Analysis of the Interior and exterior painted surfaces incorporated the use of an X-Ray Fluorescence Device. The Radiation Monitoring Device (RMD) LPA-1 X-Ray Fluorescence device was used to measure the lead content of surface coatings on representative homogenous components. Multiple XRF readings were recorded.

The site sampling activities are described below.

4.1. Asbestos-Containing Building Materials

Mr. Michael Nieman and Mr. Nathan Lyons conducted a visual inspection for asbestos-containing building materials at the above referenced building. Mr. Nieman collected a total of seven (7) samples that were tested for asbestos using Polarized Light Microscopy and stereomicroscopy bulk asbestos analysis. Analysis was conducted by Crisp Analytical, LLC of Carrollton, Texas. Crisp Analytical is an accredited laboratory and recognized by the National Voluntary Laboratory Accreditation Program.

Previous asbestos surveys were also conducted in 2005, 2011 and 2013 (See Appendix C). Asbestos

sample results for the Pattern House were not identified in the previous surveys. Based upon the testing performed by DC Environmental, the following materials were identified as asbestos-containing material:

Pattern House Building:

- **Door frame caulking**
- **Roof mastic**

The Environmental Protection Agency has established terminology regarding asbestos and specifically asbestos-containing building materials. Material which is friable are those materials which can be crushed, crumbled or reduced to powder by hand pressure. Non-friable materials are further characterized as Category I Non-Friable or Category II Non-Friable. Category I Non-Friable includes four specific items: Packings, Gaskets, Resilient Flooring and Asphalt Roofing. Category II Non-Friable is everything else which cannot be crumbled or pulverized by hand pressure. These items include materials of drywall systems, plasters, asbestos-containing cements (Transite ®) and other materials declared non-friable by the asbestos inspector.

The EPA then clarifies that certain materials are Regulated Asbestos Containing Materials (RACM) and these include the following four designations:

- Friable materials;
- Category I Non-Friable Materials which have become friable;
- Category I Non-Friable Materials which have been subject to sanding, grinding, cutting and abrading; and
- Category II Non-friable materials which will be, or have been, subject to force during demolition or renovation.

Regulated Asbestos Containing Materials are present within the structure. Regulated materials within the Pattern House building include, but are not limited to: **door frame caulking and roof mastic.**

4.2. Lead Based Paint Inspection

The presence of lead based paint was assessed in substantial compliance with the Housing and Urban Development guidelines. DC Environmental conducted a lead-based surface coating screening survey of the interior and exterior of the property to generally identify building components coated with lead. The survey consisted of testing the lead concentrations of each of the accessible surfaces. Previous lead based paint surveys were also conducted in 2011 and 2013 (See Appendix C). Lead based paint was identified for the Pattern House or Building North of the Fire Station in the previous surveys.

To complete the survey, an X- Ray Fluorescence device was used to perform the lead based paint inspection. The Radiation Monitoring Device (RMD) LPA-1 X-Ray Fluorescence device is capable of detecting lead in lead-based paint. The determination of lead in paint is defined as a surface content of at least 1.0 milligrams per square centimeter. If the readings were between the 0.9 to 1.0 mg/cm^2 range, then the readings are declared as either lead-based paint or lead-containing

materials and sampling is recommended.

Surfaces that were tested with the XRF device included, but were not limited to the following: doors, ceiling, painted walls, structural steel support, painted door components, roof components, ventilation duct, gates, and framing.

To determine the wall designations, the front entry off of the street or primary doorway is the A wall and interior in a clockwise direction are the B, C and D walls respectively. Exterior walls are similar in the designations.

The XRF device recorded readings did indicate lead based paint in surfaces on the interior and exterior of architectural details and finishes. Please refer to the XRF readings in the appendix to this document.

In addition, bulk samples of paint chips were collected to verify the XRF readings. Lead based paint is further defined if laboratory analysis determines the lead content to be one half (0.5 %) percent by weight or greater.

5. ANALYSES AND RESULTS

The results of samples and analysis are presented in the following tables. Copies of the laboratory analytical results are included in the appendix to this document.

5.1. Table 1: Asbestos Sample Analysis

Sample #	Pattern House Analyst physical description of subsample	Asbestos Type/calibrated/Visual estimate percent
16-186-100	Wood window putty	ND
16-186-101	Sheetrock restroom wall	ND
16-186-102	Sheetrock restroom wall	ND
16-186-103	Sheetrock restroom wall	ND
16-186-104	Door frame caulking	3% Chrysotile
16-186-105	Roof mastic	5% Chrysotile
16-186-106	Roofing felt	ND

ND – None Detected

5.2 Table 2: Lead Based Paint Chip Analysis

Sample #	Pattern House Analyst physical description of subsample	Lead Based Paint Type/calibrated/Visual estimate percent (0.5%)
16-186-1000	Off-white paint from south C wall Pattern House	0.0062
16-186-1001	Gray paint B wall Pattern House	1.1

6. FINDINGS AND CONCLUSIONS

The findings of this inspection are based on our visual observations and analysis of the measurements collected from the facility. Our findings are presented below.

6.1 Asbestos Sampling Analysis

The current visual inspection and sampling of building materials revealed sources of asbestos-containing building materials. Asbestos-containing building materials **were** identified in the Pattern House Building. Asbestos was detected at the Pattern House building, in the **door frame caulking and roof mastic.**

Materials reported by Crisp Analytical Laboratory as asbestos-containing material are those materials with greater than one percent asbestos content by Polarized Light Microscopy. Materials with one percent asbestos were further characterized by the Point Count Method. The verification by Point Count Method using PLM determines if the material may be disposed as municipal waste and not as Regulated Asbestos Waste under the New Mexico Solid Waste Regulations.

Six (6) suspected asbestos samples included two (2) sample layers that were shown to contain greater than one percent asbestos. Should demolition of the structures be planned, the materials would be considered Regulated Asbestos Containing Materials and Regulated Asbestos Waste by the New Mexico Solid Waste Regulations.

6.2 Lead Based Paint Analysis

DC Environmental conducted a lead-based surface coating inspection of the interior and exterior of the property to generally identify building components coated with or containing lead. The survey consisted of testing the lead concentrations of over the majority of the interior and exterior surfaces.

During the survey, testing combinations in representative room equivalents were sampled by X-Ray Fluorescence (XRF) in substantial compliance with the XRF protocols established by EPA and presented as guidance in the Housing and Urban Development (HUD) publications. Performance of this survey is consistent and in substantial compliance with the documented methodologies identified by EPA and HUD.

Based on the readings from the XRF devices materials at the Pattern House Building were considered painted with Lead-based Paint (LBP).

Lead-Based Paint (LBP) is defined by HUD and the EPA as paint containing lead in amounts greater than or equal to 1.0 mg/cm^2 lead when analyzed by XRF or greater than 5000 parts per million or 0.5 percent by weight when analyzed by Flame Atomic Absorption.

There are materials in this building though, that **are** considered “lead-containing”. Those materials are listed in Appendix B, XRF Lead Measurements and Appendix D. Lead Based Paint Chip

Laboratory Analysis.

Contractors should follow the elements of the standard promulgated by the Occupational Safety and Health Administration (OSHA). The Lead in Construction Standard 29 CFR 1926.62 applies to exposures to materials containing lead. Lead containing materials **were** identified at the Pattern House Building (see Appendix B XRF Lead Measurements and Appendix D. Lead Based Paint Chip Laboratory Analysis). Individuals bidding for work should be aware of the presence of lead when performing demolition and renovation activities involving these items.

7 RECOMMENDATIONS

Based on our visual observations and the laboratory results, DC Environmental recommends the following:

- Select materials containing asbestos have been identified in the facility. Asbestos is present in the above identified materials. The materials containing asbestos will require abatement before substantial renovation or demolition can commence.

- The Lead-based Paint inspection **did** identify "lead-based paint" at the Pattern House Building. Lead-containing items **were** identified at the Pattern House Building. Those materials are listed in Appendix B., XRF Lead Measurements and Appendix D., Lead Based Paint Chip Laboratory Analysis. These materials are regulated by OSHA in regards to those individuals which could be exposed during repair, renovation or demolition. It is recommended to have trained professionals in the OSHA Lead Construction standard handle the lead-based paint and lead-containing materials during disturbance of the material. At the conclusion of the construction activities we recommend a Lead Risk Assessment to include soil testing and settled dust be performed. A Lead Risk Assessment is recommended for this property based on the age and that children **may** be expected to be present. A Risk Assessment should be conducted at the conclusions of operations to repair, renovate or abate the lead based coating.

We appreciate the opportunity to provide sampling and inspection of this area. Should you have additional questions, or if conditions change substantially, please contact us at your earliest convenience.

Sincerely,

DC Environmental
David Charlesworth
Certified Industrial Hygienist

LIMITATIONS

The environmental services described in this report have been conducted in general accordance with current regulatory guidelines and the standard-of-care exercised by environmental consultants performing similar work in the project area. No warranty, expressed or implied, is made regarding the professional opinions presented in this report. Variations in site conditions may exist and conditions not observed or described in this report may be encountered during subsequent activities.

The environmental interpretations and opinions contained in this report are based on the results of instrumentation, laboratory tests and/or analyses Acme Environmental Industrial Hygiene, Inc., has no involvement in, or control over, such equipment, testing and/or analysis. Acme Environmental Industrial Hygiene, Inc, therefore, disclaims responsibility for any inaccuracy in such laboratory results.

Our conclusions, recommendations, and opinions are based on an analysis of the observed site conditions. It should be understood that the conditions of a site could change with time as a result of natural processes or the activities of man at the subject site or nearby sites. In addition, changes to the applicable laws, regulations, codes, and standards of practice may occur due to government action or the broadening of knowledge. The findings of this report may, therefore, be invalidated over time, in part or in whole, by changes over which Acme Environmental Industrial Hygiene, Inc., has no control.

This document is intended to be used only in its entirety. No portion of the document, by itself, is designed to completely represent any aspect of the project described herein. Acme Environmental Industrial Hygiene, Inc., should be contacted if the reader requires any additional information, or has questions regarding content, interpretations presented, or completeness of this document.

This report is intended exclusively for use by the client. Any use or reuse of the findings, conclusions, and/or recommendations of this report by parties other than the client is undertaken at said parties' sole risk.

Appendix A
Asbestos Laboratory Results

CA Labs
Dedicated to Quality

Crisp Analytical, L.L.C.
1929 Old Denton Road
Carrollton, TX 75006
Phone 972-242-2754
Fax 972-242-2798

CA Labs, L.L.C.
12232 Industriplex, Suite 32
Baton Rouge, LA 70809
Phone 225-751-5632
Fax 225-751-5634

Materials Characterization - Bulk Asbestos Analysis

Laboratory Analysis Report - Polarized Light

DC Environmental
PO Box 9315
Albuquerque, NM 87119

Attn: David Charlesworth
Customer Project: DCE 16-186, Rail Yard Parcel 10 Pattern House
Reference #: CAL16117628CB Date: 11/14/2016

Analysis and Method

Summary of polarizing light microscopy (PLM / Stereomicroscopy bulk asbestos analysis) using the methods described in 40CFR Part 763 Appendix E to Subpart E (Interim and EPA 600 / R-93 / 116 (Improved). The sample is first viewed with the aid of stereomicroscopy. Numerous liquid slide preparations are created for analysis under the polarized microscope where identifications and quantifications are preformed. Calibrated liquid refractive oils are used as liquid mouting medium. These oils are used for identification (dispersion staining). A calibrated visual estimation is reported, should any asbestiform mineral be present. Other techniques such as acid washing are used in conjugation with refractive oils for detection of smaller quantities of asbestos. All asbestos percentages are based on calibrated visual estimation traceable to NIST standards for regulated of asbestos. Traceability to measurement and calibration is achieved by using known amounts and types of asbestos from standards where analyst and laboratory accuracy are measured. As little as 0.001% asbestos can be detected in favorable samples, while detection in unfavorable samples may approach the detection limit of 0.50% (well above the laboratory definition of trace).

Discussion

Vermiculite containing samples may have trace amounts of actinolite-tremolite, where not found be PLM should be analyzed using TEM methods and / or water separation techniques. Suspected actinolite/vermiculite presence will be indicated through the sample comment section of this report.

Fibrous talc containing samples may even contain a related asbestos fiber known as anthophyllite. Under certain conditions the same fiber may actually contain both talc and anthophyllite (a phenomenon called intergrowth). Again, TEM detection methods are recommended. CA Labs PLM report comments will denote suspected amounts of asbestiform anthophyllite with talc, where further analysis is recommended.

Some samples (floor tiles, surfacings, etc.) may contain fibers too small to be delectable by PLM analysis and should be analyzed by TEM bulk protocols.

A "trace asbestos" will be reported if the analyst observes far less than 1% asbestos. CA Labs defines "trace asbestos" as a few fibers detected by the analyst in several preparations and will indicate as such under these circumstances.

Quantification of <1% will actually be reported as <=1% (allowable variance close to 1% is high). Such results are ideal for point counting, and the technique is mandatory for friable samples (NESHAP, Nov. 1990 and clarification letter 8 May 1991) under 1% percent asbestos and the "trace asbestos". **In order to make all initial PLM reports issued from CA Labs NESHAP compliant, all <1% asbestos results (except floor tiles) will be point counted at no additional charge.**

Qualifications

CA Labs is accredited by the National Voluntary Accreditation Program (NVLAP) for selected test methods for airborne fiber analysis (TEM), and for bulk asbestos fiber analysis (PLM). CA Labs is also accredited by AIHA LAP, LLC. in the PLM asbestos field of testing for Industrial Hygiene. All analysts have a college degree in a natural science (geology, biology, or environmental science) or are recognized by a state professional board in one these disciplines .Extensive in-house training programs are used to augment education background of the analyst. The group leader of polarized light has received supplemental McCrone Research training for asbestos identification. Analysis performed at Crisp Analytical Labs, LLC 1929 Old Denton Road Carrollton, TX 75006

Dallas NVLAP Lab Code 200349-0 TEM/PLM TCEQ# T104704513-15-3 TDH 30-0235
AIHA LAP, LLC Laboratory #102929

CA Labs
Dedicated to Quality

Crisp Analytical, L.L.C.
1929 Old Denton Road
Carrollton, TX 75006
Phone 972-242-2754
Fax 972-242-2798

CA Labs, L.L.C.
12232 Industriplex, Suite 32
Baton Rouge, LA 70809
Phone 225-751-5632
Fax 225-751-5634

Overview of Project Sample Material Containing Asbestos

Customer Project: DCE 16-186, Rail Yard Parcel 10 Pattern House **CA Labs Project #:** CAL16117628CB

Sample #	Layer #	Analysts Physical Description of Subsample	Asbestos type / calibrated visual estimate percent	List of Affected Building Material Types
16-186-104	*104-1*	***Door Frame Caulking**/ gray caulking*	***3% Chrysotile***	***gray caulking*** ***black weathered tar***
16-186-105	*105-1*	***Roof Mastic**/ black weathered tar*	***5% Chrysotile***	

Dallas NVLAP Lab Code 200349-0 TEM/PLM TCEQ# T104704513-15-3 TDH 30-0235
AIHA LAP, LLC Laboratory #102929

Glossary of abbreviations (non-asbestos fibers and non-fibrous minerals):

ca - carbonate
gypsum - gypsum
bi - binder
or - organic
ma - matrix
mi - mica
ve - vermiculite
ot - other
pe - perlite
qu - quartz
fg - fiberglass
mw - mineral wool
wo - wollastinite
ta - talc
sy - synthetic
ce - cellulose
br - brucite
ka - kaolin (clay)
pa - palygorskite (clay)

CA Labs
Dedicated to Quality

Crisp Analytical, L.L.C.
1929 Old Denton Road
Carrollton, TX 75006
Phone 972-242-2754
Fax 972-242-2798

CA Labs, L.L.C.
12232 Industriplex, Suite 32
Baton Rouge, LA 70809
Phone 225-751-5632
Fax 225-751-5634

Polarized Light Asbestiform Materials Characterization

Customer Info: **Attn:** David Charlesworth
DC Environmental
PO Box 9315
Albuquerque, NM 87119

Phone # 505-869-8000
Fax # 505-869-9453

Customer Project:
DCE 16-186, Rail Yard Parcel
10 Pattern House
Turnaround Time:
2 Days

CA Labs Project #:
CAL16117628CB

Date: 11/14/2016
Samples Received: 11/11/16 10:30am
Date Of Sampling: 10/27/16
Purchase Order #:

Sample #	Comment	Layer #	Analysts Physical Description of Subsample	Homogeneous (Y/N)	Asbestos type / calibrated visual estimate percent	Non-asbestos fiber type / percent	Non-fibrous type / percent
16-186-100		*100-1*	***Wood Window Putty**/ gray caulking*	*y*	***None Detected***		100% qu,bi,ca
16-186-101		*101-1*	***Sheetrock Restroom Wall**/ tan surfaced white compound*	*n*	***None Detected***		100% mi,bi,ca
16-186-102		*102-1*	***Sheetrock Restroom Wall**/ tan surfaced white compound*	*n*	***None Detected***		100% mi,bi,ca
16-186-103		*103-1*	***Sheetrock Restroom Wall**/ tan surfaced white compound*	*n*	***None Detected***		100% mi,bi,ca
16-186-104		*104-1*	***Door Frame Caulking**/ gray caulking*	*y*	***3% Chrysotile***		97% qu,bi,ca
16-186-105		*105-1*	***Roof Mastic**/ black weathered tar*	*y*	***5% Chrysotile***		95% qu,bi
16-186-106		*106-1*	***Roofing Felt**/ black tar with black insulation*	*n*	***None Detected***	66% ce	34% qu,bi

Dallas NVLAP Lab Code 200349-0 TEM/PLM TCEQ# T104704513-15-3 TDH 30-0235

AIHA LAP, LLC Laboratory #102929

Analysis Method: Interim (40CFR Part 763 Appendix E to Subpart E) / Improved (EPA-600 / R-93/116). *All samples received in good condition unless noted.*
Preparation Method: HCL acid washing for carbonate based samples, chemical reduction for organically bound components, oil immersion for identification of asbestos types by dispersion attaining / becke line method.

ca - carbonate	mi - mica	fg - fiberglass	ce - cellulose
gypsum - gypsum	ve - vermiculite	mw - mineral wool	br - brucite
bi - binder	ot -other	wo - wollastinite	ka - kaolin (clay)
or - organic	pe - perlite	ta - talc	pa - palygorskite (clay)
ma - matrix	qu - quartz	sy - synthetic	

Approved Signatories:

Keith Malone
Analyst

QAC
Leslie Crisp, P.G.

Technical Manager
Chad Lytle

1. Fire Damage significant fiber damage - reported percentages reflect unaltered fibers
2. Fire Damage no significant fiber damages effecting fibrous percentages
3. Actinolite in association with Vermiculite
4. Layer not analyzed - attached to previous positive layer and contamination is suspected
5. Not enough sample to analyze
6. Anthophyllite in association with Fibrous Talc
7. Contamination suspected from other building materials
8. Favorable scenario for water separation on vermiculite for possible analysis by another method
9. < 1% Result point counted positive
10. TEM analysis suggested

CAL16011 7628

DC Environmental
Consulting and Training Services

"Promoting Safety in the Workplace"

DC Environmental
PO Box 9315
Albuquerque, NM 87119

PO / Job#: DCE 16-186 Date: 10/27/2016

Turn Around Time: Same Day / 1Day / 2Day / 3Day / 4Day / 5Day

☐ PCM: ☐ NIOSH 7400A / ☐ NIOSH 7400B ☐ Rotometer

☐ PLM: ☑ Standard / ☐ Point Count 400 - 1000 / ☐ CARB 435

Contact:
J. David Charlesworth

Phone: 505.869.8000 Fax: 505.869.9453

E-mail: JDCharlesworthcih@gmail.com

☐ TEM Air: ☐ AHERA / ☐ Yamate2 / ☐ NIOSH 7402
☐ TEM Bulk: ☐ Quantitative / ☐ Qualitative / ☐ Chatfield
☐ TEM Water: ☐ Potable / ☐ Non-Potable / ☐ Weight %
☐ TEM Microvac: ☐ Qual(+/-) / ☐ D5755(str/area) / ☐ D5756(str/mass)

☐ IAQ Particle Identification (PLM LAB) ☐ PLM Opaques/Soot
☐ Particle Identification (TEM LAB) ☐ Special Project

Site: City of Albuquerque (Intera)

☐ Metals Analysis: Method:

Matrix:

Site Location: Rail Yard Parcel 10 Pattern House

Analytes:

Comments:

Sample ID	Date	Sample Location / Description / Task	FOR AIR SAMPLES ONLY				Sample Area / Air Volume
			Type	Time On/Off	Avg. LPM	Total Time	
16-186-100	10/27	Wood window putty Pattern House	A P C				
16-186-101	10/27	Sheet rock restroom wall Pattern House	A P C				
16-186-102	10/27	Sheet rock restroom wall Pattern House	A P C				
16-186-103	10/27	Sheet rock restroom wall Pattern House	A P C				
16-186-104	10/27	Door frame caulking Pattern House	A P C				
16-186-105	10/27	Roof Mastic Pattern House	A P C				
16-186-106	10/27	Roofing Felt Pattern House	A P C				
			A P C				
			A P C				
			A P C				

Sampled By: Steven Gutierrez

Shipped Via: ☐ Fed Ex ☐ DHL ☐ UPS ☐ US Mail ☐ Courier ☐ Drop Off ☐ Other:

Relinquished By: Steven Gutierrez Date / Time: 11/10/2016 5:00PM	Relinquished By: Date / Time:	Relinquished By: Date / Time:
Received By: Justin Aces Date / Time: 11/11/16 10:20a Condition Acceptable? ☐ Yes ☐ No	Received By: Date / Time: Condition Acceptable? ☐ Yes ☐ No	Received By: Date / Time: Condition Acceptable? ☐ Yes ☐ No

Appendix B
XRF Lead Measurements

Project # 16-186 Project Name Pattern House Date 10/28/16
Address Rail Yards
Technician Mike Nieman and Nathan Lyons

	Time : 15:10		Units	1724	Results	Average
1		Cal.			1.0	
2		Cal.			1.0	
3		Cal.			1.0	1.0
4		Cal.			-0.1	
5		Cal			-0.1	
6		Cal.			-0.0	-0.1
XRF Test Number	Location / Room	Component - Designation	Component Number	Color	Substrate	Result / Reading mg/cm2
7	North Room	A Wall		Light Green	Concrete	1.6
8	North Room	B Wall		Light Green	Concrete	1.0
9	North Room	D Wall		Beige	Sheetrock	-0.2
10	North Room	D Wall		Light Green	Concrete	1.0
11	North Room	D Wall		Beige	Metal	-0.2
12	North Room	Door Header	A-1	Light Green	Metal	1.6
13	North Room	Door Frame	A-2	Gray	Metal	0.1
14	North Room	Mid-Point Column		Teal	Concrete	1.0
15	North Room	Window Sill	B-1	Teal	Concrete	1.0
16	North Room	Window Sash	B-2	Teal	Wood	0.5
17	South Room	Door Frame	A-1	Teal	Metal	-0.1
18	South Room	A Wall		Cream	Concrete	1.0
19	South Room	B Wall		Cream	Concrete	0.3
20	South Room	C Wall		Red	Concrete	1.0
21	South Room	D Wall		Cream	Concrete	0.4
22	South Room	Floor		Gray	Concrete	-0.1
23	Exterior	North Wall		Beige	Concrete	0.1
24	Exterior	East Wall		Beige	Concrete	0.3
25	Exterior	South Wall		Beige	Concrete	-0.0
26	Exterior	S. Wall Door Frame		Silver	Metal	0.2
27	Exterior	S. Wall Door		Silver	Metal	0.4

	Time : 15:56				Results	Average
28	Post	Cal.			1.0	
29	Post	Cal.			1.0	
30	Post	Cal.			1.0	1.0
31	Post	Cal.			-0.1	
32	Post	Cal			-0.1	
33	Post	Cal.			-0.0	-0.1

Appendix C
Asbestos and LBP Data

ID	HeadNo/SampleID	Lead	Units	LBP	Room Number	Building	Room Name	Wall	Structure	Location	IMember	IMode	Substrate	Color	Location_2	Source
1	7	0.1	mg/cm2		1	Railyards/Amtrack Office	Office	A	Window	Rgt	Sill	UMI	Wood	Brown	Interior	Innovar, 2011
2	8	0.1	mg/cm2		1	Railyards/Amtrack Office	Office	A	Window	Rgt	Sash	UMI	Wood	Brown	Interior	Innovar, 2011
3	9	0.2	mg/cm2		1	Railyards/Amtrack Office	Office	A	Window	Rgt	Lft casing	UMI	Wood	Brown	Interior	Innovar, 2011
4	10	0.2	mg/cm2		1	Railyards/Amtrack Office	Office	A	Wall	LCtr		UMI	Plaster	White	Interior	Innovar, 2011
5	11	-0.2	mg/cm2		1	Railyards/Amtrack Office	Office	B	Wall	UCtr		UMI	Plaster	White	Interior	Innovar, 2011
6	12	0	mg/cm2		1	Railyards/Amtrack Office	Office	C	Door	Ctr	UCtr	UMI	Steel	Brown	Interior	Innovar, 2011
7	13	0	mg/cm2		1	Railyards/Amtrack Office	Office	C	Door	Ctr	Lft casing	UMI	Steel	Brown	Interior	Innovar, 2011
8	14	0.2	mg/cm2		1	Railyards/Amtrack Office	Office	B	Window	Ctr	Sill	UMI	Wood	Brown	Interior	Innovar, 2011
9	15	0.2	mg/cm2		3	Railyards/Amtrack Office	Office	B	Window	Ctr	Lft casing	UMI	Wood	Brown	Interior	Innovar, 2011
10	16	0.2	mg/cm2		3	Railyards/Amtrack Office	Office	B	Window	Ctr	Sash	UMI	Wood	Brown	Interior	Innovar, 2011
11	17	0	mg/cm2		3	Railyards/Amtrack Office	Office	A	Wall	LCtr		UMI	Plaster	White	Interior	Innovar, 2011
12	18	-0.2	mg/cm2		3	Railyards/Amtrack Office	Office	A	Wall	LHgt		UMI	Plaster	White	Interior	Innovar, 2011
13	19	-0.2	mg/cm2		3	Railyards/Amtrack Office	Office	D	Door	Hgt	UHgt	UMI	Steel	Brown	Interior	Innovar, 2011
14	20	0.1	mg/cm2		3	Railyards/Amtrack Office	Office	D	Door	Rgt	Lft casing	UMI	Steel	Brown	Interior	Innovar, 2011
15	21	0.7	mg/cm2		4	Railyards/Amtrack Office	BreakRm	B	Chair rail	Ctr		UMI	Wood	Brown	Interior	Innovar, 2011
16	22	0.2	mg/cm2		4	Railyards/Amtrack Office	BreakRm	B	Window	Ctr	Lft casing	UMI	Wood	Brown	Interior	Innovar, 2011
17	23	>9.9	mg/cm2	Yes	4	Railyards/Amtrack Office	BreakRm	B	Wall	LCtr		UMI	Plaster	White	Interior	Innovar, 2011
18	24	0.2	mg/cm2		4	Railyards/Amtrack Office	BreakRm	C	Baseboard	Ctr		UMI	Plaster	White	Interior	Innovar, 2011
19	25	>9.9	mg/cm2	Yes	4	Railyards/Amtrack Office	BreakRm	B	Wall	ULft		UMI	Plaster	White	Interior	Innovar, 2011
20	26	>9.9	mg/cm2	Yes	4	Railyards/Amtrack Office	BreakRm	B	Wall	LHgt		UMI	Plaster	White	Interior	Innovar, 2011
21	27	0.3	mg/cm2		4	Railyards/Amtrack Office	BreakRm	C	Wall	LCtr		UMI	Drywall	White	Interior	Innovar, 2011
22	28	0.2	mg/cm2		3	Railyards/Amtrack Office	Office	B	Wall	LCtr		UMI	Plaster	White	Interior	Innovar, 2011
23	29	>9.9	mg/cm2	Yes	10	Railyards/Amtrack Office	Lobby	A	Wall	LCtr		UMI	Plaster	White	Interior	Innovar, 2011
24	30	0.3	mg/cm2		10	Railyards/Amtrack Office	Lobby	D	Wall	LCtr		UMI	Plaster	White	Interior	Innovar, 2011
25	31	0.3	mg/cm2		10	Railyards/Amtrack Office	Lobby	A	Window	Ctr	Sash	UMI	Wood	Brown	Interior	Innovar, 2011
26	32	>9.9	mg/cm2	Yes	10	Railyards/Amtrack Office	Lobby	A	Column	Ctr		UMI	Plaster	White	Interior	Innovar, 2011
27	33	>9.9	mg/cm2	Yes	10	Railyards/Amtrack Office	Lobby	A	Column	Ctr		UMI	Plaster	White	Interior	Innovar, 2011
28	34	1.1	mg/cm2	Yes	12	Railyards/Amtrack Office	Hallway	B	Wall	LCtr		UMI	Plaster	White	Interior	Innovar, 2011
29	35	>9.9	mg/cm2	Yes	12	Railyards/Amtrack Office	Hallway	D	Wall	LCtr		UMI	Plaster	White	Interior	Innovar, 2011
30	36	0.1	mg/cm2		9	Railyards/Amtrack Office	WmnsRm	D	Wall	LCtr		UMI	Plaster	White	Interior	Innovar, 2011
31	37	0.1	mg/cm2		9	Railyards/Amtrack Office	WmnsRm	A	Wall	LCtr		UMI	Plaster	White	Interior	Innovar, 2011
32	38	0.3	mg/cm2		9	Railyards/Amtrack Office	WmnsRm	B	Door	Ctr	Lft casing	UMI	Wood	Brown	Interior	Innovar, 2011
33	39	0.2	mg/cm2		9	Railyards/Amtrack Office	WmnsRm	B	Floor			UMI	Cement	Brown	Interior	Innovar, 2011
34	40	-0.1	mg/cm2		11	Railyards/Amtrack Office	Number Only	C	Stairs	Ctr	Treads	UMI	Steel	Black	Interior	Innovar, 2011
35	41	0.1	mg/cm2		11	Railyards/Amtrack Office	Number Only	C	Stairs	Ctr	Railing cap	UMI	Steel	Black	Interior	Innovar, 2011
36	42	-0.1	mg/cm2		15	Railyards/Amtrack Office	Upstairs	C	Wall	LCtr		UMI	Plaster	White	Interior	Innovar, 2011
37	43	0.2	mg/cm2		15	Railyards/Amtrack Office	Upstairs	B	Wall	LCtr		UMI	Plaster	White	Interior	Innovar, 2011
38	44	>9.9	mg/cm2	Yes	15	Railyards/Amtrack Office	Upstairs	A	Wall	LCtr		UMI	Plaster	White	Interior	Innovar, 2011
39	45	6.6	mg/cm2	Yes	15	Railyards/Amtrack Office	Upstairs	A	Door	Ctr	UCtr	UMI	Wood	White	Interior	Innovar, 2011
40	46	0.3	mg/cm2		15	Railyards/Amtrack Office	Upstairs	B	Wall	LCtr		UMI	Plaster	White	Interior	Innovar, 2011
41	47	0.3	mg/cm2		15	Railyards/Amtrack Office	Upstairs	A	Wall	LCtr		UMI	Plaster	White	Interior	Innovar, 2011
42	54	0.2	mg/cm2		16	Railyards/Amtrack Office	Museum	A	Floor			UMI	Cement	Gray	Interior	Innovar, 2011
43	55	2.3	mg/cm2	Yes	16	Railyards/Amtrack Office	Museum	A	Floor			UMI	Cement	White	Interior	Innovar, 2011
44	56	0.3	mg/cm2		16	Railyards/Amtrack Office	Museum	A	Floor			UMI	Cement	White	Interior	Innovar, 2011
45	57	0.1	mg/cm2		16	Railyards/Amtrack	Museum	D	Wall	LCtr		UMI	Cement	Gray	Interior	Innovar,

						Office										2011
46	58	0.2	mg/cm2		16	Railyards/Amtrack Office	Museum	B	Wall	Ltr		Qlvl	Cement	Gray	Interior	Innovar, 2011

ID	Read No/Sample ID	Lead	Units	LBP	Room Number	Building	Room Name	Wall	Structure	Location	Member	Mode	Substrate	Color	Location_2	Source
47	59	0.1	mg/cm2		16	Railyards Amtrack Office	Museum	A	Wall	Ltr		Qlvl	Cement	Gray	Interior	Innovar, 2011
48	60	6.3	mg/cm2	Yes	16	Railyards Amtrack Office	Museum	A	Floor			Qlvl	Cement	Yellow	Interior	Innovar, 2011
49	61	0.1	mg/cm2		16	Railyards Amtrack Office	Museum	A	Door	Ctr	Uctr	Qlvl	Steel	Green	Interior	Innovar, 2011
50	62	0.1	mg/cm2		16	Railyards Amtrack Office	Museum	A	Door	Ctr	Uctr	Qlvl	Steel	Black	Interior	Innovar, 2011
51	63	0.5	mg/cm2		16	Railyards Amtrack Office	Museum	A	Door	Ctr	Lft casing	Qlvl	Steel	Black	Interior	Innovar, 2011
52	64	0.7	mg/cm2		16	Railyards Amtrack Office	Museum	A	Floor			Qlvl	Cement	Red	Interior	Innovar, 2011
53	65	1.8	mg/cm2	Yes	1	Railyards Amtrack Office	Facility	B	Railing	Ctr	Railing	Qlvl	Steel	Yellow	Exterior	Innovar, 2011
54	66	0.2	mg/cm2		1	Railyards Amtrack Office	Facility	B	Door	Ctr	Uctr	Qlvl	Steel	Red	Exterior	Innovar, 2011
55	67	-0.1	mg/cm2		1	Railyards Amtrack Office	Facility	D	Window	Ctr	Sill	Qlvl	Wood	Black	Exterior	Innovar, 2011
56	68	0.2	mg/cm2		1	Railyards Amtrack Office	Facility	D	Window	Ctr	Sash	Qlvl	Wood	Black	Exterior	Innovar, 2011
57	69	0	mg/cm2		1	Railyards Amtrack Office	Facility	C	Window	Rgt	Sill	Qlvl	Wood	Black	Exterior	Innovar, 2011
58	7	5	mg/cm2	Yes	1	Main Machine Shop	Number Only	B	Column	Ctr		Qlvl	Steel	Silver	Interior	Innovar, 2011
59	8	1.1	mg/cm2	Yes	1	Main Machine Shop	Number Only	C	Door	Ctr	Uctr	Qlvl	Steel	Silver	Interior	Innovar, 2011
60	9	2.2	mg/cm2	Yes	1	Main Machine Shop	Number Only	C	Column	Ctr		Qlvl	Steel	Silver	Interior	Innovar, 2011
61	10	0.1	mg/cm2		1	Main Machine Shop	Number Only	A	Floor			Qlvl	Ceramic	Red	Interior	Innovar, 2011
62	11	1.8	mg/cm2	Yes	1	Main Machine Shop	Number Only	B	Cnt Column	Ctr		Qlvl	Steel	Silver	Interior	Innovar, 2011
63	12	0.7	mg/cm2		1	Main Machine Shop	Number Only	B	Stairs	Ctr	Treads	Qlvl	Steel	Green	Interior	Innovar, 2011
64	13	1.9	mg/cm2	Yes	1	Main Machine Shop	Number Only	D	Column	Ctr		Qlvl	Steel	Silver	Interior	Innovar, 2011
65	14	5.4	mg/cm2	Yes	1	Main Machine Shop	Number Only	D	Ceiling Beam	Beam	Ctr	Qlvl	Steel	Silver	Interior	Innovar, 2011
66	15	4.2	mg/cm2	Yes	1	Main Machine Shop	Number Only	B	Column	Ctr		Qlvl	Steel	Black	Exterior	Innovar, 2011
67	16	2.7	mg/cm2	Yes	1	Main Machine Shop	Number Only	B	Stairs	Ctr	Treads	Qlvl	Wood	White	Interior	Innovar, 2011
68	1	3.4	mg/cm2	Yes		Boiler Shop	Number Only	B	Cnt Column	Ctr		Qlvl	Steel	Silver	Interior	Innovar, 2011
69	2	0.1	mg/cm2			Boiler Shop	Number Only	A	Floor			Qlvl	Cement	Red	Interior	Innovar, 2011
70	3	3.2	mg/cm2	Yes		Boiler Shop	Number Only	C	Cnt Column	Ctr		Qlvl	Steel	Silver	Interior	Innovar, 2011
71	4	2.5	mg/cm2	Yes		Boiler Shop	Number Only	A	Column	Lft		Qlvl	Steel	Silver	Interior	Innovar, 2011
72	5	-0.3	mg/cm2			Boiler Shop	Number Only	C	Door	Lft	Uctr	Qlvl	Steel	Silver	Interior	Innovar, 2011
73	1	1.1	mg/cm2	Yes		Blacksmith Shop	Number Only	B	Column	Ctr		Qlvl	Steel	Silver	Interior	Innovar, 2011
74	2	3.1	mg/cm2	Yes		Blacksmith Shop	Number Only	C	Column	Ctr		Qlvl	Steel	Silver	Interior	Innovar, 2011
75	3	2.1	mg/cm2	Yes		Blacksmith Shop	Number Only	D	Wall	Ltr		Qlvl	Brick	Silver	Interior	Innovar, 2011
76	4	0.2	mg/cm2			Blacksmith Shop	Number Only	D	Door	Ctr	Uctr	Qlvl	Steel	Silver	Interior	Innovar, 2011
77	5	0.1	mg/cm2			Blacksmith Shop	Number Only	D	Window	Ctr	Part. Bead	Qlvl	Steel	Silver	Interior	Innovar, 2011
78	7	2.7	mg/cm2	Yes		Bldg North of Firehouse	Number Only	A	Bldg North of Firehouse	Ltr		Qlvl	Cement	Silver	Interior	Innovar, 2011
79	8	2.3	mg/cm2	Yes		Bldg North of Firehouse	Number Only	A	Window	Ctr	Lft casing	Qlvl	Steel	Silver	Interior	Innovar, 2011
80	9	5.6	mg/cm2	Yes		Bldg North of Firehouse	Number Only	A	Door	Ctr	Uctr	Qlvl	Steel	Silver	Interior	Innovar, 2011
81	10	1.1	mg/cm2	Yes		Bldg North of Firehouse	Number Only	A	Window	Ctr	Rgt casin	Qlvl	Steel	Silver	Interior	Innovar, 2011

82	11	2.4	mg/cm2	Yes		Bldg North of Firehouse	Number Only	C	Frame	Ctr		QVI	Steel	Silver	Interior	Innovar, 2011
83	12	1.1	mg/cm2	Yes		Bldg North of Firehouse	Number Only	C	Wall	L Ctr		QVI	Cement	Silver	Interior	Innovar, 2011
84	13	0.2	mg/cm2			Bldg North of Firehouse	Number Only	D	Wall	L Ctr		QVI	Cement	Silver	Interior	Innovar, 2011
85	1	1.1	mg/cm2	Yes		Bldg South of Firehouse	Number Only	A	Wall	L Ctr		QVI	Cement	White	Interior	Innovar, 2011
86	2	0.1	mg/cm2			Bldg South of Firehouse	Number Only	B	Wall	L Ctr		QVI	Cement	White	Interior	Innovar, 2011
87	3	0	mg/cm2			Bldg South of Firehouse	Number Only	A	Door Unit	Ctr	Lft casing	QVI	Cement	White	Interior	Innovar, 2011
88	4	1.1	mg/cm2	Yes		Bldg South of Firehouse	Number Only	A	Column	Ctr		QVI	Cement	Green	Interior	Innovar, 2011
89	5	1.2	mg/cm2	Yes		Bldg South of Firehouse	Number Only	B	Wall	L Ctr		QVI	Cement	Green	Interior	Innovar, 2011
90	6	0.5	mg/cm2			Bldg South of Firehouse	Number Only	C	Door	Ctr	U Ctr	QVI	Cement	Green	Interior	Innovar, 2011
91	13029029-020513-01L	150	ppm			Blacksmith Shop			Interior Walls	NW Corner			Paint	Silver		Rhoades, 2013
92	13029029-020513-02L	410	ppm			Blacksmith Shop			Interior Walls	NE Corner			Paint	Silver		Rhoades, 2013

ID	Read No/Sample ID	Lead	Units	LBP	Room Number	Building	Room Name	Wall	Structure	Location	Member	Mode	Substrate	Color	Location_2	Source
93	13029029-020513-03L	100	ppm			Blacksmith Shop			Interior Walls	SW Corner			Paint	Silver		Rhoades, 2013
94	13029029-020513-04L	150	ppm			Blacksmith Shop			Interior Walls	SE Corner			Paint	Silver		Rhoades, 2013
95	13029029-020513-05L	2570	ppm			Blacksmith Shop			Overhead Piping				Paint	Red		Rhoades, 2013
96	13029029-020513-06L	2640	ppm			Blacksmith Shop			Exterior Brick Walls		1 mm		Paint	Rust		Rhoades, 2013
97	13029029-020513-07L	4040	ppm			Blacksmith Shop			Interior Walls Office Shack				Paint	Cream		Rhoades, 2013
98	13029029-020513-08L	250	ppm			Blacksmith Shop			Building	NW Corner			Surface Dust			Rhoades, 2013
99	13029029-020513-09L	400	ppm			Blacksmith Shop			Building	NE Corner			Surface Dust			Rhoades, 2013
100	13029029-020513-10L	100	ppm			Blacksmith Shop			Building	Center			Surface Dust			Rhoades, 2013
101	13029029-020513-11L	710	ppm			Blacksmith Shop			Building	SW Corner			Surface Dust			Rhoades, 2013
102	13029029-020513-12L	970	ppm			Blacksmith Shop			Building	SE Corner			Surface Dust			Rhoades, 2013

ID	Sample Number	Date	Description	Location	Percent Asbestos	Asbestos Type	Classification	Source
1	577007-NB.NS.1	Sep-05	Silver glaze coating window pane	Boiler Shop, South Side	0%			Terracon, 2005
2	577007-NB.NS.2	Sep-05	Silver glaze coating window pane	Boiler Shop, South Side	0%			Terracon, 2005
3	577007-NB.NS.3	Sep-05	Silver glaze coating window pane	Boiler Shop, South Side	0%			Terracon, 2005
4	577007-NB.SS.4	Sep-05	Green painted window pane	Boiler Shop, South Side	0%			Terracon, 2005
5	577007-NB.SS.5	Sep-05	Green painted window pane	Boiler Shop, South Side	0%			Terracon, 2005
6	577007-NB.SS.6	Sep-05	Green painted window pane	Boiler Shop, North Side	0%			Terracon, 2005
7	577007-NB.NS.7	Sep-05	Silver glaze coating window pane	Boiler Shop, North Side	0%			Terracon, 2005
8	577007-NB.NS.8	Sep-05	Silver glaze coating window pane	Boiler Shop, North Side	0%			Terracon, 2005
9	577707-NB.NS.9	Sep-05	Silver glaze/black spray-on with pane	Boiler Shop, North Side	0%			Terracon, 2005
10	577007 -NB.NS.10	Sep-05	Silver glaze/black spray-on with pane	Boiler Shop, North Side	0%			Terracon, 2005
11	577007-NB.NS.11	Sep-05	Silver glaze/black spray-on with pane	Boiler Shop, North Side	0%			Terracon, 2005
12	577007-SB.SS.F1.1	Sep-05	Silver glaze coating window pane	Main Machine Shop, South Side, First Floor	0%			Terracon, 2005
13	577007 -SB.SS.F1.2	Sep-05	Glaze coating on window pane (silverlblack)	Main Machine Shop, South Side, First Floor	0%			Terracon, 2005
14	577007-SB.SS.F1.3	Sep-05	Glaze coating on window pane (silver)	Main Machine Shop, South Side, First Floor	0%			Terracon, 2005
15	577007 -SB.SS.F1.4	Sep-05	Glaze coating on window pane (silver)	Main Machine Shop, South Side, First Floor	0%			Terracon, 2005
16	577007 -SB.SS.F1.5	Sep-05	Glaze coating on window pane (silver)	Main Machine Shop, South Side, First Floor	0%			Terracon, 2005
17	577007-SB.SS.F1.6	Sep-05	Glaze coating on window pane (silver)	Main Machine Shop, South Side, First Floor	0%			Terracon, 2005
18	577007 -SB.SS.F1.7	Sep-05	Glaze coating on window pane (silver/green)	Main Machine Shop, South Side, First Floor	0%			Terracon, 2005
19	577007-SB.SS.F2.1	Sep-05	Glaze coating on window pane (beige/green)	Main Machine Shop, South Side, Second Floor	0%			Terracon, 2005
20	577007-SB.SS.F2.2	Sep-05	Glaze coating on window pane (tanJbrown)	Main Machine Shop, South Side, Second Floor	0%			Terracon, 2005
21	577007-SB.SS.F2.3	Sep-05	Glaze coating on window pane (off-white)	Main Machine Shop, South Side, Second Floor	0%			Terracon, 2005
22	577007-SB.SS.F2.4	Sep-05	Glaze coating on window pane (grey/green)	Main Machine Shop, South Side, Second Floor	0%			Terracon, 2005
23	577007-SB.SS.F2.5	Sep-05	Glaze coating on window pane (off-white)	Main Machine Shop, South Side, Second Floor	0%			Terracon, 2005
24	577007-SB.SS.F2.6	Sep-05	Plaster over cc wall (grey with paint)	Main Machine Shop, South Side, Second Floor	0%			Terracon, 2005
25	577007-SB.SS.F2.7	Sep-05	Plaster over cc wall (grey with paint)	Main Machine Shop, South Side, Second Floor	0%			Terracon, 2005
26	577007-NB.SS.1	Sep-05	Window glazing (tan)	Boiler Shops, South Side	Trace <1%			Terracon, 2005
27	577007-NB.SS.2	Sep-05	Window glazing (tan)	Boiler Shops, South Side	2%	Chrysotile	Non-Friable	Terracon, 2005
28	577007-NB.SS.3	Sep-	Window glazing (tan)	Boiler Shops, South Side	2%	Chrysotile	Non-Friable	Terracon,

		05						2005
29	577007-NB.SS.01	Sep-05	Window glazing (beige)	Boiler Shops, South Side	Trace <1%	Chrysotile		Terracon, 2005
30	577007-NB.SS.02	Sep-05	Window glazing (beige)	Boiler Shops, South Side	Trace <1%	Chrysotile		Terracon, 2005
31	577007-NB.SS.03	Sep-05	Window glazing (beige)	Boiler Shops, South Side	Trace <1%	Chrysotile		Terracon, 2005
32	577007 -NB.ES.01	Sep-05	Window glazing (beige)	Boiler Shops, East Side	Trace <1%	Chrysotile		Terracon, 2005
33	577007-NB.ES.02	Sep-05	Window glazing (beige)	Boiler Shops, East Side	Trace <1%	Chrysotile		Terracon, 2005
34	577007 -N.O.01	Sep-05	Outside shingle (red with granules)	Outside the Boiler Shop	0%			Terracon, 2005
35	577007-N.O.02	Sep-05	Outside shingle (red with granules)	Outside the Boiler Shop	0%			Terracon, 2005
36	577007-N.O.03	Sep-05	Outside shingle (red with granules)	Outside the Boiler Shop	0%			Terracon, 2005
37	577007-N.O.G.01	Sep-05	White insulation	100 ft North of CWE Strorage Shed	NA			Terracon, 2005
38	577007-N.O.G.02	Sep-05	White insulation	100 ft North of CWE Strorage Shed	NA			Terracon, 2005
39	577007-N.O.G.03	Sep-05	White insulation	100 ft North of CWE Strorage Shed	NA			Terracon, 2005
40	577007 -NTE. WS-1	Sep-05	Transite pipe (grey)	Former Transformer Area, West Side	25%	Chrysotile	Friable	Terracon, 2005
41	577007 -NTE. WS-1	Sep-05	Transite pipe (grey)	Former Transformer Area, West Side	5%	Crocidolite		Terracon, 2005
42	577007 -NTE.ES-3	Sep-05	Transite pipe (grey)	Former Transformer Area	25%	Chrysotile	Friable	Terracon, 2005
43	577007 -NTE.ES-3	Sep-05	Transite pipe (grey)	Former Transformer Area	5%	Crocidolite		Terracon, 2005
44	577007-NTE.ES-1 (577007-NTE.NS-1??)	Sep-05	Transite pipe (grey)	Former Transformer Area	25%	Chrysotile	Friable	Terracon, 2005
45	577007-NTE.ES-1 (577007-NTE.NS-1??)	Sep-05	Transite pipe (grey)	Former Transformer Area	3%	Crocidolite		Terracon, 2005
46	577007-SWB.WW.01	Sep-05	Window putty/glazing (beige)	Babbit Shop, West Wall	Trace <1%	Chrysotile		Terracon, 2005
47	577007-SWB.WW.02	Sep-05	Window putty/glazing (beige)	Babbit Shop, West Wall	Trace <1%	Chrysotile		Terracon, 2005
48	577007-FH.01	Sep-05	Insulation/plaster over brick	Fire House	0%			Terracon, 2005
49	577007-FH.02	Sep-05	Insulation/plaster over brick	Fire House	0%			Terracon, 2005
50	577007-FH.03	Sep-05	Insulation/plaster over brick	Fire House	4%	Chrysotile	Friable	Terracon, 2005
51	577007-FH.04	Sep-05	Insulation/plaster over brick	Fire House	5%	Chrysotile	Friable	Terracon, 2005
52	01-DW1-1	Aug-10	off-white surfaced white compound (drywall)	Amtrack Office	none detected			Innovar, 2011
53	01-DW1-2	Aug-10	white drywall with brown paper (drywall)	Amtrack Office	none detected			Innovar, 2011
54	02-DW1-1	Aug-10	white surfaced white compound (drywall)	Amtrack Office	none detected			Innovar, 2011

ID	Sample Number	Date	Description	Location	Percent Asbestos	Asbestos Type	Classification	Source
55	03-DW1-1	Aug-10	white surfaced white compound (drywall)	Amtrack Office	none detected			Innovar, 2011
56	04-P1-1	Aug-10	white surfaced tan plaster (plaster)	Amtrack Office	none detected			Innovar, 2011
57	05-P1-1	Aug-10	white surfaced tan plaster (plaster)	Amtrack Office	none detected			Innovar, 2011

58	06-P1-1	Aug-10	white surfaced white compound (plaster)	Amtrack Office	none detected			Innovar, 2011
59	06-P1-2	Aug-10	tan plaster (plaster)	Amtrack Office	none detected			Innovar, 2011
60	07-CB1-1	Aug-10	pink cover base (cover base)	Amtrack Office	none detected			Innovar, 2011
61	07-CB1-2	Aug-10	tan mastic (cover base)	Amtrack Office	none detected			Innovar, 2011
62	07-CB1-3	Aug-10	white surfaced white compound (cover base)	Amtrack Office	none detected			Innovar, 2011
63	07-CB1-4	Aug-10	brown mastic (cover base)	Amtrack Office	<1%	Anthophyllite		Innovar, 2011
64	07-CB1-5	Aug-10	tan plaster (cover base)	Amtrack Office	none detected			Innovar, 2011
65	08-CB1-1	Aug-10	pink cover base (cover base)	Amtrack Office	none detected			Innovar, 2011
66	08-CB1-2	Aug-10	tan mastic (cover base)	Amtrack Office	none detected			Innovar, 2011
67	08-CB1-3	Aug-10	brown mastic (cover base)	Amtrack Office	<1%	Anthophyllite		Innovar, 2011
68	08-CB1-4	Aug-10	tan plaster (cover base)	Amtrack Office	none detected			Innovar, 2011
69	09-CB1-1	Aug-10	pink cover base (cover base)	Amtrack Office	none detected			Innovar, 2011
70	09-CB1-2	Aug-10	tan mastic (cover base)	Amtrack Office	none detected			Innovar, 2011
71	09-CB1-3	Aug-10	brown mastic (cover base)	Amtrack Office	<1%	Anthophyllite		Innovar, 2011
72	09-CB1-4	Aug-10	tan plaster (cover base)	Amtrack Office	none detected			Innovar, 2011
73	10-CT1-1	Aug-10	white surfacing (ceiling tile)	Amtrack Office	none detected			Innovar, 2011
74	10-CT1-2	Aug-10	tan ceiling (ceiling tile)	Amtrack Office	none detected			Innovar, 2011
75	10-CT1-3	Aug-10	brown mastic (ceiling tile)	Amtrack Office	none detected			Innovar, 2011
76	11-CT1-1	Aug-10	white surfacing (ceiling tile)	Amtrack Office	none detected			Innovar, 2011
77	11-CT1-2	Aug-10	tan ceiling tile (ceiling tile)	Amtrack Office	none detected			Innovar, 2011
78	11-CT1-3	Aug-10	brown mastic (ceiling tile)	Amtrack Office	none detected			Innovar, 2011
79	12-CT1-1	Aug-10	tan ceilign tile (no surfacing) (ceiling tile)	Amtrack Office	none detected			Innovar, 2011
80	12-CT1-2	Aug-10	brown mastic (ceiling tile)	Amtrack Office	none detected			Innovar, 2011
81	13-WC1-1	Aug-10	black surfacing white caulking (Window Caulk)	Amtrack Office	none detected			Innovar, 2011
82	14-WC1-1	Aug-10	black surfacing white caulking (Window Caulk)	Amtrack Office	none detected			Innovar, 2011
83	15-WC1-1	Aug-10	black surfacing white caulking (Window Caulk)	Museum	none detected			Innovar, 2011
84	16-CT2-1	Aug-10	white surfacing (ceiling tile)	Museum	none detected			Innovar, 2011
85	16-CT2-2	Aug-10	Gray ceiling tile (ceiling tile)	Museum	none detected			Innovar, 2011
86	17-CT2-1	Aug-10	White Surfacing (ceiling tile)	Museum	none detected			Innovar, 2011
87	17-CT2-2	Aug-10	Gray ceiling tile (ceiling tile)	Museum	none detected			Innovar, 2011
88	18-CT2-1	Aug-10	white surfacing (ceiling tile)	Museum	none detected			Innovar, 2011
89	18-CT2-2	Aug-10	Gray ceiling tile (ceiling tile)	Museum	none detected			Innovar, 2011
90	19-W1-1	Aug-10	black woven covering (Wiring)	Museum	none detected			Innovar, 2011
91	20-W1-1	Aug-10	black woven covering (Wiring)	Museum	none detected			Innovar, 2011
92	13029.029-020513-01	Feb-	12'' Spline Ceiling Tile	Office Shack, Blacksmith Shop	none		Poor/Friable	Roades,

		13			detected			2013
93	13029.029-020513-02	Feb-13	12'' Spline Ceiling Tile	Office Shack, Blacksmith Shop	none detected		Poor/Friable	Roades, 2013
94	13029.029·020513-03	Feb-13	12'' Spline Ceiling Tile	Office Shack, Blacksmith Shop	none detected		Poor/Friable	Roades, 2013
95	13029.029·020513-04	Feb-13	Interior Plaster - Surface Coat	Office Shack, Blacksmith Shop	none detected		Poor/Friable	Roades, 2013
96	13029.029-020513-05	Feb-13	Interior Plaster - Surface Coat	Office Shack, Blacksmith Shop	2%	Chrysotile	Poor/Friable	Roades, 2013
97	13029.029-020513-06	Feb-13	Interior Plaster - Surface Coat	Office Shack, Blacksmith Shop	2%	Chrysotile	Poor/Friable	Roades, 2013
98	13029.029-020513-07	Feb-13	Interior Plaster - Surface Coat	Office Shack, Blacksmith Shop	none detected		Poor/Friable	Roades, 2013
99	13029.029-020513-08	Feb-13	Interior Plaster - Surface Coat	Office Shack, Blacksmith Shop	none detected		Poor/Friable	Roades, 2013
100	13029.029-020513-09	Feb-13	Interior Plaster - Surface Coat	Office Shack, Blacksmith Shop	none detected		Poor/Friable	Roades, 2013
101	13029.029-020513-10	Feb-13	Window Glazing	Reinforced Glass, Blacksmith Shop	none detected		Poor/Friable	Roades, 2013
102	13029.029·020513-11	Feb-13	Window Glazing	Reinforced Glass, Blacksmith Shop	none detected		Poor/Friable	Roades, 2013
103	13029.029·020513-12	Feb-13	Window Glazing	Reinforced Glass, Blacksmith Shop	none detected		Poor/Friable	Roades, 2013
104	13029.029-020513-13	Feb-13	Window Glazing	Clear Glass, Blacksmith Shop	2%	Chrysotile	Poor/Friable	Roades, 2013
105	13029.029-020513-14	Feb-13	Window Glazing	Clear Glass, Blacksmith Shop	none detected		Poor/Friable	Roades, 2013
106	13029.029-020513-15	Feb-13	Window Glazing	Clear Glass, Blacksmith Shop	none detected		Poor/Friable	Roades, 2013
107	13029.029-020513-16	Feb-13	Window Glazing	Wood Panes, Blacksmith Shop	<1%	Chrysotile	Poor/Friable	Roades, 2013
108	13029.029-020513-17	Feb-13	Window Glazing	Wood Panes, Blacksmith Shop	2%	Chrysotile	Poor/Friable	Roades, 2013

ID	Sample Number	Date	Description	Location	Percent Asbestos	Asbestos Type	Classification	Source
109	13029.029-020513-18	Feb-13	Window Glazing	Wood Panes, Blacksmith Shop	none detected		Poor/Friable	Roades, 2013
110	13029.029-020513-19	Feb-13	Gray Parapet Tar	Throughout Roof, Blacksmith Shop	10%	Chrysotile	Poor/Non-Friable	Roades, 2013
111	13029.029-020513-20	Feb-13	Gray Parapet Tar	Throughout Roof, Blacksmith Shop	10%	Chrysotile	Poor/Non-Friable	Roades, 2013
112	13029.029·020513-21	Feb-13	Gray Parapet Tar	Throughout Roof, Blacksmith Shop	10%	Chrysotile	Poor/Non-Friable	Roades, 2013
113	13029.029-020513-22	Feb-13	Black Roofing Tar	Throughout Roof, Blacksmith Shop	none detected		Poor/Non-Friable	Roades, 2013
114	13029.029·020513-23	Feb-13	Black Roofing Tar	Throughout Roof, Blacksmith Shop	none detected		Poor/Non-Friable	Roades, 2013
115	13029.029-020513-24	Feb-13	Black Roofing Tar	Throughout Roof, Blacksmith Shop	none detected		Poor/Non-Friable	Roades, 2013
116	13029.029·020513-25	Feb-13	Black Penetration Tar	Throughout Roof, Blacksmith Shop	none detected		Poor/Non-Friable	Roades, 2013
117	13029.029·020513-26	Feb-13	Black Penetration Tar	Throughout Roof, Blacksmith Shop	none detected		Poor/Non-Friable	Roades, 2013
118	13029.029-020513-27	Feb-13	Black Penetration Tar	Throughout Roof, Blacksmith Shop	none detected		Poor/Non-Friable	Roades, 2013
119	13029.029-020513-28	Feb-13	Gray Roofing Felt	Throughout Roof, Blacksmith Shop	none detected		Poor/Non-Friable	Roades, 2013
120	13029.029-020513-29	Feb-13	Gray Roofing Felt	Throughout Roof, Blacksmith Shop	none detected		Poor/Non-Friable	Roades, 2013
121	13029.029-020513-30	Feb-13	Gray Roofing Felt	Throughout Roof, Blacksmith Shop	none detected		Poor/Non-Friable	Roades, 2013
122	13029.029-020513-31	Feb-13	Black Parapet Tar	Throughout Roof, Blacksmith Shop	8%	Chrysotile	Poor/Non-Friable	Roades, 2013
123	13029.029-020513-32	Feb-13	Black Parapet Tar	Throughout Roof, Blacksmith Shop	none detected		Poor/Non-Friable	Roades, 2013
124	13029.029-020513-33	Feb-13	Black Parapet Tar	Throughout Roof, Blacksmith Shop	none detected		Poor/Non-Friable	Roades, 2013

125	13029.029-020513-34	Feb-13	Black Roofing Felt - Patching	Throughout Roof, Blacksmith Shop	none detected		Poor/Non-Friable	Roades, 2013
126	13029.029-020513-35	Feb-13	Black Roofing Felt - Patching	Throughout Roof, Blacksmith Shop	none detected		Poor/Non-Friable	Roades, 2013
127	13029.029-020513-36	Feb-13	Black Roofing Felt - Patching	Throughout Roof, Blacksmith Shop	none detected		Poor/Non-Friable	Roades, 2013
128	13029.029-020513-34a	Feb-13	Black Roofing Felt - Patching	Throughout Roof, Blacksmith Shop	none detected		Poor/Non-Friable	Roades, 2013
129	13029.029-020513-35a	Feb-13	Black Roofing Felt - Patching	Throughout Roof, Blacksmith Shop	none detected		Poor/Non-Friable	Roades, 2013
130	13029.029-020513-36a	Feb-13	Black Roofing Felt - Patching	Throughout Roof, Blacksmith Shop	none detected		Poor/Non-Friable	Roades, 2013
131	13029.029-020513-37	Feb-13	Window Glazing	Plastic Panes, Blacksmith Shop	2%	Chrysotile	Poor/Friable	Roades, 2013
132	13029.029-020513-38	Feb-13	Window Glazing	Plastic Panes, Blacksmith Shop	3%	Chrysotile	Poor/Friable	Roades, 2013
133	13029.029-020513-39	Feb-13	Window Glazing	Plastic Panes, Blacksmith Shop	3%	Chrysotile	Poor/Friable	Roades, 2013

Appendix D.
Lead Based Paint Chip Laboratory Analysis

CEI Labs
730 SE Maynard Road, Cary, NC 27511
Phone: (919) 481-1413 Fax: (919) 481-1442

LABORATORY REPORT
LEAD IN PAINT

Client: **DC Environmental**
PO Box 9315
Albuquerque , NM 87119

CEI Lab Code: C16-0815
Received: 11-14-16
Analyzed: 11-18-16
Reported: 11-18-16

Project: Rail Yard Parcel 10 Pattern House; DCE 16-186

ANALYSIS METHOD: EPA SW846 7000B

CLIENT ID	CEI LAB ID	PPM (µg/g)	CONCENTRATION % BY WEIGHT
16-186-1000	CA58055	62	**0.0062**
16-186-1001	CA58056	11000	**1.1**

Reviewed By:

Tianbao Bai, Ph.D.
Laboratory Director

This method has been validated for sample weights of 0.020g or greater. When samples with a weight of less than that are analyzed those results fall outside of the scope of accreditations.
*** The analysis of composite wipe samples as a single samples is not included under AIHA accreditation.**

Minimum reporting limit is 10 µg total lead. Sample results denoted with a “less than” (<) sign contain less than 10.0 µg total lead, based on a 40ml sample volume.

Lead samples are not analyzed by CEI Labs Lead samples are submitted to an AIHA ELLAP accredited laboratory for lead analysis of soil, dust, paint, and TCLP samples.
Laboratory results represent the analysis of samples as submitted by the client. Information regarding sample location, description, area, volume, etc., was provided by the client. Unless notified in writing to return samples, CEI Labs discards client samples after 30 days. This report shall not be reproduced, except in full, without the written consent of CEI Labs.

REGULATORY LIMITS
OSHA Standard: No safe limit.
Consumer Products Safety Standard: Greater than 0.06% lead by weight.
Federal Lead Standard / HUD: 0.5% lead by weight.

LEGEND
µg = microgram
ml = milliliter
ppm = parts per million
Pb = lead
g = grams
wt = weight

End of Report

C16-0815 (2)
CA58055-CA58056

DC Environmental
Consulting and Training Services
"Promoting Safety in the Workplace"

DC Environmental
PO Box 9315
Albuquerque, NM 87119

Contact:
J. David Charlesworth

Phone: 505.869.8000
Fax: 505.869.9453

E-mail:
JDCharlesworthcih@gmail.com

Site: City of Albuquerque (Intera)

Site Location: Rail Yard Parcel 10 Pattern House

PO / Job#: DCE 16-186 Date: 10/28/2016

Turn Around Time: Same Day / 1Day / 2Day / 3Day / 4Day / (5Day)

☐ PCM: ☐ NIOSH 7400A / ☐ NIOSH 7400B ☐ Rotometer

☐ PLM: ☐ Standard / ☐ Point Count 400 - 1000 / ☐ CARB 435

☐ TEM Air: ☐ AHERA / ☐ Yamate2 / ☐ NIOSH 7402
☐ TEM Bulk: ☐ Quantitative / ☐ Qualitative / ☐ Chatfield
☐ TEM Water: ☐ Potable / ☐ Non-Potable / ☐ Weight %
☐ TEM Microvac: ☐ Qual(+/-) / ☐ D5755(str/area) / ☐ D5756(str/mass)

☐ IAQ Particle Identification (PLM LAB) ☐ PLM Opaques/Soot
☐ Particle Identification (TEM LAB) ☒ Special Project

☐ Metals Analysis: Method:
Matrix:
Analytes:

Comments: `Paint chips to be analyzed for Lead Based Paint

Sample ID	Date	Sample Location / Description / Task	FOR AIR SAMPLES ONLY				Sample Area / Air Volume
			Type	Time On/Off	Avg. LPM	Total Time	
16-186-1000	10/28	Off White Paint from South C-Wall in Pattern Shop	A P C				
16-186-1001	10/28	Gray Paint B-Wall in Pattern House	A P C				
			A P C				
			A P C				
			A P C				
			A P C				
			A P C				
			A P C				
			A P C				
			A P C				
			A P C				

Sampled By: Steven Gutierrez

Shipped Via: ☐ Fed Ex ☐ DHL ☐ UPS ☐ US Mail ☐ Courier ☐ Drop Off ☐ Other:

Relinquished By: Steven Gutierrez Date / Time: 11/11/2016 5:00PM	Relinquished By: Date / Time:	Relinquished By: Date / Time:
Received By: AC Date / Time: 11/14/16 9:10 Condition Acceptable? ☑ Yes ☐ No	Received By: Date / Time: Condition Acceptable? ☐ Yes ☐ No	Received By: Date / Time: Condition Acceptable? ☐ Yes ☐ No

Appendix E
Photography Log

Photographic Log	
	
Figure 1, Pattern House, South Side	Figure 2, Pattern House, Southwest Side

Appendix F
Certificates

CERTIFICATE OF TRAINING

EPA/AHERA Training Program

This is to certify that

MICHAEL NIEMAN

NM. DL. 006 087 493

Has completed 4 hours of training and **PASSED** the test required by **Section 206 of TSCA Title II** and in accordance with **LOUISIANA STATE ASBESTOS REGULATIONS** entitled,

ASBESTOS BUILDING INSPECTOR REFRESHER

PRESENTED BY
Mendez Environmental™
1005 Veterans Mem Blvd
Suite, 101
Kenner, LA 70062
Tel: (504) 468-8858

Director: Rodolfo G. Mendez

IN COLLABORATION WITH
DC Environmental
P.O. Box 9315
Albuquerque, NM 87119
Tel: (505) 869-8000
www.dcenvironmental.net

NM Program Manager: David Charlesworth

Course Date: 04-12-2016
Certificate Number: AS0416KNMPMN17906

Test Date: 04-12-2016 Grade: **PASS**
Expiration Date: 04-12-2017

United States Environmental Protection Agency

This is to certify that

Michael Neiman

has fulfilled the requirements of the Toxic Substances Control Act (TSCA) Section 402, and has received certification to conduct lead-based paint activities pursuant to 40 CFR Part 745.226 as:

Inspector

In the Jurisdiction of:

New Mexico

This certification is valid from the date of issuance and expires September 25, 2017

NM-I-129246-1
Certification #

September 11, 2014
Issued On

Adrienne Priselac, Manager, Toxics Office
Land Division

DC Environmental
Consulting and Training Services

ASBESTOS AND LEAD BASED PAINT SURVEY
City of Albuquerque Railyard Sheet Metal House
Parcel 10
Albuquerque, New Mexico

PREPARED FOR:
Intera, Inc.
6000 Uptown Blvd, Suite 220

PREPARED BY:
DC Environmental PO Box 9315
Albuquerque, New Mexico 87119

November 17, 2016
Project No. 16-185

DC Environmental
Consulting and Training Services

November 17, 2016
Project No. 16-185

Mr. Joe Tracy
Intera Inc.
6000 Uptown Boulevard, NE
Suite 200
Albuquerque, NM 87110

Subject: Asbestos and Lead Based Paint inspection of the Sheet Metal House Parcel 10 – City of Albuquerque Railyard

Dear Mr. Joe Tracy;

In accordance with our proposal, DC Environmental has performed asbestos and lead based paint inspections of the above-referenced facility, located at the City of Albuquerque Railyard, 1100 2nd St SW, Albuquerque, New Mexico. The attached report presents our methodology, findings, opinions, and recommendations regarding the survey.

Lead based paint and lead containing materials were identified at the Sheet Metal House. Asbestos-containing materials were not identified at the Sheet Metal House.

We appreciate the opportunity to be of service to you on this project. Should you have any questions regarding this report, please contact the undersigned at your convenience.

Sincerely,
ACME ENVIRONMENTAL INDUSTRIAL HYGIENE, INC.
dba DC Environmental

J. David Charlesworth, CIH

Karen Dremann, BS
Senior Scientist

Distribution: (2) Addressee

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EXECUTIVE SUMMARY

On October 27, 2016, DC Environmental performed an inspection of the Sheet Metal House located at the City of Albuquerque Railyard on 2nd Street in Albuquerque, New Mexico. The inspection was conducted in a response to a request to identify materials which may be impacted during future renovation or demolition activities. Previous sampling and analysis of building materials for lead had been conducted at the property by Innovar in 2011 and Rhoades in 2013. Previous sampling for asbestos had been conducted by Terracon in 2005, Innovar in 2011 and Rhoades in 2013 (See Appendix C). The focus of our inspection was to verify and determine the presence, location and quantity of asbestos remaining within the facility, and to establish the basis for the presence of lead containing finishes within the structure. The space is being evaluated for a confidential client and the concern is that existing materials may contain asbestos and lead in the finishes.

The inspection design was to conduct a room-by-room investigation for asbestos-containing building materials. Access the functional spaces, where appropriate; evaluate the exterior surfaces; and sample materials suspect for asbestos within the Sheet Metal House.

Asbestos-containing building materials are those containing greater than one percent asbestos as determined by polarized light microscopy. Asbestos was not identified in samples taken at the Sheet Metal House.

Lead-based paint is defined as coatings containing surface area lead of 1.0 milligrams per square centimeter (1.0 mg/cm^2) when evaluated by X-Ray Fluorescence. Lead based paint is further defined if laboratory analysis determines the lead content to be one half (0.5 %) percent by weight or greater. The lead inspection of the facility was conducted using an X-Ray Fluorescence (XRF) handheld instrument of select components or areas. The inspector identified painted surfaces with excess lead above the stated regulatory limit. Interior lead-based paint surfaces included: **white paint on standard wood door and red paint on wood entry door.**

Lead-containing materials are those with detectable levels of lead in the materials however not at levels above 1.0 mg/cm2. Lead containing materials **were** identified at the Sheet Metal House (see Appendix B XRF Lead Measurements).

Individuals bidding for work should be aware of the presence of lead when performing demolition and renovation activities involving these items. See attached drawing for location of room numbers.

1. INTRODUCTION

In accordance with our proposal, DC Environmental has performed an investigation of the Sheet Metal House located at the City of Albuquerque Railyard in Albuquerque, New Mexico.

The inspection was conducted in a response to a request to have building materials evaluated for future renovation or demolition activities. The focus of our inspection was to determine the presence, location and quantity of asbestos and lead based paint present within the facility. The building is being inspected for a confidential client and the concern is that existing materials may contain asbestos in building materials and lead in the painted finishes.

This report has been prepared in accordance with generally accepted environmental science and engineering practices. This report is based upon conditions at the subject building at the time of the sampling activities and provides documentation of our findings and recommendations.

2. PURPOSE AND SCOPE OF SERVICES

The inspection design was to conduct a room-by-room investigation and assess the facility for the presence of asbestos-containing building materials, and lead-based paint. The inspection included a quantitative determination of the asbestos and lead content within the structure.

The objective of this inspection was to perform the requisite sampling and present the findings along with any recommendations. The services performed by DC Environmental are outlined below.

- A reconnaissance of the area was conducted by Mr. Michael Nieman, and Mr. David Plante. Mr. Nieman is an accredited Asbestos Building Inspector, and Certified Lead Assessor and Inspector.
- Sampling was conducted using several different types of inspection tools and laboratory techniques including Polarized Light Microscopy and X-Ray Fluorescence.
- Report preparation summarizing our sampling methods and laboratory analysis are included. This report further details our conclusions and recommendations for the project.

3. SITE DESCRIPTION

The subject site consists of one structure, the Sheet Metal House.

Sheet Metal House

The Sheet Metal House consists of one building, roof and exterior. The Sheet Metal House is a wood frame and wood siding construction. The building is open to the outside on the east. Roofing appeared to be black roofing shingle with white gravel on top of wood.

4. ACTIVITIES

DC Environmental conducted a lead-based paint investigation and asbestos-containing building materials inspection on October 27, 2016 of the Sheet Metal House. Analysis of the Interior and exterior painted surfaces incorporated the use of an X-Ray Fluorescence Device. The Radiation Monitoring Device (RMD) LPA-1 X-Ray Fluorescence device was used to measure the lead content of surface coatings on representative homogenous components. Multiple XRF readings were recorded.

The site sampling activities are described below.

4.1. Asbestos-Containing Building Materials

Mr. Michael Nieman and Mr. David Plante conducted a visual inspection for asbestos-containing building materials at the above referenced building. Mr. Nieman collected a total of three (3) samples that were tested for asbestos using Polarized Light Microscopy and stereomicroscopy bulk asbestos analysis. Analysis was conducted by Crisp Analytical, LLC of Carrollton, Texas. Crisp Analytical is an accredited laboratory and recognized by the National Voluntary Laboratory Accreditation Program. Based upon the samples tested, **none** of the materials sampled were identified as asbestos-containing material building materials.

Previous asbestos surveys were also conducted in 2005, 2011 and 2013 (See Appendix C).

Asbestos sample results for the Sheet Metal House were not identified in the previous surveys.

The Environmental Protection Agency has established terminology regarding asbestos and specifically asbestos-containing building materials. Material which is friable are those materials which can be crushed, crumbled or reduced to powder by hand pressure. Non-friable materials are further characterized as Category I Non-Friable or Category II Non-Friable. Category I Non-Friable includes four specific items: Packings, Gaskets, Resilient Flooring and Asphalt Roofing. Category II Non-Friable is everything else which cannot be crumbled or pulverized by hand pressure. These items include materials of drywall systems, plasters, asbestos-containing cements (Transite ®) and other materials declared non-friable by the asbestos inspector.

The EPA then clarifies that certain materials are Regulated Asbestos Containing Materials (RACM) and these include the following four designations:

- Friable materials;
- Category I Non-Friable Materials which have become friable;
- Category I Non-Friable Materials which have been subject to sanding, grinding, cutting and abrading; and
- Category II Non-friable materials which will be, or have been, subject to force during demolition or renovation.

4.2. Lead Based Paint Inspection

The presence of lead based paint was assessed in substantial compliance with the Housing and Urban Development guidelines. DC Environmental conducted a lead-based surface coating screening survey of the interior and exterior of the property to generally identify building components coated with lead. The survey consisted of testing the lead concentrations of each of the accessible surfaces. Previous lead based paint surveys were also conducted in 2011 and 2013 (See Appendix C). Lead based paint survey results for the Sheet Metal House were not identified in the previous surveys.

To complete the survey, an X- Ray Fluorescence device was used to perform the lead based paint inspection. The Radiation Monitoring Device (RMD) LPA-1 X-Ray Fluorescence device is capable of detecting lead in lead-based paint. The determination of lead in paint is defined as a surface content of at least 1.0 milligrams per square centimeter. If the readings were between the 0.9 to 1.0 mg/cm^2 range, then the readings are declared as either lead-based paint or lead-containing materials and sampling is recommended.

Surfaces that were tested with the XRF device included, but were not limited to the following: doors, ceiling, painted walls, structural steel support, painted door components, roof components, ventilation duct, gates, and framing.

To determine the wall designations, the front entry off of the street or primary doorway is the A wall and interior in a clockwise direction are the B, C and D walls respectively. Exterior walls are similar in the designations.

The XRF device recorded readings did indicate lead based paint in surfaces on the interior and

exterior of architectural details and finishes, (see Appendix B

5. ANALYSES AND RESULTS

The results of samples and analysis are presented in the following tables. Copies of the laboratory analytical results are included in the appendix to this document.

5.1. Table 1: Asbestos Sample Analysis

Sample #	**Sheet Metal House** Analyst physical description of subsample	Asbestos Type/calibrated/Visual estimate percent
16-185-100	White Roofing Material	ND
16-185-101	White Roofing Material	ND
16-185-102	White Roofing Material	ND

ND – None Detected

6. FINDINGS AND CONCLUSIONS

The findings of this inspection are based on our visual observations and analysis of the measurements collected from the facility. Our findings are presented below.

6.1 Asbestos Sampling Analysis

The current visual inspection and sampling of building materials revealed sources of asbestos-containing building materials. Asbestos-containing building materials **were not** identified in the Sheet Metal Building.

Materials reported by Crisp Analytical Laboratory as asbestos-containing material are those materials with greater than one percent asbestos content by Polarized Light Microscopy. Materials with one percent asbestos were further characterized by the Point Count Method. The verification by Point Count Method using PLM determines if the material may be disposed as municipal waste and not as Regulated Asbestos Waste under the New Mexico Solid Waste Regulations.

Three (3) suspected asbestos samples **did not** identify sample layers that were shown to contain greater than one percent asbestos. Should demolition of the structures be planned, the materials would be considered Regulated Asbestos Containing Materials and Regulated Asbestos Waste by the New Mexico Solid Waste Regulations.

6.2 Lead Based Paint Analysis

DC Environmental conducted a lead-based surface coating inspection of the interior and exterior of the property to generally identify building components coated with or containing lead. The survey consisted of testing the lead concentrations of over the majority of the interior and exterior surfaces.

During the survey, testing combinations in representative room equivalents were sampled by X-Ray Fluorescence (XRF) in substantial compliance with the XRF protocols established by EPA and presented as guidance in the Housing and Urban Development (HUD) publications. Performance of this survey is consistent and in substantial compliance with the documented methodologies identified by EPA and HUD.

Based on the readings from the XRF device, materials at the Sheet Metal House were considered painted with Lead-based Paint (LBP). Lead-based paint surfaces included: **white paint on standard wood door and red paint on wood entry door.**

Lead-Based Paint (LBP) is defined by HUD and the EPA as paint containing lead in amounts greater than or equal to 1.0 mg/cm^2 lead when analyzed by XRF or greater than 5000 parts per million or 0.5 percent by weight when analyzed by Flame Atomic Absorption.

There are materials in this building though, that are considered "lead-containing". Those materials are listed in Appendix B, XRF Lead Measurements. Contractors should follow the elements of the standard promulgated by the Occupational Safety and Health Administration. The Lead in Construction Standard 29 CFR 1926.62 applies to exposures to materials containing lead. Lead containing materials **were** identified at the Sheet Metal House (see Appendix B XRF Lead Measurements). Individuals bidding for work should be aware of the presence of lead when performing demolition and renovation activities involving these items.

7 RECOMMENDATIONS

Based on our visual observations and the laboratory results, DC Environmental recommends the following:

- The Lead-based Paint inspection **did** identify "lead-based paint" at the Sheet Metal House. Lead-containing items **were** identified at the Sheet Metal House. Those materials are listed in Appendix B, XRF Lead Measurements. These materials are regulated by OSHA in regards to those individuals which could be exposed during repair, renovation or demolition. It is recommended to have trained professionals in the OSHA Lead Construction standard handle the lead-based paint and lead-containing materials during disturbance of the material. At the conclusion of the construction activities we recommend a Lead Risk Assessment to include soil testing and settled dust be performed. A Lead Risk Assessment is recommended for this property based on the age and that children **may** be expected to be present. A Risk Assessment should be conducted at the conclusions of operations to repair, renovate or abate the lead based coating.

We appreciate the opportunity to provide sampling and inspection of this area. Should you have additional questions, or if conditions change substantially, please contact us at your earliest convenience.

Sincerely,

DC Environmental
David Charlesworth
Certified Industrial Hygienist

LIMITATIONS

The environmental services described in this report have been conducted in general accordance with current regulatory guidelines and the standard-of-care exercised by environmental consultants performing similar work in the project area. No warranty, expressed or implied, is made regarding the professional opinions presented in this report. Variations in site conditions may exist and conditions not observed or described in this report may be encountered during subsequent activities.

The environmental interpretations and opinions contained in this report are based on the results of instrumentation, laboratory tests and/or analyses Acme Environmental Industrial Hygiene, Inc. dba DC Environmental, has no involvement in, or control over, such equipment, testing and/or analysis. Acme Environmental Industrial Hygiene, Inc., therefore, disclaims responsibility for any inaccuracy in such laboratory results.

Our conclusions, recommendations, and opinions are based on an analysis of the observed site conditions. It should be understood that the conditions of a site could change with time as a result of natural processes or the activities of man at the subject site or nearby sites. In addition, changes to the applicable laws, regulations, codes, and standards of practice may occur due to government action or the broadening of knowledge. The findings of this report may, therefore, be invalidated over time, in part or in whole, by changes over which Acme Environmental Industrial Hygiene, Inc., has no control.

This document is intended to be used only in its entirety. No portion of the document, by itself, is designed to completely represent any aspect of the project described herein. Acme Environmental Industrial Hygiene, Inc., should be contacted if the reader requires any additional information, or has questions regarding content, interpretations presented, or completeness of this document.

This report is intended exclusively for use by the client. Any use or reuse of the findings, conclusions, and/or recommendations of this report by parties other than the client is undertaken at said parties' sole risk.

Appendix A
Asbestos Laboratory Results

CA Labs
Dedicated to Quality

Crisp Analytical, L.L.C.
1929 Old Denton Road
Carrollton, TX 75006
Phone 972-242-2754
Fax 972-242-2798

CA Labs, L.L.C.
12232 Industriplex, Suite 32
Baton Rouge, LA 70809
Phone 225-751-5632
Fax 225-751-5634

Materials Characterization - Bulk Asbestos Analysis

Laboratory Analysis Report - Polarized Light

DC Environmental
PO Box 9315
Albuquerque, NM 87119

Attn: David Charlesworth
Customer Project: DCE 16-185, Rail Yard Parcel 10 Sheet Metal House
Reference #: CAL16117629CR Date: 11/14/2016

Analysis and Method

Summary of polarizing light microscopy (PLM / Stereomicroscopy bulk asbestos analysis) using the methods described in 40CFR Part 763 Appendix E to Subpart E (Interim and EPA 600 / R-93 / 116 (Improved). The sample is first viewed with the aid of stereomicroscopy. Numerous liquid slide preparations are created for analysis under the polarized microscope where identifications and quantifications are preformed. Calibrated liquid refractive oils are used as liquid mouting medium. These oils are used for identification (dispersion staining). A calibrated visual estimation is reported, should any asbestiform mineral be present. Other techniques such as acid washing are used in conjugation with refractive oils for detection of smaller quantities of asbestos. All asbestos percentages are based on calibrated visual estimation traceable to NIST standards for regulated of asbestos. Traceability to measurement and calibration is achieved by using known amounts and types of asbestos from standards where analyst and laboratory accuracy are measured. As little as 0.001% asbestos can be detected in favorable samples, while detection in unfavorable samples may approach the detection limit of 0.50% (well above the laboratory definition of trace).

Discussion

Vermiculite containing samples may have trace amounts of actinolite-tremolite, where not found be PLM should be analyzed using TEM methods and / or water separation techniques. Suspected actinolite/vermiculite presence will be indicated through the sample comment section of this report.

Fibrous talc containing samples may even contain a related asbestos fiber known as anthophyllite. Under certain conditions the same fiber may actually contain both talc and anthophyllite (a phenomenon called intergrowth). Again, TEM detection methods are recommended. CA Labs PLM report comments will denote suspected amounts of asbestiform anthophyllite with talc, where further analysis is recommended.

Some samples (floor tiles, surfacings, etc.) may contain fibers too small to be delectable by PLM analysis and should be analyzed by TEM bulk protocols.

A "trace asbestos" will be reported if the analyst observes far less than 1% asbestos. CA Labs defines "trace asbestos" as a few fibers detected by the analyst in several preparations and will indicate as such under these circumstances.

Quantification of <1% will actually be reported as <=1% (allowable variance close to 1% is high). Such results are ideal for point counting, and the technique is mandatory for friable samples (NESHAP, Nov. 1990 and clarification letter 8 May 1991) under 1% percent asbestos and the "trace asbestos". **In order to make all initial PLM reports issued from CA Labs NESHAP compliant, all <1% asbestos results (except floor tiles) will be point counted at no additional charge.**

Qualifications

CA Labs is accredited by the National Voluntary Accreditation Program (NVLAP) for selected test methods for airborne fiber analysis (TEM), and for bulk asbestos fiber analysis (PLM). CA Labs is also accredited by AIHA LAP, LLC. in the PLM asbestos field of testing for Industrial Hygiene. All analysts have a college degree in a natural science (geology, biology, or environmental science) or are recognized by a state professional board in one these disciplines .Extensive in-house training programs are used to augment education background of the analyst. The group leader of polarized light has received supplemental McCrone Research training for asbestos identification. Analysis performed at Crisp Analytical Labs, LLC 1929 Old Denton Road Carrollton, TX 75006

Dallas NVLAP Lab Code 200349-0 TEM/PLM TCEQ# T104704513-15-3 TDH 30-0235
AIHA LAP, LLC Laboratory #102929

CA Labs
Dedicated to Quality

Crisp Analytical, L.L.C.
1929 Old Denton Road
Carrollton, TX 75006
Phone 972-242-2754
Fax 972-242-2798

CA Labs, L.L.C.
12232 Industriplex, Suite 32
Baton Rouge, LA 70809
Phone 225-751-5632
Fax 225-751-5634

Overview of Project Sample Material Containing Asbestos

Customer Project: DCE 16-185, Rail Yard Parcel 10 Sheet Metal House **CA Labs Project #:** CAL16117629CR

Sample #	Layer #	Analysts Physical Description of Subsample	Asbestos type / calibrated visual estimate percent	List of Affected Building Material Types

No Asbestos Detected.

Dallas NVLAP Lab Code 200349-0 TEM/PLM TCEQ# T104704513-15-3 TDH 30-0235
AIHA LAP, LLC Laboratory #102929

Glossary of abbreviations (non-asbestos fibers and non-fibrous minerals):

ca - carbonate
gypsum - gypsum
bi - binder
or - organic
ma - matrix
mi - mica
ve - vermiculite
ot - other
pe - perlite
qu - quartz
fg - fiberglass
mw - mineral wool
wo - wollastinite
ta - talc
sy - synthetic
ce - cellulose
br - brucite
ka - kaolin (clay)
pa - palygorskite (clay)

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12232 Industriplex, Suite 32
Baton Rouge, LA 70809
Phone 225-751-5632
Fax 225-751-5634

Polarized Light Asbestiform Materials Characterization

Customer Info: **Attn:** David Charlesworth
DC Environmental
PO Box 9315
Albuquerque, NM 87119

Phone # 505-869-8000
Fax # 505-869-9453

Customer Project:
DCE 16-185, Rail Yard Parcel
10 Sheet Metal House
Turnaround Time:
2 Days

CA Labs Project #:
CAL16117629CR

Date: 11/14/2016
Samples Received: 11/11/16 10:30 AM
Date Of Sampling: 10/28/16
Purchase Order #:

Sample #	Comment	Layer #	Analysts Physical Description of Subsample	Homogeneous (Y/N)	Asbestos type / calibrated visual estimate percent	Non-asbestos fiber type / percent	Non-fibrous type / percent
16-185-100		*16-185-100-1*	***White Roofing Material Sheet Metal House/*** *black roofing shingle with white gravel*	*y*	***None Detected***	4% ce	96% qu,bi
16-185-101		*16-185-101-1*	***White Roofing Material Sheet Metal House/*** *black roofing shingle with white gravel*	*y*	***None Detected***	4% ce	96% qu,bi
16-185-102		*16-185-102-1*	***White Roofing Material Sheet Metal House/*** *black roofing shingle with white gravel*	*y*	***None Detected***	4% ce	96% qu,bi

Dallas NVLAP Lab Code 200349-0 TEM/PLM TCEQ# T104704513-15-3 TDH 30-0235

AIHA LAP, LLC Laboratory #102929

Analysis Method: Interim (40CFR Part 763 Appendix E to Subpart E) / Improved (EPA-600 / R-93/116). *All samples received in good condition unless noted.*
Preparation Method: HCL acid washing for carbonate based samples, chemical reduction for organically bound components, oil immersion for identification of asbestos types by dispersion attaining / becke line method.

ca - carbonate	mi - mica	fg - fiberglass	ce - cellulose
gypsum - gypsum	ve - vermiculite	mw - mineral wool	br - brucite
bi - binder	ot -other	wo - wollastinite	ka - kaolin (clay)
or - organic	pe - perlite	ta - talc	pa - palygorskite (clay)
ma - matrix	qu - quartz	sy - synthetic	

Approved Signatories:

Stanley Massett
Analyst

QAC
Leslie Crisp, P.G.

Technical Manager
Chad Lytle

1. Fire Damage significant fiber damage - reported percentages reflect unaltered fibers
2. Fire Damage no significant fiber damages effecting fibrous percentages
3. Actinolite in association with Vermiculite
4. Layer not analyzed - attached to previous positive layer and contamination is suspected
5. Not enough sample to analyze
6. Anthophyllite in association with Fibrous Talc
7. Contamination suspected from other building materials
8. Favorable scenario for water separation on vermiculite for possible analysis by another method
9. < 1% Result point counted positive
10. TEM analysis suggested

CAC1611629

DC Environmental
Consulting and Training Services

"Promoting Safety in the Workplace"

DC Environmental
PO Box 9315
Albuquerque, NM 87119

Contact:
J. David Charlesworth

Phone: 505.869.8000
Fax: 505.869.9453

E-mail:
JDCharlesworthcih@gmail.com

Site: City of Albuquerque (Intera)

Site Location: Rail Yard Parcel 10 Sheet Metal House

PO / Job#: DCE 16-185 Date:10/28/2016

Turn Around Time: Same Day / 1Day / (2Day) / 3Day / 4Day / 5Day

❒ PCM: ❒ NIOSH 7400A / ❒ NIOSH 7400B ❒ Rotometer

(❒ PLM:) ❒ Standard / ❒ Point Count 400 - 1000 / ❒ CARB 435

❒ TEM Air: ❒ AHERA / ❒ Yamate2 / ❒ NIOSH 7402
❒ TEM Bulk: ❒ Quantitative / ❒ Qualitative / ❒ Chatfield
❒ TEM Water: ❒ Potable / ❒ Non-Potable / ❒ Weight %
❒ TEM Microvac: ❒ Qual(+/-) / ❒ D5755(str/area) / ❒ D5756(str/mass)

❒ IAQ Particle Identification (PLM LAB) ❒ PLM Opaques/Soot
❒ Particle Identification (TEM LAB) ❒ Special Project

❒ Metals Analysis: Method:
Matrix:
Analytes:

Comments:

Sample ID	Date	Sample Location / Description / Task	FOR AIR SAMPLES ONLY				Sample Area / Air Volume
			Type	Time On/Off	Avg. LPM	Total Time	
16-185-100	10/28	White roofing material Sheet Metal House	A P C				
16-185-101	10/28	White roofing material Sheet Metal House	A P C				
16-185-102	10/28	White roofing material Sheet Metal House	A P C				
			A P C				
			A P C				
			A P C				
			A P C				
			A P C				
			A P C				
			A P C				

Sampled By: Steven Gutierrez

Shipped Via: ❒ Fed Ex ❒ DHL ❒ UPS ❒ US Mail ❒ Courier ❒ Drop Off ❒ Other:

Relinquished By: Steven Gutierrez Date / Time: 11/10/2016 5:00PM	Relinquished By: Date / Time:	Relinquished By: Date / Time:
Received By: Josh-FOR Date / Time: 11/11/16 1013 am Condition Acceptable? ❒ Yes ❒ No	Received By: Date / Time: Condition Acceptable? ❒ Yes ❒ No	Received By: Date / Time: Condition Acceptable? ❒ Yes ❒ No

Appendix B
XRF Lead Measurements

Project #: 16-185 Project Name: Sheet Metal House Date: 10-27-2016
Address: City of Albuquerque Railyard
Technician: M. Nieman and D. Plante

	Time : 3:15 pm		Unit # 1731		Results	Average
1		Cal.			1.1	
2		Cal.			1.1	
3		Cal.			1.1	1.1
4		Cal.			0.0	
5		Cal			0.0	
6		Cal.			-0.1	-0.0
XRF Test Number	Location / Room	Component - Designation	Component Number	Color	Substrate	Result / Reading mg/cm2
7	Interior	A Wall		White	Wood	-0.3
8	Interior	B Wall		White	Wood	-0.3
9	Interior	D Wall		White	Wood	0.0
10	Interior	Sliding Door	A-1	White	Metal	-0.1
11	Interior	Door Std.	A-2	White	Wood	1.6
12	Interior	Door Frame	A-3	Red	Wood	0.2
13	Interior	Door Header	A-4	Red	Wood	-0.0
14	Interior	Post		Black	Wood	-0.1
15	Exterior	West Wall		Red	Wood	-0.0
16	Exterior	Downspout		White	Metal	0.2
17	Exterior	Entry Door		Red	Wood	1.4
18	Exterior	Entry Door Frame		Red	Wood	-0.1
19	Exterior	North Wall		Red	Wood	-0.1
	Time : 3:35 pm				Results	Average
33		Cal.			1.0	
34		Cal.			1.0	
35		Cal.			1.0	1.0
36		Cal.			-0.0	
37		Cal			0.0	
38		Cal.			-0.2	-0.1

Appendix C
Asbestos and LBP Data

ID	Read No/Sample ID	Lead	Units	LBP	Room Number	Building	Room Name	Wall	Structure	Location	Member	Mode	Substrate	Color	Location_2	Source
1	7	0.1	mg/cm2		1	Railyards Amtrack Office	Office	A	Window	Rgt	Sill	QM	Wood	Brown	Interior	Innovar, 2011
2	8	0.1	mg/cm2		1	Railyards Amtrack Office	Office	A	Window	Rgt	Sash	QM	Wood	Brown	Interior	Innovar, 2011
3	9	0.2	mg/cm2		1	Railyards Amtrack Office	Office	A	Window	Rgt	Lft casing	QM	Wood	Brown	Interior	Innovar, 2011
4	10	0.2	mg/cm2		1	Railyards Amtrack Office	Office	A	Wall	L Ctr		QM	Plaster	White	Interior	Innovar, 2011
5	11	-0.2	mg/cm2		1	Railyards Amtrack Office	Office	B	Wall	U Ctr		QM	Plaster	White	Interior	Innovar, 2011
6	12	0	mg/cm2		1	Railyards Amtrack Office	Office	C	Door	Ctr	U Ctr	QM	Steel	Brown	Interior	Innovar, 2011
7	13	0	mg/cm2		1	Railyards Amtrack Office	Office	C	Door	Ctr	Lft casing	QM	Steel	Brown	Interior	Innovar, 2011
8	14	0.2	mg/cm2		1	Railyards Amtrack Office	Office	B	Window	Ctr	Sill	QM	Wood	Brown	Interior	Innovar, 2011
9	15	0.2	mg/cm2		3	Railyards Amtrack	Office	B	Window	Ctr	Lft casing	QM	Wood	Brown	Interior	Innovar, 2011

						Office										
10	16	0.2	mg/cm2		3	Railyards Amtrack Office	Office	B	Window	Clr	Sash	QM	Wood	Brown	Interior	Innovar, 2011
11	17	0	mg/cm2		3	Railyards Amtrack Office	Office	A	Wall	L Ctr		QM	Plaster	White	Interior	Innovar, 2011
12	18	-0.2	mg/cm2		3	Railyards Amtrack Office	Office	A	Wall	L Rgi		QM	Plaster	White	Interior	Innovar, 2011
13	19	-0.2	mg/cm2		3	Railyards Amtrack Office	Office	D	Door	Rgi	U Rgt	QM	Steel	Brown	Interior	Innovar, 2011
14	20	0.1	mg/cm2		3	Railyards Amtrack Office	Office	D	Door	Rgt	LIt casing	QM	Steel	Brown	Interior	Innovar, 2011
15	21	0.7	mg/cm2		4	Railyards Amtrack Office	Break Rm	B	Chair rail	Clr		QM	Wood	Brown	Interior	Innovar, 2011
16	22	0.2	mg/cm2		4	Railyards Amtrack Office	Break Rm	B	Window	Ctr	Lft casing	QM	Wood	Brown	Interior	Innovar, 2011
17	23	>9.9	mg/cm2	Yes	4	Railyards Amtrack Office	Break Rm	B	Wall	L Ctr		QM	Plaster	Whiie	Interior	Innovar, 2011
18	24	0.2	mg/cm2		4	Railyards Amtrack Office	Break Rm	C	Baseboard	Clr		QM	Plaster	White	Interior	Innovar, 2011
19	25	>9.9	mg/cm2	Yes	4	Railyards Amtra	Break Rm	B	Wall	U Lft		QM	Plaster	White	Interior	Innovar, 2011

						ck Office										
20	26	>9.9	mg/cm2	Yes	4	Railyards Amtrack Office	Break Rm	B	Wall	L Rgt		QM	Plaster	White	Interior	Innovar, 2011
21	27	0.3	mg/cm2		4	Railyards Amtrack Office	Break Rm	C	Wall	L Clr		QM	Drywall	White	Interior	Innovar, 2011
22	28	0.2	mg/cm2		3	Railyards Amtrack Office	Office	B	Wall	L Ctr		QM	Plaster	White	Interior	Innovar, 2011
23	29	>9.9	mg/cm2	Yes	10	Railyards Amtrack Office	Lobby	A	Wall	L Ctr		QM	Plaster	White	Interior	Innovar, 2011
24	30	0.3	mg/cm2		10	Railyards Amtrack Office	Lobby	D	Wall	L Ctr		QM	Plaster	White	Interior	Innovar, 2011
25	31	0.3	mg/cm2		10	Railyards Amtrack Office	Lobby	A	Window	Ctr	Sash	QM	Wood	Brown	Interior	Innovar, 2011
26	32	>9.9	mg/cm2	Yes	10	Railyards Amtrack Office	Lobby	A	Column	Ctr		QM	Plaster	White	Interior	Innovar, 2011
27	33	>9.9	mg/cm2	Yes	10	Railyards Amtrack Office	Lobby	A	Column	Clr		QM	Plaster	White	Interior	Innovar, 2011
28	34	1.1	mg/cm2	Yes	12	Railyards Amtrack Office	Hallway	B	Wall	L Ctr		QM	Plaster	White	Interior	Innovar, 2011
29	35	>9.9	mg/cm2	Yes	12	Railyards	Hallway	D	Wall	L Ctr		QM	Plaster	White	Interior	Innovar,

						Amtrack Office										2011
30	36	0.1	mg/cm2		9	Railyards Amtrack Office	Wmns Rm	D	Wall	L Ctr		QM	Plaster	White	Interior	Innovar, 2011
31	37	0.1	mg/cm2		9	Railyards Amtrack Office	Wmns Rm	A	Wall	L Ctr		QM	Plaster	White	Interior	Innovar, 2011
32	38	0.3	mg/cm2		9	Railyards Amtrack Office	Wmns Rm	B	Door	Ctr	Lft casing	QM	Wood	Brown	Interior	Innovar, 2011
33	39	0.2	mg/cm2		9	Railyards Amtrack Office	Wmns Rm	B	Floor			QM	Cement	Brown	Interior	Innovar, 2011
34	40	-0.1	mg/cm2		11	Railyards Amtrack Office	Number Only	C	Stairs	Ctr	Treads	QM	Steel	Black	Interior	Innovar, 2011
35	41	0.1	mg/cm2		11	Railyards Amtrack Office	Number Only	C	Stairs	Ctr	Railing cap	QM	Steel	Black	Interior	Innovar, 2011
36	42	-0.1	mg/cm2		15	Railyards Amtrack Office	Upstairs	C	Wall	L Clr		QM	Plaster	White	Interior	Innovar, 2011
37	43	0.2	mg/cm2		15	Railyards Amtrack Office	Upstairs	B	Wall	L Ctr		QM	Plaster	White	Interior	Innovar, 2011
38	44	>9.9	mg/cm2	Yes	15	Railyards Amtrack Office	Upstairs	A	Wall	L Ctr		QM	Plaster	White	Interior	Innovar, 2011
3	45	6.6	mg/c	Ye	15	Railya	Upstai	A	Door	Ctr	U Ctr	QM	Wood	Whit	Interior	Innov

9			m2	s		rds Amtrack Office	rs							e		ar, 2011
40	46	0.3	mg/cm2		15	Railyards Amtrack Office	Upstairs	B	Wall	L Ctr		QM	Plaster	White	Interior	Innovar, 2011
41	47	0.3	mg/cm2		15	Railyards Amtrack Office	Upstairs	A	Wall	L Ctr		QM	Plaster	White	Interior	Innovar, 2011
42	54	0.2	mg/cm2		16	Railyards Amtrack Office	Museum	A	Floor			QM	Cement	Gray	Interior	Innovar, 2011
43	55	2.3	mg/cm2	Yes	16	Railyards Amtrack Office	Museum	A	Floor			QM	Cement	White	Interior	Innovar, 2011
44	56	0.3	mg/cm2		16	Railyards Amtrack Office	Museum	A	Floor			QM	Cement	White	Interior	Innovar, 2011
45	57	0.1	mg/cm2		16	Railyards Amtrack Office	Museum	D	Wall	L Ctr		QM	Cement	Gray	Interior	Innovar, 2011
46	58	0.2	mg/cm2		16	Railyards Amtrack Office	Museum	B	Wall	L Ctr		QM	Cement	Gray	Interior	Innovar, 2011

ID	Read No/Sample ID	Lead	Units	LBP	Room Number	Building	Room Name	Wall	Structure	Location	Member	Mode	Substrate	Color	Location_2	Source
47	59	0.1	mg/cm2		16	Railyards Amtrack Office	Museum	A	Wall	L Ctr		QM	Cement	Gray	Interior	Innovar, 2011
4	60	6.3	mg/c	Ye	16	Railyar	Muse	A	Floor			QM	Cemen	Yello	Interior	Innov

8			m2	s		ds Amtrack Office	um						t	w		ar, 2011
49	61	0.1	mg/cm2		16	Railyards Amtrack Office	Museum	A	Door	Ctr	U Ctr	QM	Steel	Green	Interior	Innovar, 2011
50	62	0.1	mg/cm2		16	Railyards Amtrack Office	Museum	A	Door	Ctr	U Ctr	QM	Steel	Black	Interior	Innovar, 2011
51	63	0.5	mg/cm2		16	Railyards Amtrack Office	Museum	A	Door	Ctr	Lft casing	QM	Steel	Black	Interior	Innovar, 2011
52	64	0.7	mg/cm2		16	Railyards Amtrack Office	Museum	A	Floor			QM	Cement	Red	Interior	Innovar, 2011
53	65	1.8	mg/cm2	Yes	1	Railyards Amtrack Office	Facility	B	Railing	Ctr	Railing	QM	Steel	Yellow	Exterior	Innovar, 2011
54	66	0.2	mg/cm2		1	Railyards Amtrack Office	Facility	B	Door	Ctr	U Ctr	QM	Steel	Red	Exterior	Innovar, 2011
55	67	-0.1	mg/cm2		1	Railyards Amtrack Office	Facility	D	Window	Ctr	Sill	QM	Wood	Black	Exterior	Innovar, 2011
56	68	0.2	mg/cm2		1	Railyards Amtrack Office	Facility	D	Window	Ctr	Sash	QM	Wood	Black	Exterior	Innovar, 2011
57	69	0	mg/cm2		1	Railyards Amtrack Office	Facility	C	Window	Rgt	Sill	QM	Wood	Black	Exterior	Innovar, 2011
58	7	5	mg/cm2	Yes	1	Main Machine Shop	Number Only	B	Column	Ctr		QM	Steel	Silver	Interior	Innovar, 2011
59	8	1.1	mg/cm2	Yes	1	Main Machine Shop	Number Only	C	Door	Ctr	U Ctr	QM	Steel	Silver	Interior	Innovar, 2011
60	9	2.2	mg/cm2	Yes	1	Main Machine Shop	Number Only	C	Column	Clr		QM	Sleel	Silver	Interior	Innovar, 2011

61	10	0.1	mg/cm2		1	Main Machine Shop	Number Only	A	Floor			QM	Ceramic	Red	Interior	Innovar, 2011
62	11	1.8	mg/cm2	Yes	1	Main Machine Shop	Number Only	B	Cnt Column	Ctr		QM	Steel	Silver	Interior	Innovar, 2011
63	12	0.7	mg/cm2		1	Main Machine Shop	Number Only	B	Stairs	Ctr	Treads	QM	Steel	Green	Interior	Innovar, 2011
64	13	1.9	mg/cm2	Yes	1	Main Machine Shop	Number Only	D	Column	Ctr		QM	Steel	Silver	Interior	Innovar, 2011
65	14	5.4	mg/cm2	Yes	1	Main Machine Shop	Number Only	D	Ceiling Beam	Beam	Ctr	QM	Steel	Silver	Interior	Innovar, 2011
66	15	4.2	mg/cm2	Yes	1	Main Machine Shop	Number Only	B	Column	Ctr		QM	Steel	Black	Exterior	Innovar, 2011
67	16	2.7	mg/cm2	Yes	1	Main Machine Shop	Number Only	B	Stairs	Ctr	Treads	QM	Wood	White	Interior	Innovar, 2011
68	1	3.4	mg/cm2	Yes		Boiler Shop	Number Only	B	Cnt Column	Ctr		QM	Steel	Silver	Interior	Innovar, 2011
69	2	0.1	mg/cm2			Boiler Shop	Number Only	A	Floor			QM	Cement	Red	Interior	Innovar, 2011
70	3	3.2	mg/cm2	Yes		Boiler Shop	Number Only	C	Cnt Column	Ctr		QM	Steel	Silver	Interior	Innovar, 2011
71	4	2.5	mg/cm2	Yes		Boiler Shop	Number Only	A	Column	Lft		QM	Steel	Silver	Interior	Innovar, 2011
72	5	-0.3	mg/cm2			Boiler Shop	Number Only	C	Door	Lft	U Ctr	QM	Steel	Silver	Interior	Innovar, 2011
73	1	1.1	mg/cm2	Yes		Blacksmith Shop	Number Only	B	Column	Ctr		QM	Steel	Silver	Interior	Innovar, 2011
74	2	3.1	mg/cm2	Yes		Blacksmith Shop	Number Only	C	Column	Ctr		QM	Steel	Silver	Interior	Innovar, 2011
75	3	2.1	mg/cm2	Yes		Blacksmith Shop	Number Only	D	Wall	L Ctr		QM	Brick	Silver	Interior	Innovar, 2011
76	4	0.2	mg/cm2			Blacksmith Shop	Number Only	D	Door	Ctr	U Ctr	QM	Steel	Silver	Interior	Innovar, 2011

77	5	0.1	mg/cm2			Blacksmith Shop	Number Only	D	Window	Ctr	Part. Bead	QM	Steel	Silver	Interior	Innovar, 2011
78	7	2.7	mg/cm2	Yes		Bldg North of Firehouse	Number Only	A	Bldg North of Firehouse	L Ctr		QM	Cement	Silver	Interior	Innovar, 2011
79	8	2.3	mg/cm2	Yes		Bldg North of Firehouse	Number Only	A	Window	Ctr	Lft casing	QM	Steel	Silver	Interior	Innovar, 2011
80	9	5.6	mg/cm2	Yes		Bldg North of Firehouse	Number Only	A	Door	Ctr	U Ctr	QM	Steel	Silver	Interior	Innovar, 2011
81	10	1.1	mg/cm2	Yes		Bldg North of Firehouse	Number Only	A	Window	Ctr	Rgt casin	QM	Steel	Silver	Interior	Innovar, 2011
82	11	2.4	mg/cm2	Yes		Bldg North of Firehouse	Number Only	C	Frame	Ctr		QM	Steel	Silver	Interior	Innovar, 2011
83	12	1.1	mg/cm2	Yes		Bldg North of Firehouse	Number Only	C	Wall	L Ctr		QM	Cement	Silver	Interior	Innovar, 2011
84	13	0.2	mg/cm2			Bldg North of Firehouse	Number Only	D	Wall	L Ctr		QM	Cement	Silver	Interior	Innovar, 2011
85	1	1.1	mg/cm2	Yes		Bldg South of Firehouse	Number Only	A	Wall	L Ctr		QM	Cement	White	Interior	Innovar, 2011
86	2	0.1	mg/cm2			Bldg South of Firehouse	Number Only	B	Wall	L Ctr		QM	Cement	White	Interior	Innovar, 2011
8	3	0	mg/c			Bldg	Numb	A	Door	Ctr	Lft	QM	Cemen	Whit	Interior	Innov

7			m2			South of Firehouse	er Only		Cnt		casing		t	e		ar, 2011
88	4	1.1	mg/cm2	Yes		Bldg South of Firehouse	Number Only	A	Column	Ctr		QM	Cement	Green	Interior	Innovar, 2011
89	5	1.2	mg/cm2	Yes		Bldg South of Firehouse	Number Only	B	Wall	L Ctr		QM	Cement	Green	Interior	Innovar, 2011
90	6	0.5	mg/cm2			Bldg South of Firehouse	Number Only	C	Door	Ctr	U Ctr	QM	Cement	Green	Interior	Innovar, 2011
91	13029.029-020513-01L	150	ppm			Blacksmith Shop			Interior Walls	NW Corner			Paint	Silver		Rhoades, 2013
92	13029.029-020513-02L	410	ppm			Blacksmith Shop			Interior Walls	NE Corner			Paint	Silver		Rhoades, 2013

ID	Read No/Sample ID	Lead	Units	LBP	Room Number	Building	Room Name	Wall	Structure	Location	Member	Mode	Substrate	Color	Location_2	Source
93	13029.029-020513-03L	100	ppm			Blacksmith Shop			Interior Walls	SW Corner			Paint	Silver		Rhoades, 2013
94	13029.029-020513-04L	150	ppm			Blacksmith Shop			Interior Walls	SE Corner			Paint	Silver		Rhoades, 2013
95	13029.029-020513-05L	2570	ppm			Blacksmith Shop			Overhead Piping				Paint	Red		Rhoades, 2013
96	13029.029-020513-06L	2640	ppm			Blacksmith Shop			Exterior Brick Walls		Trim		Paint	Rust		Rhoades, 2013

97	13029.029-020513-07L	4040	ppm			Blacksmith Shop			Interior Walls Office Shack				Paint	Cream		Rhoades, 2013
98	13029.029-020513-08L	250	ppm			Blacksmith Shop			Building	NW Corner			Surface Dust			Rhoades, 2013
99	13029.029-020513-09L	400	ppm			Blacksmith Shop			Building	NE Corner			Surface Dust			Rhoades, 2013
100	13029.029-020513-10L	100	ppm			Blacksmith Shop			Building	Center			Surface Dust			Rhoades, 2013
101	13029.029-020513-11L	710	ppm			Blacksmith Shop			Building	SW Corner			Surface Dust			Rhoades, 2013
102	13029.029-020513-12L	970	ppm			Blacksmith Shop			Building	SE Corner			Surface Dust			Rhoades, 2013

ID	Sample Number	Date	Description	Location	Percent Asbestos	Asbestos Type	Classification	Source
1	577007-NB.NS.1	Sep-05	Silver glaze coating window pane	Boiler Shop, South Side	0%			Terracon, 2005
2	577007-NB.NS.2	Sep-05	Silver glaze coating window pane	Boiler Shop, South Side	0%			Terracon, 2005
3	577007-NB.NS.3	Sep-05	Silver glaze coating window pane	Boiler Shop, South Side	0%			Terracon, 2005
4	577007-NB.SS.4	Sep-05	Green painted window pane	Boiler Shop, South Side	0%			Terracon, 2005
5	577007-NB.SS.5	Sep-05	Green painted window pane	Boiler Shop, South Side	0%			Terracon, 2005
6	577007-NB.SS.6	Sep-05	Green painted window pane	Boiler Shop, North Side	0%			Terracon, 2005
7	577007-NB.NS.7	Sep-05	Silver glaze coating window pane	Boiler Shop, North Side	0%			Terracon, 2005
8	577007-NB.NS.8	Sep-05	Silver glaze coating window pane	Boiler Shop, North Side	0%			Terracon, 2005
9	577707-NB.NS.9	Sep-05	Silver glaze/black spray-on with pane	Boiler Shop, North Side	0%			Terracon, 2005
10	577007 -NB.NS.10	Sep-05	Silver glaze/black spray-on with pane	Boiler Shop, North Side	0%			Terracon, 2005
11	577007-NB.NS.11	Sep-05	Silver glaze/black spray-on with pane	Boiler Shop, North Side	0%			Terracon, 2005
12	577007-SB.SS.F1.1	Sep-05	Silver glaze coating window pane	Main Machine Shop, South Side, First Floor	0%			Terracon, 2005
13	577007 -SB.SS.F1.2	Sep-05	Glaze coating on window pane (silverlblack)	Main Machine Shop, South Side, First Floor	0%			Terracon, 2005
14	577007-SB.SS.F1.3	Sep-05	Glaze coating on window pane (silver)	Main Machine Shop, South Side, First Floor	0%			Terracon, 2005
15	577007 -SB.SS.F1.4	Sep-05	Glaze coating on window pane (silver)	Main Machine Shop, South Side, First Floor	0%			Terracon, 2005
16	577007 -SB.SS.F1.5	Sep-05	Glaze coating on window pane (silver)	Main Machine Shop, South Side, First Floor	0%			Terracon, 2005
17	577007-SB.SS.F1.6	Sep-05	Glaze coating on window pane (silver)	Main Machine Shop, South Side, First Floor	0%			Terracon, 2005
18	577007 -SB.SS.F1.7	Sep-05	Glaze coating on window pane (silver/green)	Main Machine Shop, South Side, First Floor	0%			Terracon, 2005
19	577007-SB.SS.F2.1	Sep-05	Glaze coating on window pane (beige/green)	Main Machine Shop, South Side, Second Floor	0%			Terracon, 2005
20	577007-SB.SS.F2.2	Sep-05	Glaze coating on window pane (tanJbrown)	Main Machine Shop, South Side, Second Floor	0%			Terracon, 2005
21	577007-SB.SS.F2.3	Sep-05	Glaze coating on window pane (off-white)	Main Machine Shop, South Side, Second Floor	0%			Terracon, 2005
22	577007-SB.SS.F2.4	Sep-05	Glaze coating on window pane (grey/green)	Main Machine Shop, South Side, Second Floor	0%			Terracon, 2005
23	577007-SB.SS.F2.5	Sep-05	Glaze coating on window pane (off-white)	Main Machine Shop, South Side, Second Floor	0%			Terracon, 2005
24	577007-SB.SS.F2.6	Sep-05	Plaster over cc wall (grey with paint)	Main Machine Shop, South Side, Second Floor	0%			Terracon, 2005
25	577007-SB.SS.F2.7	Sep-05	Plaster over cc wall (grey with paint)	Main Machine Shop, South Side, Second Floor	0%			Terracon, 2005
26	577007-NB.SS.1	Sep-05	Window glazing (tan)	Boiler Shops, South Side	Trace <1%			Terracon, 2005
27	577007-NB.SS.2	Sep-05	Window glazing (tan)	Boiler Shops, South Side	2%	Chrysotile	Non-Friable	Terracon, 2005
28	577007-NB.SS.3	Sep-05	Window glazing (tan)	Boiler Shops, South Side	2%	Chrysotile	Non-Friable	Terracon, 2005
29	577007-NB.SS.01	Sep-05	Window glazing (beige)	Boiler Shops, South Side	Trace <1%	Chrysotile		Terracon, 2005
30	577007-NB.SS.02	Sep-05	Window glazing (beige)	Boiler Shops, South Side	Trace <1%	Chrysotile		Terracon, 2005
31	577007-NB.SS.03	Sep-05	Window glazing (beige)	Boiler Shops, South Side	Trace <1%	Chrysotile		Terracon, 2005
32	577007 -NB.ES.01	Sep-05	Window glazing (beige)	Boiler Shops, East Side	Trace <1%	Chrysotile		Terracon, 2005
33	577007-NB.ES.02	Sep-05	Window glazing (beige)	Boiler Shops, East Side	Trace <1%	Chrysotile		Terracon, 2005

34	577007 -N.O.01	Sep-05	Outside shingle (red with granules)	Outside the Boiler Shop	0%			Terracon, 2005
35	577007-N.O.02	Sep-05	Outside shingle (red with granules)	Outside the Boiler Shop	0%			Terracon, 2005
36	577007-N.O.03	Sep-05	Outside shingle (red with granules)	Outside the Boiler Shop	0%			Terracon, 2005
37	577007-N.O.G.01	Sep-05	White insulation	100 ft North of CWE Strorage Shed	NA			Terracon, 2005
38	577007-N.O.G.02	Sep-05	White insulation	100 ft North of CWE Strorage Shed	NA			Terracon, 2005
39	577007-N.O.G.03	Sep-05	White insulation	100 ft North of CWE Strorage Shed	NA			Terracon, 2005
40	577007 -NTE. WS-1	Sep-05	Transite pipe (grey)	Former Transformer Area, West Side	25%	Chrysotile	Friable	Terracon, 2005
41	577007 -NTE. WS-1	Sep-05	Transite pipe (grey)	Former Transformer Area, West Side	5%	Crocidolite		Terracon, 2005
42	577007 -NTE.ES-3	Sep-05	Transite pipe (grey)	Former Transformer Area	25%	Chrysotile	Friable	Terracon, 2005
43	577007 -NTE.ES-3	Sep-05	Transite pipe (grey)	Former Transformer Area	5%	Crocidolite		Terracon, 2005
44	577007-NTE.ES-1 (577007-NTE.NS-1??)	Sep-05	Transite pipe (grey)	Former Transformer Area	25%	Chrysotile	Friable	Terracon, 2005
45	577007-NTE.ES-1 (577007-NTE.NS-1??)	Sep-05	Transite pipe (grey)	Former Transformer Area	3%	Crocidolite		Terracon, 2005
46	577007-SWB.WW.01	Sep-05	Window putty/glazing (beige)	Babbit Shop, West Wall	Trace <1%	Chrysotile		Terracon, 2005
47	577007-SWB.WW.02	Sep-05	Window putty/glazing (beige)	Babbit Shop, West Wall	Trace <1%	Chrysotile		Terracon, 2005
48	577007-FH.01	Sep-05	Insulation/plaster over brick	Fire House	0%			Terracon, 2005
49	577007-FH.02	Sep-05	Insulation/plaster over brick	Fire House	0%			Terracon, 2005
50	577007-FH.03	Sep-05	Insulation/plaster over brick	Fire House	4%	Chrysotile	Friable	Terracon, 2005
51	577007-FH.04	Sep-05	Insulation/plaster over brick	Fire House	5%	Chrysotile	Friable	Terracon, 2005
52	01-DW1-1	Aug-10	off-white surfaced white compound (drywall)	Amtrack Office	none detected			Innovar, 2011
53	01-DW1-2	Aug-10	white drywall with brown paper (drywall)	Amtrack Office	none detected			Innovar, 2011
54	02-DW1-1	Aug-10	white surfaced white compound (drywall)	Amtrack Office	none detected			Innovar, 2011

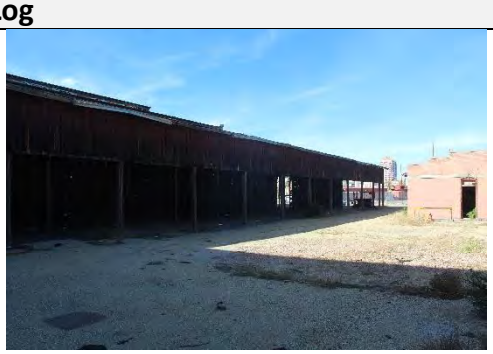
ID	Sample Number	Date	Description	Location	Percent Asbestos	Asbestos Type	Classification	Source
55	03-DW1-1	Aug-10	white surfaced white compound (drywall)	Amtrack Office	none detected			Innovar, 2011
56	04-P1-1	Aug-10	white surfaced tan plaster (plaster)	Amtrack Office	none detected			Innovar, 2011
57	05-P1-1	Aug-10	white surfaced tan plaster (plaster)	Amtrack Office	none detected			Innovar, 2011
58	06-P1-1	Aug-10	white surfaced white compound (plaster)	Amtrack Office	none detected			Innovar, 2011
59	06-P1-2	Aug-10	tan plaster (plaster)	Amtrack Office	none detected			Innovar, 2011
60	07-CB1-1	Aug-10	pink cover base (cover base)	Amtrack Office	none detected			Innovar, 2011
61	07-CB1-2	Aug-10	tan mastic (cover base)	Amtrack Office	none detected			Innovar, 2011
62	07-CB1-3	Aug-10	white surfaced white compound (cover base)	Amtrack Office	none detected			Innovar, 2011
63	07-CB1-4	Aug-10	brown mastic (cover base)	Amtrack Office	<1%	Anthophyllite		Innovar, 2011
64	07-CB1-5	Aug-10	tan plaster (cover base)	Amtrack Office	none detected			Innovar, 2011
65	08-CB1-1	Aug-10	pink cover base (cover base)	Amtrack Office	none detected			Innovar, 2011
66	08-CB1-2	Aug-10	tan mastic (cover base)	Amtrack Office	none detected			Innovar, 2011

67	08-CB1-3	Aug-10	brown mastic (cover base)	Amtrack Office	<1%	Anthophyllite		Innovar, 2011
68	08-CB1-4	Aug-10	tan plaster (cover base)	Amtrack Office	none detected			Innovar, 2011
69	09-CB1-1	Aug-10	pink cover base (cover base)	Amtrack Office	none detected			Innovar, 2011
70	09-CB1-2	Aug-10	tan mastic (cover base)	Amtrack Office	none detected			Innovar, 2011
71	09-CB1-3	Aug-10	brown mastic (cover base)	Amtrack Office	<1%	Anthophyllite		Innovar, 2011
72	09-CB1-4	Aug-10	tan plaster (cover base)	Amtrack Office	none detected			Innovar, 2011
73	10-CT1-1	Aug-10	white surfacing (ceiling tile)	Amtrack Office	none detected			Innovar, 2011
74	10-CT1-2	Aug-10	tan ceiling (ceiling tile)	Amtrack Office	none detected			Innovar, 2011
75	10-CT1-3	Aug-10	brown mastic (ceiling tile)	Amtrack Office	none detected			Innovar, 2011
76	11-CT1-1	Aug-10	white surfacing (ceiling tile)	Amtrack Office	none detected			Innovar, 2011
77	11-CT1-2	Aug-10	tan ceiling tile (ceiling tile)	Amtrack Office	none detected			Innovar, 2011
78	11-CT1-3	Aug-10	brown mastic (ceiling tile)	Amtrack Office	none detected			Innovar, 2011
79	12-CT1-1	Aug-10	tan ceilign tile (no surfacing) (ceiling tile)	Amtrack Office	none detected			Innovar, 2011
80	12-CT1-2	Aug-10	brown mastic (ceiling tile)	Amtrack Office	none detected			Innovar, 2011
81	13-WC1-1	Aug-10	black surfacing white caulking (Window Caulk)	Amtrack Office	none detected			Innovar, 2011
82	14-WC1-1	Aug-10	black surfacing white caulking (Window Caulk)	Amtrack Office	none detected			Innovar, 2011
83	15-WC1-1	Aug-10	black surfacing white caulking (Window Caulk)	Museum	none detected			Innovar, 2011
84	16-CT2-1	Aug-10	white surfacing (ceiling tile)	Museum	none detected			Innovar, 2011
85	16-CT2-2	Aug-10	Gray ceiling tile (ceiling tile)	Museum	none detected			Innovar, 2011
86	17-CT2-1	Aug-10	White Surfacing (ceiling tile)	Museum	none detected			Innovar, 2011
87	17-CT2-2	Aug-10	Gray ceiling tile (ceiling tile)	Museum	none detected			Innovar, 2011
88	18-CT2-1	Aug-10	white surfacing (ceiling tile)	Museum	none detected			Innovar, 2011
89	18-CT2-2	Aug-10	Gray ceiling tile (ceiling tile)	Museum	none detected			Innovar, 2011
90	19-W1-1	Aug-10	black woven covering (Wiring)	Museum	none detected			Innovar, 2011
91	20-W1-1	Aug-10	black woven covering (Wiring)	Museum	none detected			Innovar, 2011
92	13029.029-020513-01	Feb-13	12'' Spline Ceiling Tile	Office Shack, Blacksmith Shop	none detected		Poor/Friable	Rhoades, 2013
93	13029.029-020513-02	Feb-13	12'' Spline Ceiling Tile	Office Shack, Blacksmith Shop	none detected		Poor/Friable	Rhoades, 2013
94	13029.029-020513-03	Feb-13	12'' Spline Ceiling Tile	Office Shack, Blacksmith Shop	none detected		Poor/Friable	Rhoades, 2013
95	13029.029-020513-04	Feb-13	Interior Plaster - Surface Coat	Office Shack, Blacksmith Shop	none detected		Poor/Friable	Rhoades, 2013
96	13029.029-020513-05	Feb-13	Interior Plaster - Surface Coat	Office Shack, Blacksmith Shop	2%	Chrysotile	Poor/Friable	Rhoades, 2013
97	13029.029-020513-06	Feb-13	Interior Plaster - Surface Coat	Office Shack, Blacksmith Shop	2%	Chrysotile	Poor/Friable	Rhoades, 2013
98	13029.029-020513-07	Feb-13	Interior Plaster - Surface Coat	Office Shack, Blacksmith Shop	none detected		Poor/Friable	Rhoades, 2013
99	13029.029-020513-08	Feb-13	Interior Plaster - Surface Coat	Office Shack, Blacksmith Shop	none detected		Poor/Friable	Rhoades, 2013
100	13029.029-020513-09	Feb-13	Interior Plaster - Surface Coat	Office Shack, Blacksmith Shop	none detected		Poor/Friable	Rhoades, 2013
101	13029.029-020513-10	Feb-	Window Glazing	Reinforced Glass, Blacksmith Shop	none		Poor/Friable	Rhoades,

		13			detected			2013
102	13029.029-020513-11	Feb-13	Window Glazing	Reinforced Glass, Blacksmith Shop	none detected		Poor/Friable	Rhoades, 2013
103	13029.029-020513-12	Feb-13	Window Glazing	Reinforced Glass, Blacksmith Shop	none detected		Poor/Friable	Rhoades, 2013
104	13029.029-020513-13	Feb-13	Window Glazing	Clear Glass, Blacksmith Shop	2%	Chrysotile	Poor/Friable	Rhoades, 2013
105	13029.029-020513-14	Feb-13	Window Glazing	Clear Glass, Blacksmith Shop	none detected		Poor/Friable	Rhoades, 2013
106	13029.029-020513-15	Feb-13	Window Glazing	Clear Glass, Blacksmith Shop	none detected		Poor/Friable	Rhoades, 2013
107	13029.029-020513-16	Feb-13	Window Glazing	Wood Panes, Blacksmith Shop	<1%	Chrysotile	Poor/Friable	Rhoades, 2013
108	13029.029-020513-17	Feb-13	Window Glazing	Wood Panes, Blacksmith Shop	2%	Chrysotile	Poor/Friable	Rhoades, 2013

ID	Sample Number	Date	Description	Location	Percent Asbestos	Asbestos Type	Classification	Source
109	13029.029-020513-18	Feb-13	Window Glazing	Wood Panes, Blacksmith Shop	none detected		Poor/Friable	Rhoades, 2013
110	13029.029-020513-19	Feb-13	Gray Parapet Tar	Throughout Roof, Blacksmith Shop	10%	Chrysotile	Poor/Non-Friable	Rhoades, 2013
111	13029.029-020513-20	Feb-13	Gray Parapet Tar	Throughout Roof, Blacksmith Shop	10%	Chrysotile	Poor/Non-Friable	Rhoades, 2013
112	13029.029-020513-21	Feb-13	Gray Parapet Tar	Throughout Roof, Blacksmith Shop	10%	Chrysotile	Poor/Non-Friable	Rhoades, 2013
113	13029.029-020513-22	Feb-13	Black Roofing Tar	Throughout Roof, Blacksmith Shop	none detected		Poor/Non-Friable	Rhoades, 2013
114	13029.029-020513-23	Feb-13	Black Roofing Tar	Throughout Roof, Blacksmith Shop	none detected		Poor/Non-Friable	Rhoades, 2013
115	13029.029-020513-24	Feb-13	Black Roofing Tar	Throughout Roof, Blacksmith Shop	none detected		Poor/Non-Friable	Rhoades, 2013
116	13029.029-020513-25	Feb-13	Black Penetration Tar	Throughout Roof, Blacksmith Shop	none detected		Poor/Non-Friable	Rhoades, 2013
117	13029.029-020513-26	Feb-13	Black Penetration Tar	Throughout Roof, Blacksmith Shop	none detected		Poor/Non-Friable	Rhoades, 2013
118	13029.029-020513-27	Feb-13	Black Penetration Tar	Throughout Roof, Blacksmith Shop	none detected		Poor/Non-Friable	Rhoades, 2013
119	13029.029-020513-28	Feb-13	Gray Roofing Felt	Throughout Roof, Blacksmith Shop	none detected		Poor/Non-Friable	Rhoades, 2013
120	13029.029-020513-29	Feb-13	Gray Roofing Felt	Throughout Roof, Blacksmith Shop	none detected		Poor/Non-Friable	Rhoades, 2013
121	13029.029-020513-30	Feb-13	Gray Roofing Felt	Throughout Roof, Blacksmith Shop	none detected		Poor/Non-Friable	Rhoades, 2013
122	13029.029-020513-31	Feb-13	Black Parapet Tar	Throughout Roof, Blacksmith Shop	8%	Chrysotile	Poor/Non-Friable	Rhoades, 2013
123	13029.029-020513-32	Feb-13	Black Parapet Tar	Throughout Roof, Blacksmith Shop	none detected		Poor/Non-Friable	Rhoades, 2013
124	13029.029-020513-33	Feb-13	Black Parapet Tar	Throughout Roof, Blacksmith Shop	none detected		Poor/Non-Friable	Rhoades, 2013
125	13029.029-020513-34	Feb-13	Black Roofing Felt - Patching	Throughout Roof, Blacksmith Shop	none detected		Poor/Non-Friable	Rhoades, 2013
126	13029.029-020513-35	Feb-13	Black Roofing Felt - Patching	Throughout Roof, Blacksmith Shop	none detected		Poor/Non-Friable	Rhoades, 2013
127	13029.029-020513-36	Feb-13	Black Roofing Felt - Patching	Throughout Roof, Blacksmith Shop	none detected		Poor/Non-Friable	Rhoades, 2013
128	13029.029-020513-34a	Feb-13	Black Roofing Felt - Patching	Throughout Roof, Blacksmith Shop	none detected		Poor/Non-Friable	Rhoades, 2013
129	13029.029-020513-35a	Feb-13	Black Roofing Felt - Patching	Throughout Roof, Blacksmith Shop	none detected		Poor/Non-Friable	Rhoades, 2013
130	13029.029-020513-36a	Feb-13	Black Roofing Felt - Patching	Throughout Roof, Blacksmith Shop	none detected		Poor/Non-Friable	Rhoades, 2013
131	13029.029-020513-37	Feb-13	Window Glazing	Plastic Panes, Blacksmith Shop	2%	Chrysotile	Poor/Friable	Rhoades, 2013
132	13029.029-020513-38	Feb-13	Window Glazing	Plastic Panes, Blacksmith Shop	3%	Chrysotile	Poor/Friable	Rhoades, 2013
133	13029.029-020513-39	Feb-13	Window Glazing	Plastic Panes, Blacksmith Shop	3%	Chrysotile	Poor/Friable	Rhoades, 2013

Appendix D
Photography Log

Photographic Log	
 Figure 1, Open Side of Sheet Metal House	 Figure 2, Sheet Metal House, East Side
 Figure 3, Sheet Metal House, NE Corner	

Appendix E Certificates

CERTIFICATE OF TRAINING

EPA/AHERA Training Program

This is to certify that

MICHAEL NIEMAN

NM. DL. 006 087 493

Has completed 4 hours of training and **PASSED** the test required by **Section 206 of TSCA Title II** and in accordance with **LOUISIANA STATE ASBESTOS REGULATIONS** entitled,

ASBESTOS BUILDING INSPECTOR REFRESHER

PRESENTED BY
Mendez Environmental™
1005 Veterans Mem Blvd
Suite, 101
Kenner, LA 70062
Tel: (504) 468-8858

Director: Rodolfo G. Mendez

IN COLLABORATION WITH
DC Environmental
P.O. Box 9315
Albuquerque, NM 87119
Tel: (505) 869-8000
www.dcenvironmental.net

NM Program Manager: David Charlesworth

Course Date: 04-12-2016
Certificate Number: AS0416KNMPMN17906

Test Date: 04-12-2016 Grade: **PASS**
Expiration Date: 04-12-2017

United States Environmental Protection Agency

This is to certify that

Michael Neiman

has fulfilled the requirements of the Toxic Substances Control Act (TSCA) Section 402, and has received certification to conduct lead-based paint activities pursuant to 40 CFR Part 745.226 as:

Inspector

In the Jurisdiction of:

New Mexico

This certification is valid from the date of issuance and expires September 25, 2017

NM-I-129246-1
Certification #

September 11, 2014
Issued On

Adrienne Priselac, Manager, Toxics Office
Land Division

Appendix G

Laboratory Analytical Report for Groundwater

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

November 15, 2016

Joseph Tracy

Intera, Inc.
6000 Uptown Boulevard, NE Suite 220
Albuquerque, NM 87110
TEL: (505) 246-1600
FAX (505) 246-2600

RE: Abq Railyard OrderNo.: 1611262

Dear Joseph Tracy:

Hall Environmental Analysis Laboratory received 9 sample(s) on 11/4/2016 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Intera, Inc. **Client Sample ID:** MW-07
Project: Abq Railyard **Collection Date:** 11/4/2016 9:12:00 AM
Lab ID: 1611262-001 **Matrix:** AQUEOUS **Received Date:** 11/4/2016 3:30:00 PM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8011/504.1: EDB						Analyst: **JME**	
1,2-Dibromoethane	ND	0.010		µg/L	1	11/10/2016 3:43:16 PM	28583
EPA METHOD 8260B: VOLATILES						Analyst: **DJF**	
Benzene	ND	1.0		µg/L	1	11/10/2016 5:59:40 AM	W38593
Toluene	ND	1.0		µg/L	1	11/10/2016 5:59:40 AM	W38593
Ethylbenzene	ND	1.0		µg/L	1	11/10/2016 5:59:40 AM	W38593
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	11/10/2016 5:59:40 AM	W38593
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	11/10/2016 5:59:40 AM	W38593
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	11/10/2016 5:59:40 AM	W38593
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	11/10/2016 5:59:40 AM	W38593
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	11/10/2016 5:59:40 AM	W38593
Naphthalene	ND	2.0		µg/L	1	11/10/2016 5:59:40 AM	W38593
1-Methylnaphthalene	ND	4.0		µg/L	1	11/10/2016 5:59:40 AM	W38593
2-Methylnaphthalene	ND	4.0		µg/L	1	11/10/2016 5:59:40 AM	W38593
Acetone	ND	10		µg/L	1	11/10/2016 5:59:40 AM	W38593
Bromobenzene	ND	1.0		µg/L	1	11/10/2016 5:59:40 AM	W38593
Bromodichloromethane	ND	1.0		µg/L	1	11/10/2016 5:59:40 AM	W38593
Bromoform	ND	1.0		µg/L	1	11/10/2016 5:59:40 AM	W38593
Bromomethane	ND	3.0		µg/L	1	11/10/2016 5:59:40 AM	W38593
2-Butanone	ND	10		µg/L	1	11/10/2016 5:59:40 AM	W38593
Carbon disulfide	ND	10		µg/L	1	11/10/2016 5:59:40 AM	W38593
Carbon Tetrachloride	ND	1.0		µg/L	1	11/10/2016 5:59:40 AM	W38593
Chlorobenzene	ND	1.0		µg/L	1	11/10/2016 5:59:40 AM	W38593
Chloroethane	ND	2.0		µg/L	1	11/10/2016 5:59:40 AM	W38593
Chloroform	ND	1.0		µg/L	1	11/10/2016 5:59:40 AM	W38593
Chloromethane	ND	3.0		µg/L	1	11/10/2016 5:59:40 AM	W38593
2-Chlorotoluene	ND	1.0		µg/L	1	11/10/2016 5:59:40 AM	W38593
4-Chlorotoluene	ND	1.0		µg/L	1	11/10/2016 5:59:40 AM	W38593
cis-1,2-DCE	ND	1.0		µg/L	1	11/10/2016 5:59:40 AM	W38593
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	11/10/2016 5:59:40 AM	W38593
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	11/10/2016 5:59:40 AM	W38593
Dibromochloromethane	ND	1.0		µg/L	1	11/10/2016 5:59:40 AM	W38593
Dibromomethane	ND	1.0		µg/L	1	11/10/2016 5:59:40 AM	W38593
1,2-Dichlorobenzene	ND	1.0		µg/L	1	11/10/2016 5:59:40 AM	W38593
1,3-Dichlorobenzene	ND	1.0		µg/L	1	11/10/2016 5:59:40 AM	W38593
1,4-Dichlorobenzene	ND	1.0		µg/L	1	11/10/2016 5:59:40 AM	W38593
Dichlorodifluoromethane	ND	1.0		µg/L	1	11/10/2016 5:59:40 AM	W38593
1,1-Dichloroethane	ND	1.0		µg/L	1	11/10/2016 5:59:40 AM	W38593
1,1-Dichloroethene	ND	1.0		µg/L	1	11/10/2016 5:59:40 AM	W38593
1,2-Dichloropropane	ND	1.0		µg/L	1	11/10/2016 5:59:40 AM	W38593

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Intera, Inc. **Client Sample ID:** MW-07
Project: Abq Railyard **Collection Date:** 11/4/2016 9:12:00 AM
Lab ID: 1611262-001 **Matrix:** AQUEOUS **Received Date:** 11/4/2016 3:30:00 PM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **DJF**	
1,3-Dichloropropane	ND	1.0		µg/L	1	11/10/2016 5:59:40 AM	W38593
2,2-Dichloropropane	ND	2.0		µg/L	1	11/10/2016 5:59:40 AM	W38593
1,1-Dichloropropene	ND	1.0		µg/L	1	11/10/2016 5:59:40 AM	W38593
Hexachlorobutadiene	ND	1.0		µg/L	1	11/10/2016 5:59:40 AM	W38593
2-Hexanone	ND	10		µg/L	1	11/10/2016 5:59:40 AM	W38593
Isopropylbenzene	ND	1.0		µg/L	1	11/10/2016 5:59:40 AM	W38593
4-Isopropyltoluene	ND	1.0		µg/L	1	11/10/2016 5:59:40 AM	W38593
4-Methyl-2-pentanone	ND	10		µg/L	1	11/10/2016 5:59:40 AM	W38593
Methylene Chloride	ND	3.0		µg/L	1	11/10/2016 5:59:40 AM	W38593
n-Butylbenzene	ND	3.0		µg/L	1	11/10/2016 5:59:40 AM	W38593
n-Propylbenzene	ND	1.0		µg/L	1	11/10/2016 5:59:40 AM	W38593
sec-Butylbenzene	ND	1.0		µg/L	1	11/10/2016 5:59:40 AM	W38593
Styrene	ND	1.0		µg/L	1	11/10/2016 5:59:40 AM	W38593
tert-Butylbenzene	ND	1.0		µg/L	1	11/10/2016 5:59:40 AM	W38593
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	11/10/2016 5:59:40 AM	W38593
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	11/10/2016 5:59:40 AM	W38593
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	11/10/2016 5:59:40 AM	W38593
trans-1,2-DCE	ND	1.0		µg/L	1	11/10/2016 5:59:40 AM	W38593
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	11/10/2016 5:59:40 AM	W38593
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	11/10/2016 5:59:40 AM	W38593
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	11/10/2016 5:59:40 AM	W38593
1,1,1-Trichloroethane	ND	1.0		µg/L	1	11/10/2016 5:59:40 AM	W38593
1,1,2-Trichloroethane	ND	1.0		µg/L	1	11/10/2016 5:59:40 AM	W38593
Trichloroethene (TCE)	ND	1.0		µg/L	1	11/10/2016 5:59:40 AM	W38593
Trichlorofluoromethane	ND	1.0		µg/L	1	11/10/2016 5:59:40 AM	W38593
1,2,3-Trichloropropane	ND	2.0		µg/L	1	11/10/2016 5:59:40 AM	W38593
Vinyl chloride	ND	1.0		µg/L	1	11/10/2016 5:59:40 AM	W38593
Xylenes, Total	ND	1.5		µg/L	1	11/10/2016 5:59:40 AM	W38593
Surr: 1,2-Dichloroethane-d4	93.6	70-130		%Rec	1	11/10/2016 5:59:40 AM	W38593
Surr: 4-Bromofluorobenzene	94.7	70-130		%Rec	1	11/10/2016 5:59:40 AM	W38593
Surr: Dibromofluoromethane	96.0	70-130		%Rec	1	11/10/2016 5:59:40 AM	W38593
Surr: Toluene-d8	96.2	70-130		%Rec	1	11/10/2016 5:59:40 AM	W38593

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Intera, Inc. **Client Sample ID:** MW-06
Project: Abq Railyard **Collection Date:** 11/4/2016 9:47:00 AM
Lab ID: 1611262-002 **Matrix:** AQUEOUS **Received Date:** 11/4/2016 3:30:00 PM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8011/504.1: EDB						Analyst: **JME**	
1,2-Dibromoethane	ND	0.010		µg/L	1	11/10/2016 3:58:16 PM	28583
EPA METHOD 8260B: VOLATILES						Analyst: **DJF**	
Benzene	ND	1.0		µg/L	1	11/10/2016 6:28:08 AM	W38593
Toluene	ND	1.0		µg/L	1	11/10/2016 6:28:08 AM	W38593
Ethylbenzene	ND	1.0		µg/L	1	11/10/2016 6:28:08 AM	W38593
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	11/10/2016 6:28:08 AM	W38593
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	11/10/2016 6:28:08 AM	W38593
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	11/10/2016 6:28:08 AM	W38593
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	11/10/2016 6:28:08 AM	W38593
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	11/10/2016 6:28:08 AM	W38593
Naphthalene	ND	2.0		µg/L	1	11/10/2016 6:28:08 AM	W38593
1-Methylnaphthalene	ND	4.0		µg/L	1	11/10/2016 6:28:08 AM	W38593
2-Methylnaphthalene	ND	4.0		µg/L	1	11/10/2016 6:28:08 AM	W38593
Acetone	ND	10		µg/L	1	11/10/2016 6:28:08 AM	W38593
Bromobenzene	ND	1.0		µg/L	1	11/10/2016 6:28:08 AM	W38593
Bromodichloromethane	ND	1.0		µg/L	1	11/10/2016 6:28:08 AM	W38593
Bromoform	ND	1.0		µg/L	1	11/10/2016 6:28:08 AM	W38593
Bromomethane	ND	3.0		µg/L	1	11/10/2016 6:28:08 AM	W38593
2-Butanone	ND	10		µg/L	1	11/10/2016 6:28:08 AM	W38593
Carbon disulfide	ND	10		µg/L	1	11/10/2016 6:28:08 AM	W38593
Carbon Tetrachloride	ND	1.0		µg/L	1	11/10/2016 6:28:08 AM	W38593
Chlorobenzene	ND	1.0		µg/L	1	11/10/2016 6:28:08 AM	W38593
Chloroethane	ND	2.0		µg/L	1	11/10/2016 6:28:08 AM	W38593
Chloroform	ND	1.0		µg/L	1	11/10/2016 6:28:08 AM	W38593
Chloromethane	ND	3.0		µg/L	1	11/10/2016 6:28:08 AM	W38593
2-Chlorotoluene	ND	1.0		µg/L	1	11/10/2016 6:28:08 AM	W38593
4-Chlorotoluene	ND	1.0		µg/L	1	11/10/2016 6:28:08 AM	W38593
cis-1,2-DCE	ND	1.0		µg/L	1	11/10/2016 6:28:08 AM	W38593
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	11/10/2016 6:28:08 AM	W38593
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	11/10/2016 6:28:08 AM	W38593
Dibromochloromethane	ND	1.0		µg/L	1	11/10/2016 6:28:08 AM	W38593
Dibromomethane	ND	1.0		µg/L	1	11/10/2016 6:28:08 AM	W38593
1,2-Dichlorobenzene	ND	1.0		µg/L	1	11/10/2016 6:28:08 AM	W38593
1,3-Dichlorobenzene	ND	1.0		µg/L	1	11/10/2016 6:28:08 AM	W38593
1,4-Dichlorobenzene	ND	1.0		µg/L	1	11/10/2016 6:28:08 AM	W38593
Dichlorodifluoromethane	ND	1.0		µg/L	1	11/10/2016 6:28:08 AM	W38593
1,1-Dichloroethane	ND	1.0		µg/L	1	11/10/2016 6:28:08 AM	W38593
1,1-Dichloroethene	ND	1.0		µg/L	1	11/10/2016 6:28:08 AM	W38593
1,2-Dichloropropane	ND	1.0		µg/L	1	11/10/2016 6:28:08 AM	W38593

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Intera, Inc. **Client Sample ID:** MW-06
Project: Abq Railyard **Collection Date:** 11/4/2016 9:47:00 AM
Lab ID: 1611262-002 **Matrix:** AQUEOUS **Received Date:** 11/4/2016 3:30:00 PM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **DJF**	
1,3-Dichloropropane	ND	1.0		µg/L	1	11/10/2016 6:28:08 AM	W38593
2,2-Dichloropropane	ND	2.0		µg/L	1	11/10/2016 6:28:08 AM	W38593
1,1-Dichloropropene	ND	1.0		µg/L	1	11/10/2016 6:28:08 AM	W38593
Hexachlorobutadiene	ND	1.0		µg/L	1	11/10/2016 6:28:08 AM	W38593
2-Hexanone	ND	10		µg/L	1	11/10/2016 6:28:08 AM	W38593
Isopropylbenzene	ND	1.0		µg/L	1	11/10/2016 6:28:08 AM	W38593
4-Isopropyltoluene	ND	1.0		µg/L	1	11/10/2016 6:28:08 AM	W38593
4-Methyl-2-pentanone	ND	10		µg/L	1	11/10/2016 6:28:08 AM	W38593
Methylene Chloride	ND	3.0		µg/L	1	11/10/2016 6:28:08 AM	W38593
n-Butylbenzene	ND	3.0		µg/L	1	11/10/2016 6:28:08 AM	W38593
n-Propylbenzene	ND	1.0		µg/L	1	11/10/2016 6:28:08 AM	W38593
sec-Butylbenzene	ND	1.0		µg/L	1	11/10/2016 6:28:08 AM	W38593
Styrene	ND	1.0		µg/L	1	11/10/2016 6:28:08 AM	W38593
tert-Butylbenzene	ND	1.0		µg/L	1	11/10/2016 6:28:08 AM	W38593
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	11/10/2016 6:28:08 AM	W38593
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	11/10/2016 6:28:08 AM	W38593
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	11/10/2016 6:28:08 AM	W38593
trans-1,2-DCE	ND	1.0		µg/L	1	11/10/2016 6:28:08 AM	W38593
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	11/10/2016 6:28:08 AM	W38593
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	11/10/2016 6:28:08 AM	W38593
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	11/10/2016 6:28:08 AM	W38593
1,1,1-Trichloroethane	ND	1.0		µg/L	1	11/10/2016 6:28:08 AM	W38593
1,1,2-Trichloroethane	ND	1.0		µg/L	1	11/10/2016 6:28:08 AM	W38593
Trichloroethene (TCE)	ND	1.0		µg/L	1	11/10/2016 6:28:08 AM	W38593
Trichlorofluoromethane	ND	1.0		µg/L	1	11/10/2016 6:28:08 AM	W38593
1,2,3-Trichloropropane	ND	2.0		µg/L	1	11/10/2016 6:28:08 AM	W38593
Vinyl chloride	ND	1.0		µg/L	1	11/10/2016 6:28:08 AM	W38593
Xylenes, Total	ND	1.5		µg/L	1	11/10/2016 6:28:08 AM	W38593
Surr: 1,2-Dichloroethane-d4	91.3	70-130		%Rec	1	11/10/2016 6:28:08 AM	W38593
Surr: 4-Bromofluorobenzene	94.2	70-130		%Rec	1	11/10/2016 6:28:08 AM	W38593
Surr: Dibromofluoromethane	95.4	70-130		%Rec	1	11/10/2016 6:28:08 AM	W38593
Surr: Toluene-d8	97.1	70-130		%Rec	1	11/10/2016 6:28:08 AM	W38593

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Intera, Inc. **Client Sample ID:** MW-08
Project: Abq Railyard **Collection Date:** 11/4/2016 11:45:00 AM
Lab ID: 1611262-003 **Matrix:** AQUEOUS **Received Date:** 11/4/2016 3:30:00 PM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8011/504.1: EDB						Analyst: **JME**	
1,2-Dibromoethane	ND	0.010		µg/L	1	11/10/2016 4:13:20 PM	28583
EPA METHOD 8260B: VOLATILES						Analyst: **DJF**	
Benzene	ND	1.0		µg/L	1	11/10/2016 6:56:36 AM	W38593
Toluene	ND	1.0		µg/L	1	11/10/2016 6:56:36 AM	W38593
Ethylbenzene	ND	1.0		µg/L	1	11/10/2016 6:56:36 AM	W38593
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	11/10/2016 6:56:36 AM	W38593
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	11/10/2016 6:56:36 AM	W38593
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	11/10/2016 6:56:36 AM	W38593
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	11/10/2016 6:56:36 AM	W38593
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	11/10/2016 6:56:36 AM	W38593
Naphthalene	ND	2.0		µg/L	1	11/10/2016 6:56:36 AM	W38593
1-Methylnaphthalene	ND	4.0		µg/L	1	11/10/2016 6:56:36 AM	W38593
2-Methylnaphthalene	ND	4.0		µg/L	1	11/10/2016 6:56:36 AM	W38593
Acetone	ND	10		µg/L	1	11/10/2016 6:56:36 AM	W38593
Bromobenzene	ND	1.0		µg/L	1	11/10/2016 6:56:36 AM	W38593
Bromodichloromethane	ND	1.0		µg/L	1	11/10/2016 6:56:36 AM	W38593
Bromoform	ND	1.0		µg/L	1	11/10/2016 6:56:36 AM	W38593
Bromomethane	ND	3.0		µg/L	1	11/10/2016 6:56:36 AM	W38593
2-Butanone	ND	10		µg/L	1	11/10/2016 6:56:36 AM	W38593
Carbon disulfide	ND	10		µg/L	1	11/10/2016 6:56:36 AM	W38593
Carbon Tetrachloride	ND	1.0		µg/L	1	11/10/2016 6:56:36 AM	W38593
Chlorobenzene	ND	1.0		µg/L	1	11/10/2016 6:56:36 AM	W38593
Chloroethane	ND	2.0		µg/L	1	11/10/2016 6:56:36 AM	W38593
Chloroform	ND	1.0		µg/L	1	11/10/2016 6:56:36 AM	W38593
Chloromethane	ND	3.0		µg/L	1	11/10/2016 6:56:36 AM	W38593
2-Chlorotoluene	ND	1.0		µg/L	1	11/10/2016 6:56:36 AM	W38593
4-Chlorotoluene	ND	1.0		µg/L	1	11/10/2016 6:56:36 AM	W38593
cis-1,2-DCE	ND	1.0		µg/L	1	11/10/2016 6:56:36 AM	W38593
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	11/10/2016 6:56:36 AM	W38593
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	11/10/2016 6:56:36 AM	W38593
Dibromochloromethane	ND	1.0		µg/L	1	11/10/2016 6:56:36 AM	W38593
Dibromomethane	ND	1.0		µg/L	1	11/10/2016 6:56:36 AM	W38593
1,2-Dichlorobenzene	ND	1.0		µg/L	1	11/10/2016 6:56:36 AM	W38593
1,3-Dichlorobenzene	ND	1.0		µg/L	1	11/10/2016 6:56:36 AM	W38593
1,4-Dichlorobenzene	ND	1.0		µg/L	1	11/10/2016 6:56:36 AM	W38593
Dichlorodifluoromethane	ND	1.0		µg/L	1	11/10/2016 6:56:36 AM	W38593
1,1-Dichloroethane	ND	1.0		µg/L	1	11/10/2016 6:56:36 AM	W38593
1,1-Dichloroethene	ND	1.0		µg/L	1	11/10/2016 6:56:36 AM	W38593
1,2-Dichloropropane	ND	1.0		µg/L	1	11/10/2016 6:56:36 AM	W38593

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Intera, Inc. **Client Sample ID:** MW-08
Project: Abq Railyard **Collection Date:** 11/4/2016 11:45:00 AM
Lab ID: 1611262-003 **Matrix:** AQUEOUS **Received Date:** 11/4/2016 3:30:00 PM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **DJF**	
1,3-Dichloropropane	ND	1.0		µg/L	1	11/10/2016 6:56:36 AM	W38593
2,2-Dichloropropane	ND	2.0		µg/L	1	11/10/2016 6:56:36 AM	W38593
1,1-Dichloropropene	ND	1.0		µg/L	1	11/10/2016 6:56:36 AM	W38593
Hexachlorobutadiene	ND	1.0		µg/L	1	11/10/2016 6:56:36 AM	W38593
2-Hexanone	ND	10		µg/L	1	11/10/2016 6:56:36 AM	W38593
Isopropylbenzene	ND	1.0		µg/L	1	11/10/2016 6:56:36 AM	W38593
4-Isopropyltoluene	ND	1.0		µg/L	1	11/10/2016 6:56:36 AM	W38593
4-Methyl-2-pentanone	ND	10		µg/L	1	11/10/2016 6:56:36 AM	W38593
Methylene Chloride	ND	3.0		µg/L	1	11/10/2016 6:56:36 AM	W38593
n-Butylbenzene	ND	3.0		µg/L	1	11/10/2016 6:56:36 AM	W38593
n-Propylbenzene	ND	1.0		µg/L	1	11/10/2016 6:56:36 AM	W38593
sec-Butylbenzene	ND	1.0		µg/L	1	11/10/2016 6:56:36 AM	W38593
Styrene	ND	1.0		µg/L	1	11/10/2016 6:56:36 AM	W38593
tert-Butylbenzene	ND	1.0		µg/L	1	11/10/2016 6:56:36 AM	W38593
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	11/10/2016 6:56:36 AM	W38593
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	11/10/2016 6:56:36 AM	W38593
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	11/10/2016 6:56:36 AM	W38593
trans-1,2-DCE	ND	1.0		µg/L	1	11/10/2016 6:56:36 AM	W38593
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	11/10/2016 6:56:36 AM	W38593
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	11/10/2016 6:56:36 AM	W38593
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	11/10/2016 6:56:36 AM	W38593
1,1,1-Trichloroethane	ND	1.0		µg/L	1	11/10/2016 6:56:36 AM	W38593
1,1,2-Trichloroethane	ND	1.0		µg/L	1	11/10/2016 6:56:36 AM	W38593
Trichloroethene (TCE)	ND	1.0		µg/L	1	11/10/2016 6:56:36 AM	W38593
Trichlorofluoromethane	ND	1.0		µg/L	1	11/10/2016 6:56:36 AM	W38593
1,2,3-Trichloropropane	ND	2.0		µg/L	1	11/10/2016 6:56:36 AM	W38593
Vinyl chloride	ND	1.0		µg/L	1	11/10/2016 6:56:36 AM	W38593
Xylenes, Total	ND	1.5		µg/L	1	11/10/2016 6:56:36 AM	W38593
Surr: 1,2-Dichloroethane-d4	91.5	70-130		%Rec	1	11/10/2016 6:56:36 AM	W38593
Surr: 4-Bromofluorobenzene	91.0	70-130		%Rec	1	11/10/2016 6:56:36 AM	W38593
Surr: Dibromofluoromethane	93.5	70-130		%Rec	1	11/10/2016 6:56:36 AM	W38593
Surr: Toluene-d8	96.1	70-130		%Rec	1	11/10/2016 6:56:36 AM	W38593

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Intera, Inc. **Client Sample ID:** MW-02
Project: Abq Railyard **Collection Date:** 11/4/2016 1:10:00 PM
Lab ID: 1611262-004 **Matrix:** AQUEOUS **Received Date:** 11/4/2016 3:30:00 PM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8011/504.1: EDB						Analyst: **JME**	
1,2-Dibromoethane	ND	0.010		µg/L	1	11/10/2016 4:28:21 PM	28583
EPA METHOD 8260B: VOLATILES						Analyst: **DJF**	
Benzene	ND	1.0		µg/L	1	11/10/2016 7:24:53 AM	W38593
Toluene	ND	1.0		µg/L	1	11/10/2016 7:24:53 AM	W38593
Ethylbenzene	ND	1.0		µg/L	1	11/10/2016 7:24:53 AM	W38593
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	11/10/2016 7:24:53 AM	W38593
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	11/10/2016 7:24:53 AM	W38593
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	11/10/2016 7:24:53 AM	W38593
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	11/10/2016 7:24:53 AM	W38593
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	11/10/2016 7:24:53 AM	W38593
Naphthalene	ND	2.0		µg/L	1	11/10/2016 7:24:53 AM	W38593
1-Methylnaphthalene	ND	4.0		µg/L	1	11/10/2016 7:24:53 AM	W38593
2-Methylnaphthalene	ND	4.0		µg/L	1	11/10/2016 7:24:53 AM	W38593
Acetone	ND	10		µg/L	1	11/10/2016 7:24:53 AM	W38593
Bromobenzene	ND	1.0		µg/L	1	11/10/2016 7:24:53 AM	W38593
Bromodichloromethane	ND	1.0		µg/L	1	11/10/2016 7:24:53 AM	W38593
Bromoform	ND	1.0		µg/L	1	11/10/2016 7:24:53 AM	W38593
Bromomethane	ND	3.0		µg/L	1	11/10/2016 7:24:53 AM	W38593
2-Butanone	ND	10		µg/L	1	11/10/2016 7:24:53 AM	W38593
Carbon disulfide	ND	10		µg/L	1	11/10/2016 7:24:53 AM	W38593
Carbon Tetrachloride	ND	1.0		µg/L	1	11/10/2016 7:24:53 AM	W38593
Chlorobenzene	ND	1.0		µg/L	1	11/10/2016 7:24:53 AM	W38593
Chloroethane	ND	2.0		µg/L	1	11/10/2016 7:24:53 AM	W38593
Chloroform	ND	1.0		µg/L	1	11/10/2016 7:24:53 AM	W38593
Chloromethane	ND	3.0		µg/L	1	11/10/2016 7:24:53 AM	W38593
2-Chlorotoluene	ND	1.0		µg/L	1	11/10/2016 7:24:53 AM	W38593
4-Chlorotoluene	ND	1.0		µg/L	1	11/10/2016 7:24:53 AM	W38593
cis-1,2-DCE	ND	1.0		µg/L	1	11/10/2016 7:24:53 AM	W38593
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	11/10/2016 7:24:53 AM	W38593
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	11/10/2016 7:24:53 AM	W38593
Dibromochloromethane	ND	1.0		µg/L	1	11/10/2016 7:24:53 AM	W38593
Dibromomethane	ND	1.0		µg/L	1	11/10/2016 7:24:53 AM	W38593
1,2-Dichlorobenzene	ND	1.0		µg/L	1	11/10/2016 7:24:53 AM	W38593
1,3-Dichlorobenzene	ND	1.0		µg/L	1	11/10/2016 7:24:53 AM	W38593
1,4-Dichlorobenzene	ND	1.0		µg/L	1	11/10/2016 7:24:53 AM	W38593
Dichlorodifluoromethane	ND	1.0		µg/L	1	11/10/2016 7:24:53 AM	W38593
1,1-Dichloroethane	ND	1.0		µg/L	1	11/10/2016 7:24:53 AM	W38593
1,1-Dichloroethene	ND	1.0		µg/L	1	11/10/2016 7:24:53 AM	W38593
1,2-Dichloropropane	ND	1.0		µg/L	1	11/10/2016 7:24:53 AM	W38593

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Intera, Inc. **Client Sample ID:** MW-02
Project: Abq Railyard **Collection Date:** 11/4/2016 1:10:00 PM
Lab ID: 1611262-004 **Matrix:** AQUEOUS **Received Date:** 11/4/2016 3:30:00 PM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **DJF**	
1,3-Dichloropropane	ND	1.0		µg/L	1	11/10/2016 7:24:53 AM	W38593
2,2-Dichloropropane	ND	2.0		µg/L	1	11/10/2016 7:24:53 AM	W38593
1,1-Dichloropropene	ND	1.0		µg/L	1	11/10/2016 7:24:53 AM	W38593
Hexachlorobutadiene	ND	1.0		µg/L	1	11/10/2016 7:24:53 AM	W38593
2-Hexanone	ND	10		µg/L	1	11/10/2016 7:24:53 AM	W38593
Isopropylbenzene	ND	1.0		µg/L	1	11/10/2016 7:24:53 AM	W38593
4-Isopropyltoluene	ND	1.0		µg/L	1	11/10/2016 7:24:53 AM	W38593
4-Methyl-2-pentanone	ND	10		µg/L	1	11/10/2016 7:24:53 AM	W38593
Methylene Chloride	ND	3.0		µg/L	1	11/10/2016 7:24:53 AM	W38593
n-Butylbenzene	ND	3.0		µg/L	1	11/10/2016 7:24:53 AM	W38593
n-Propylbenzene	ND	1.0		µg/L	1	11/10/2016 7:24:53 AM	W38593
sec-Butylbenzene	ND	1.0		µg/L	1	11/10/2016 7:24:53 AM	W38593
Styrene	ND	1.0		µg/L	1	11/10/2016 7:24:53 AM	W38593
tert-Butylbenzene	ND	1.0		µg/L	1	11/10/2016 7:24:53 AM	W38593
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	11/10/2016 7:24:53 AM	W38593
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	11/10/2016 7:24:53 AM	W38593
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	11/10/2016 7:24:53 AM	W38593
trans-1,2-DCE	ND	1.0		µg/L	1	11/10/2016 7:24:53 AM	W38593
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	11/10/2016 7:24:53 AM	W38593
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	11/10/2016 7:24:53 AM	W38593
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	11/10/2016 7:24:53 AM	W38593
1,1,1-Trichloroethane	ND	1.0		µg/L	1	11/10/2016 7:24:53 AM	W38593
1,1,2-Trichloroethane	ND	1.0		µg/L	1	11/10/2016 7:24:53 AM	W38593
Trichloroethene (TCE)	ND	1.0		µg/L	1	11/10/2016 7:24:53 AM	W38593
Trichlorofluoromethane	ND	1.0		µg/L	1	11/10/2016 7:24:53 AM	W38593
1,2,3-Trichloropropane	ND	2.0		µg/L	1	11/10/2016 7:24:53 AM	W38593
Vinyl chloride	ND	1.0		µg/L	1	11/10/2016 7:24:53 AM	W38593
Xylenes, Total	ND	1.5		µg/L	1	11/10/2016 7:24:53 AM	W38593
Surr: 1,2-Dichloroethane-d4	91.3	70-130		%Rec	1	11/10/2016 7:24:53 AM	W38593
Surr: 4-Bromofluorobenzene	94.7	70-130		%Rec	1	11/10/2016 7:24:53 AM	W38593
Surr: Dibromofluoromethane	91.4	70-130		%Rec	1	11/10/2016 7:24:53 AM	W38593
Surr: Toluene-d8	97.6	70-130		%Rec	1	11/10/2016 7:24:53 AM	W38593

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Intera, Inc. **Client Sample ID:** MW-01
Project: Abq Railyard **Collection Date:** 11/4/2016 1:35:00 PM
Lab ID: 1611262-005 **Matrix:** AQUEOUS **Received Date:** 11/4/2016 3:30:00 PM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8011/504.1: EDB						Analyst: **JME**	
1,2-Dibromoethane	ND	0.010		µg/L	1	11/10/2016 4:43:21 PM	28583
EPA METHOD 8260B: VOLATILES						Analyst: **DJF**	
Benzene	ND	1.0		µg/L	1	11/11/2016 11:18:08 AM	W38603
Toluene	ND	1.0		µg/L	1	11/11/2016 11:18:08 AM	W38603
Ethylbenzene	ND	1.0		µg/L	1	11/11/2016 11:18:08 AM	W38603
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	11/11/2016 11:18:08 AM	W38603
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	11/11/2016 11:18:08 AM	W38603
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	11/11/2016 11:18:08 AM	W38603
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	11/11/2016 11:18:08 AM	W38603
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	11/11/2016 11:18:08 AM	W38603
Naphthalene	34	2.0		µg/L	1	11/11/2016 11:18:08 AM	W38603
1-Methylnaphthalene	11	4.0		µg/L	1	11/11/2016 11:18:08 AM	W38603
2-Methylnaphthalene	11	4.0		µg/L	1	11/11/2016 11:18:08 AM	W38603
Acetone	ND	10		µg/L	1	11/11/2016 11:18:08 AM	W38603
Bromobenzene	ND	1.0		µg/L	1	11/11/2016 11:18:08 AM	W38603
Bromodichloromethane	ND	1.0		µg/L	1	11/11/2016 11:18:08 AM	W38603
Bromoform	ND	1.0		µg/L	1	11/11/2016 11:18:08 AM	W38603
Bromomethane	ND	3.0		µg/L	1	11/11/2016 11:18:08 AM	W38603
2-Butanone	ND	10		µg/L	1	11/11/2016 11:18:08 AM	W38603
Carbon disulfide	ND	10		µg/L	1	11/11/2016 11:18:08 AM	W38603
Carbon Tetrachloride	ND	1.0		µg/L	1	11/11/2016 11:18:08 AM	W38603
Chlorobenzene	ND	1.0		µg/L	1	11/11/2016 11:18:08 AM	W38603
Chloroethane	ND	2.0		µg/L	1	11/11/2016 11:18:08 AM	W38603
Chloroform	ND	1.0		µg/L	1	11/11/2016 11:18:08 AM	W38603
Chloromethane	ND	3.0		µg/L	1	11/11/2016 11:18:08 AM	W38603
2-Chlorotoluene	ND	1.0		µg/L	1	11/11/2016 11:18:08 AM	W38603
4-Chlorotoluene	ND	1.0		µg/L	1	11/11/2016 11:18:08 AM	W38603
cis-1,2-DCE	ND	1.0		µg/L	1	11/11/2016 11:18:08 AM	W38603
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	11/11/2016 11:18:08 AM	W38603
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	11/11/2016 11:18:08 AM	W38603
Dibromochloromethane	ND	1.0		µg/L	1	11/11/2016 11:18:08 AM	W38603
Dibromomethane	ND	1.0		µg/L	1	11/11/2016 11:18:08 AM	W38603
1,2-Dichlorobenzene	ND	1.0		µg/L	1	11/11/2016 11:18:08 AM	W38603
1,3-Dichlorobenzene	ND	1.0		µg/L	1	11/11/2016 11:18:08 AM	W38603
1,4-Dichlorobenzene	ND	1.0		µg/L	1	11/11/2016 11:18:08 AM	W38603
Dichlorodifluoromethane	ND	1.0		µg/L	1	11/11/2016 11:18:08 AM	W38603
1,1-Dichloroethane	ND	1.0		µg/L	1	11/11/2016 11:18:08 AM	W38603
1,1-Dichloroethene	ND	1.0		µg/L	1	11/11/2016 11:18:08 AM	W38603
1,2-Dichloropropane	ND	1.0		µg/L	1	11/11/2016 11:18:08 AM	W38603

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Intera, Inc. **Client Sample ID:** MW-01
Project: Abq Railyard **Collection Date:** 11/4/2016 1:35:00 PM
Lab ID: 1611262-005 **Matrix:** AQUEOUS **Received Date:** 11/4/2016 3:30:00 PM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **DJF**	
1,3-Dichloropropane	ND	1.0		µg/L	1	11/11/2016 11:18:08 AM	W38603
2,2-Dichloropropane	ND	2.0		µg/L	1	11/11/2016 11:18:08 AM	W38603
1,1-Dichloropropene	ND	1.0		µg/L	1	11/11/2016 11:18:08 AM	W38603
Hexachlorobutadiene	ND	1.0		µg/L	1	11/11/2016 11:18:08 AM	W38603
2-Hexanone	ND	10		µg/L	1	11/11/2016 11:18:08 AM	W38603
Isopropylbenzene	32	1.0		µg/L	1	11/11/2016 11:18:08 AM	W38603
4-Isopropyltoluene	ND	1.0		µg/L	1	11/11/2016 11:18:08 AM	W38603
4-Methyl-2-pentanone	ND	10		µg/L	1	11/11/2016 11:18:08 AM	W38603
Methylene Chloride	ND	3.0		µg/L	1	11/11/2016 11:18:08 AM	W38603
n-Butylbenzene	8.7	3.0		µg/L	1	11/11/2016 11:18:08 AM	W38603
n-Propylbenzene	76	1.0		µg/L	1	11/11/2016 11:18:08 AM	W38603
sec-Butylbenzene	5.8	1.0		µg/L	1	11/11/2016 11:18:08 AM	W38603
Styrene	ND	1.0		µg/L	1	11/11/2016 11:18:08 AM	W38603
tert-Butylbenzene	1.2	1.0		µg/L	1	11/11/2016 11:18:08 AM	W38603
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	11/11/2016 11:18:08 AM	W38603
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	11/11/2016 11:18:08 AM	W38603
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	11/11/2016 11:18:08 AM	W38603
trans-1,2-DCE	ND	1.0		µg/L	1	11/11/2016 11:18:08 AM	W38603
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	11/11/2016 11:18:08 AM	W38603
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	11/11/2016 11:18:08 AM	W38603
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	11/11/2016 11:18:08 AM	W38603
1,1,1-Trichloroethane	ND	1.0		µg/L	1	11/11/2016 11:18:08 AM	W38603
1,1,2-Trichloroethane	ND	1.0		µg/L	1	11/11/2016 11:18:08 AM	W38603
Trichloroethene (TCE)	ND	1.0		µg/L	1	11/11/2016 11:18:08 AM	W38603
Trichlorofluoromethane	ND	1.0		µg/L	1	11/11/2016 11:18:08 AM	W38603
1,2,3-Trichloropropane	ND	2.0		µg/L	1	11/11/2016 11:18:08 AM	W38603
Vinyl chloride	ND	1.0		µg/L	1	11/11/2016 11:18:08 AM	W38603
Xylenes, Total	ND	1.5		µg/L	1	11/11/2016 11:18:08 AM	W38603
Surr: 1,2-Dichloroethane-d4	103	70-130		%Rec	1	11/11/2016 11:18:08 AM	W38603
Surr: 4-Bromofluorobenzene	104	70-130		%Rec	1	11/11/2016 11:18:08 AM	W38603
Surr: Dibromofluoromethane	104	70-130		%Rec	1	11/11/2016 11:18:08 AM	W38603
Surr: Toluene-d8	96.6	70-130		%Rec	1	11/11/2016 11:18:08 AM	W38603

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Intera, Inc. **Client Sample ID:** MW-03
Project: Abq Railyard **Collection Date:** 11/4/2016 2:02:00 PM
Lab ID: 1611262-006 **Matrix:** AQUEOUS **Received Date:** 11/4/2016 3:30:00 PM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8011/504.1: EDB						Analyst: **JME**	
1,2-Dibromoethane	ND	0.010		µg/L	1	11/10/2016 4:58:18 PM	28583
EPA METHOD 8260B: VOLATILES						Analyst: **DJF**	
Benzene	8.8	1.0		µg/L	1	11/11/2016 12:44:14 PM	W38603
Toluene	ND	1.0		µg/L	1	11/11/2016 12:44:14 PM	W38603
Ethylbenzene	ND	1.0		µg/L	1	11/11/2016 12:44:14 PM	W38603
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	11/11/2016 12:44:14 PM	W38603
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	11/11/2016 12:44:14 PM	W38603
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	11/11/2016 12:44:14 PM	W38603
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	11/11/2016 12:44:14 PM	W38603
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	11/11/2016 12:44:14 PM	W38603
Naphthalene	2.2	2.0		µg/L	1	11/11/2016 12:44:14 PM	W38603
1-Methylnaphthalene	100	20		µg/L	5	11/11/2016 4:42:33 AM	W38603
2-Methylnaphthalene	120	20		µg/L	5	11/11/2016 4:42:33 AM	W38603
Acetone	ND	10		µg/L	1	11/11/2016 12:44:14 PM	W38603
Bromobenzene	ND	1.0		µg/L	1	11/11/2016 12:44:14 PM	W38603
Bromodichloromethane	ND	1.0		µg/L	1	11/11/2016 12:44:14 PM	W38603
Bromoform	ND	1.0		µg/L	1	11/11/2016 12:44:14 PM	W38603
Bromomethane	ND	3.0		µg/L	1	11/11/2016 12:44:14 PM	W38603
2-Butanone	ND	10		µg/L	1	11/11/2016 12:44:14 PM	W38603
Carbon disulfide	ND	10		µg/L	1	11/11/2016 12:44:14 PM	W38603
Carbon Tetrachloride	ND	1.0		µg/L	1	11/11/2016 12:44:14 PM	W38603
Chlorobenzene	ND	1.0		µg/L	1	11/11/2016 12:44:14 PM	W38603
Chloroethane	ND	2.0		µg/L	1	11/11/2016 12:44:14 PM	W38603
Chloroform	ND	1.0		µg/L	1	11/11/2016 12:44:14 PM	W38603
Chloromethane	ND	3.0		µg/L	1	11/11/2016 12:44:14 PM	W38603
2-Chlorotoluene	ND	1.0		µg/L	1	11/11/2016 12:44:14 PM	W38603
4-Chlorotoluene	ND	1.0		µg/L	1	11/11/2016 12:44:14 PM	W38603
cis-1,2-DCE	ND	1.0		µg/L	1	11/11/2016 12:44:14 PM	W38603
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	11/11/2016 12:44:14 PM	W38603
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	11/11/2016 12:44:14 PM	W38603
Dibromochloromethane	ND	1.0		µg/L	1	11/11/2016 12:44:14 PM	W38603
Dibromomethane	ND	1.0		µg/L	1	11/11/2016 12:44:14 PM	W38603
1,2-Dichlorobenzene	ND	1.0		µg/L	1	11/11/2016 12:44:14 PM	W38603
1,3-Dichlorobenzene	ND	1.0		µg/L	1	11/11/2016 12:44:14 PM	W38603
1,4-Dichlorobenzene	ND	1.0		µg/L	1	11/11/2016 12:44:14 PM	W38603
Dichlorodifluoromethane	ND	1.0		µg/L	1	11/11/2016 12:44:14 PM	W38603
1,1-Dichloroethane	ND	1.0		µg/L	1	11/11/2016 12:44:14 PM	W38603
1,1-Dichloroethene	ND	1.0		µg/L	1	11/11/2016 12:44:14 PM	W38603
1,2-Dichloropropane	ND	1.0		µg/L	1	11/11/2016 12:44:14 PM	W38603

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Intera, Inc. **Client Sample ID:** MW-03
Project: Abq Railyard **Collection Date:** 11/4/2016 2:02:00 PM
Lab ID: 1611262-006 **Matrix:** AQUEOUS **Received Date:** 11/4/2016 3:30:00 PM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **DJF**	
1,3-Dichloropropane	ND	1.0		µg/L	1	11/11/2016 12:44:14 PM	W38603
2,2-Dichloropropane	ND	2.0		µg/L	1	11/11/2016 12:44:14 PM	W38603
1,1-Dichloropropene	ND	1.0		µg/L	1	11/11/2016 12:44:14 PM	W38603
Hexachlorobutadiene	ND	1.0		µg/L	1	11/11/2016 12:44:14 PM	W38603
2-Hexanone	ND	10		µg/L	1	11/11/2016 12:44:14 PM	W38603
Isopropylbenzene	6.7	1.0		µg/L	1	11/11/2016 12:44:14 PM	W38603
4-Isopropyltoluene	ND	1.0		µg/L	1	11/11/2016 12:44:14 PM	W38603
4-Methyl-2-pentanone	ND	10		µg/L	1	11/11/2016 12:44:14 PM	W38603
Methylene Chloride	ND	3.0		µg/L	1	11/11/2016 12:44:14 PM	W38603
n-Butylbenzene	3.3	3.0		µg/L	1	11/11/2016 12:44:14 PM	W38603
n-Propylbenzene	15	1.0		µg/L	1	11/11/2016 12:44:14 PM	W38603
sec-Butylbenzene	2.1	1.0		µg/L	1	11/11/2016 12:44:14 PM	W38603
Styrene	ND	1.0		µg/L	1	11/11/2016 12:44:14 PM	W38603
tert-Butylbenzene	ND	1.0		µg/L	1	11/11/2016 12:44:14 PM	W38603
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	11/11/2016 12:44:14 PM	W38603
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	11/11/2016 12:44:14 PM	W38603
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	11/11/2016 12:44:14 PM	W38603
trans-1,2-DCE	ND	1.0		µg/L	1	11/11/2016 12:44:14 PM	W38603
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	11/11/2016 12:44:14 PM	W38603
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	11/11/2016 12:44:14 PM	W38603
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	11/11/2016 12:44:14 PM	W38603
1,1,1-Trichloroethane	ND	1.0		µg/L	1	11/11/2016 12:44:14 PM	W38603
1,1,2-Trichloroethane	ND	1.0		µg/L	1	11/11/2016 12:44:14 PM	W38603
Trichloroethene (TCE)	ND	1.0		µg/L	1	11/11/2016 12:44:14 PM	W38603
Trichlorofluoromethane	ND	1.0		µg/L	1	11/11/2016 12:44:14 PM	W38603
1,2,3-Trichloropropane	ND	2.0		µg/L	1	11/11/2016 12:44:14 PM	W38603
Vinyl chloride	ND	1.0		µg/L	1	11/11/2016 12:44:14 PM	W38603
Xylenes, Total	ND	1.5		µg/L	1	11/11/2016 12:44:14 PM	W38603
Surr: 1,2-Dichloroethane-d4	91.7	70-130		%Rec	1	11/11/2016 12:44:14 PM	W38603
Surr: 4-Bromofluorobenzene	97.8	70-130		%Rec	1	11/11/2016 12:44:14 PM	W38603
Surr: Dibromofluoromethane	91.2	70-130		%Rec	1	11/11/2016 12:44:14 PM	W38603
Surr: Toluene-d8	96.7	70-130		%Rec	1	11/11/2016 12:44:14 PM	W38603

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Intera, Inc. **Client Sample ID:** MW-04
Project: Abq Railyard **Collection Date:** 11/4/2016 2:27:00 PM
Lab ID: 1611262-007 **Matrix:** AQUEOUS **Received Date:** 11/4/2016 3:30:00 PM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8011/504.1: EDB						Analyst: **JME**	
1,2-Dibromoethane	ND	0.010		µg/L	1	11/10/2016 5:13:26 PM	28583
EPA METHOD 8260B: VOLATILES						Analyst: **DJF**	
Benzene	ND	1.0		µg/L	1	11/11/2016 1:12:59 PM	W38603
Toluene	ND	1.0		µg/L	1	11/11/2016 1:12:59 PM	W38603
Ethylbenzene	ND	1.0		µg/L	1	11/11/2016 1:12:59 PM	W38603
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	11/11/2016 1:12:59 PM	W38603
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	11/11/2016 1:12:59 PM	W38603
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	11/11/2016 1:12:59 PM	W38603
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	11/11/2016 1:12:59 PM	W38603
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	11/11/2016 1:12:59 PM	W38603
Naphthalene	ND	2.0		µg/L	1	11/11/2016 1:12:59 PM	W38603
1-Methylnaphthalene	4.3	4.0		µg/L	1	11/11/2016 1:12:59 PM	W38603
2-Methylnaphthalene	4.5	4.0		µg/L	1	11/11/2016 1:12:59 PM	W38603
Acetone	ND	10		µg/L	1	11/11/2016 1:12:59 PM	W38603
Bromobenzene	ND	1.0		µg/L	1	11/11/2016 1:12:59 PM	W38603
Bromodichloromethane	ND	1.0		µg/L	1	11/11/2016 1:12:59 PM	W38603
Bromoform	ND	1.0		µg/L	1	11/11/2016 1:12:59 PM	W38603
Bromomethane	ND	3.0		µg/L	1	11/11/2016 1:12:59 PM	W38603
2-Butanone	ND	10		µg/L	1	11/11/2016 1:12:59 PM	W38603
Carbon disulfide	ND	10		µg/L	1	11/11/2016 1:12:59 PM	W38603
Carbon Tetrachloride	ND	1.0		µg/L	1	11/11/2016 1:12:59 PM	W38603
Chlorobenzene	ND	1.0		µg/L	1	11/11/2016 1:12:59 PM	W38603
Chloroethane	ND	2.0		µg/L	1	11/11/2016 1:12:59 PM	W38603
Chloroform	ND	1.0		µg/L	1	11/11/2016 1:12:59 PM	W38603
Chloromethane	ND	3.0		µg/L	1	11/11/2016 1:12:59 PM	W38603
2-Chlorotoluene	ND	1.0		µg/L	1	11/11/2016 1:12:59 PM	W38603
4-Chlorotoluene	ND	1.0		µg/L	1	11/11/2016 1:12:59 PM	W38603
cis-1,2-DCE	ND	1.0		µg/L	1	11/11/2016 1:12:59 PM	W38603
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	11/11/2016 1:12:59 PM	W38603
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	11/11/2016 1:12:59 PM	W38603
Dibromochloromethane	ND	1.0		µg/L	1	11/11/2016 1:12:59 PM	W38603
Dibromomethane	ND	1.0		µg/L	1	11/11/2016 1:12:59 PM	W38603
1,2-Dichlorobenzene	ND	1.0		µg/L	1	11/11/2016 1:12:59 PM	W38603
1,3-Dichlorobenzene	ND	1.0		µg/L	1	11/11/2016 1:12:59 PM	W38603
1,4-Dichlorobenzene	ND	1.0		µg/L	1	11/11/2016 1:12:59 PM	W38603
Dichlorodifluoromethane	ND	1.0		µg/L	1	11/11/2016 1:12:59 PM	W38603
1,1-Dichloroethane	ND	1.0		µg/L	1	11/11/2016 1:12:59 PM	W38603
1,1-Dichloroethene	ND	1.0		µg/L	1	11/11/2016 1:12:59 PM	W38603
1,2-Dichloropropane	ND	1.0		µg/L	1	11/11/2016 1:12:59 PM	W38603

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Intera, Inc. **Client Sample ID:** MW-04
Project: Abq Railyard **Collection Date:** 11/4/2016 2:27:00 PM
Lab ID: 1611262-007 **Matrix:** AQUEOUS **Received Date:** 11/4/2016 3:30:00 PM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **DJF**	
1,3-Dichloropropane	ND	1.0		µg/L	1	11/11/2016 1:12:59 PM	W38603
2,2-Dichloropropane	ND	2.0		µg/L	1	11/11/2016 1:12:59 PM	W38603
1,1-Dichloropropene	ND	1.0		µg/L	1	11/11/2016 1:12:59 PM	W38603
Hexachlorobutadiene	ND	1.0		µg/L	1	11/11/2016 1:12:59 PM	W38603
2-Hexanone	ND	10		µg/L	1	11/11/2016 1:12:59 PM	W38603
Isopropylbenzene	ND	1.0		µg/L	1	11/11/2016 1:12:59 PM	W38603
4-Isopropyltoluene	ND	1.0		µg/L	1	11/11/2016 1:12:59 PM	W38603
4-Methyl-2-pentanone	ND	10		µg/L	1	11/11/2016 1:12:59 PM	W38603
Methylene Chloride	ND	3.0		µg/L	1	11/11/2016 1:12:59 PM	W38603
n-Butylbenzene	ND	3.0		µg/L	1	11/11/2016 1:12:59 PM	W38603
n-Propylbenzene	ND	1.0		µg/L	1	11/11/2016 1:12:59 PM	W38603
sec-Butylbenzene	ND	1.0		µg/L	1	11/11/2016 1:12:59 PM	W38603
Styrene	ND	1.0		µg/L	1	11/11/2016 1:12:59 PM	W38603
tert-Butylbenzene	ND	1.0		µg/L	1	11/11/2016 1:12:59 PM	W38603
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	11/11/2016 1:12:59 PM	W38603
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	11/11/2016 1:12:59 PM	W38603
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	11/11/2016 1:12:59 PM	W38603
trans-1,2-DCE	ND	1.0		µg/L	1	11/11/2016 1:12:59 PM	W38603
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	11/11/2016 1:12:59 PM	W38603
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	11/11/2016 1:12:59 PM	W38603
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	11/11/2016 1:12:59 PM	W38603
1,1,1-Trichloroethane	ND	1.0		µg/L	1	11/11/2016 1:12:59 PM	W38603
1,1,2-Trichloroethane	ND	1.0		µg/L	1	11/11/2016 1:12:59 PM	W38603
Trichloroethene (TCE)	ND	1.0		µg/L	1	11/11/2016 1:12:59 PM	W38603
Trichlorofluoromethane	ND	1.0		µg/L	1	11/11/2016 1:12:59 PM	W38603
1,2,3-Trichloropropane	ND	2.0		µg/L	1	11/11/2016 1:12:59 PM	W38603
Vinyl chloride	ND	1.0		µg/L	1	11/11/2016 1:12:59 PM	W38603
Xylenes, Total	ND	1.5		µg/L	1	11/11/2016 1:12:59 PM	W38603
Surr: 1,2-Dichloroethane-d4	101	70-130		%Rec	1	11/11/2016 1:12:59 PM	W38603
Surr: 4-Bromofluorobenzene	96.9	70-130		%Rec	1	11/11/2016 1:12:59 PM	W38603
Surr: Dibromofluoromethane	105	70-130		%Rec	1	11/11/2016 1:12:59 PM	W38603
Surr: Toluene-d8	96.7	70-130		%Rec	1	11/11/2016 1:12:59 PM	W38603

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Intera, Inc. **Client Sample ID:** MW-05
Project: Abq Railyard **Collection Date:** 11/4/2016 3:00:00 PM
Lab ID: 1611262-008 **Matrix:** AQUEOUS **Received Date:** 11/4/2016 3:30:00 PM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8011/504.1: EDB						Analyst: **JME**	
1,2-Dibromoethane	ND	0.010		µg/L	1	11/10/2016 5:43:38 PM	28583
EPA METHOD 8260B: VOLATILES						Analyst: **DJF**	
Benzene	ND	1.0		µg/L	1	11/11/2016 5:39:38 AM	W38603
Toluene	ND	1.0		µg/L	1	11/11/2016 5:39:38 AM	W38603
Ethylbenzene	ND	1.0		µg/L	1	11/11/2016 5:39:38 AM	W38603
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	11/11/2016 5:39:38 AM	W38603
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	11/11/2016 5:39:38 AM	W38603
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	11/11/2016 5:39:38 AM	W38603
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	11/11/2016 5:39:38 AM	W38603
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	11/11/2016 5:39:38 AM	W38603
Naphthalene	ND	2.0		µg/L	1	11/11/2016 5:39:38 AM	W38603
1-Methylnaphthalene	ND	4.0		µg/L	1	11/11/2016 5:39:38 AM	W38603
2-Methylnaphthalene	ND	4.0		µg/L	1	11/11/2016 5:39:38 AM	W38603
Acetone	ND	10		µg/L	1	11/11/2016 5:39:38 AM	W38603
Bromobenzene	ND	1.0		µg/L	1	11/11/2016 5:39:38 AM	W38603
Bromodichloromethane	ND	1.0		µg/L	1	11/11/2016 5:39:38 AM	W38603
Bromoform	ND	1.0		µg/L	1	11/11/2016 5:39:38 AM	W38603
Bromomethane	ND	3.0		µg/L	1	11/11/2016 5:39:38 AM	W38603
2-Butanone	ND	10		µg/L	1	11/11/2016 5:39:38 AM	W38603
Carbon disulfide	ND	10		µg/L	1	11/11/2016 5:39:38 AM	W38603
Carbon Tetrachloride	ND	1.0		µg/L	1	11/11/2016 5:39:38 AM	W38603
Chlorobenzene	ND	1.0		µg/L	1	11/11/2016 5:39:38 AM	W38603
Chloroethane	ND	2.0		µg/L	1	11/11/2016 5:39:38 AM	W38603
Chloroform	ND	1.0		µg/L	1	11/11/2016 5:39:38 AM	W38603
Chloromethane	ND	3.0		µg/L	1	11/11/2016 5:39:38 AM	W38603
2-Chlorotoluene	ND	1.0		µg/L	1	11/11/2016 5:39:38 AM	W38603
4-Chlorotoluene	ND	1.0		µg/L	1	11/11/2016 5:39:38 AM	W38603
cis-1,2-DCE	ND	1.0		µg/L	1	11/11/2016 5:39:38 AM	W38603
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	11/11/2016 5:39:38 AM	W38603
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	11/11/2016 5:39:38 AM	W38603
Dibromochloromethane	ND	1.0		µg/L	1	11/11/2016 5:39:38 AM	W38603
Dibromomethane	ND	1.0		µg/L	1	11/11/2016 5:39:38 AM	W38603
1,2-Dichlorobenzene	ND	1.0		µg/L	1	11/11/2016 5:39:38 AM	W38603
1,3-Dichlorobenzene	ND	1.0		µg/L	1	11/11/2016 5:39:38 AM	W38603
1,4-Dichlorobenzene	ND	1.0		µg/L	1	11/11/2016 5:39:38 AM	W38603
Dichlorodifluoromethane	ND	1.0		µg/L	1	11/11/2016 5:39:38 AM	W38603
1,1-Dichloroethane	ND	1.0		µg/L	1	11/11/2016 5:39:38 AM	W38603
1,1-Dichloroethene	ND	1.0		µg/L	1	11/11/2016 5:39:38 AM	W38603
1,2-Dichloropropane	ND	1.0		µg/L	1	11/11/2016 5:39:38 AM	W38603

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Intera, Inc. **Client Sample ID:** MW-05
Project: Abq Railyard **Collection Date:** 11/4/2016 3:00:00 PM
Lab ID: 1611262-008 **Matrix:** AQUEOUS **Received Date:** 11/4/2016 3:30:00 PM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **DJF**	
1,3-Dichloropropane	ND	1.0		µg/L	1	11/11/2016 5:39:38 AM	W38603
2,2-Dichloropropane	ND	2.0		µg/L	1	11/11/2016 5:39:38 AM	W38603
1,1-Dichloropropene	ND	1.0		µg/L	1	11/11/2016 5:39:38 AM	W38603
Hexachlorobutadiene	ND	1.0		µg/L	1	11/11/2016 5:39:38 AM	W38603
2-Hexanone	ND	10		µg/L	1	11/11/2016 5:39:38 AM	W38603
Isopropylbenzene	ND	1.0		µg/L	1	11/11/2016 5:39:38 AM	W38603
4-Isopropyltoluene	ND	1.0		µg/L	1	11/11/2016 5:39:38 AM	W38603
4-Methyl-2-pentanone	ND	10		µg/L	1	11/11/2016 5:39:38 AM	W38603
Methylene Chloride	ND	3.0		µg/L	1	11/11/2016 5:39:38 AM	W38603
n-Butylbenzene	ND	3.0		µg/L	1	11/11/2016 5:39:38 AM	W38603
n-Propylbenzene	ND	1.0		µg/L	1	11/11/2016 5:39:38 AM	W38603
sec-Butylbenzene	ND	1.0		µg/L	1	11/11/2016 5:39:38 AM	W38603
Styrene	ND	1.0		µg/L	1	11/11/2016 5:39:38 AM	W38603
tert-Butylbenzene	ND	1.0		µg/L	1	11/11/2016 5:39:38 AM	W38603
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	11/11/2016 5:39:38 AM	W38603
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	11/11/2016 5:39:38 AM	W38603
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	11/11/2016 5:39:38 AM	W38603
trans-1,2-DCE	ND	1.0		µg/L	1	11/11/2016 5:39:38 AM	W38603
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	11/11/2016 5:39:38 AM	W38603
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	11/11/2016 5:39:38 AM	W38603
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	11/11/2016 5:39:38 AM	W38603
1,1,1-Trichloroethane	ND	1.0		µg/L	1	11/11/2016 5:39:38 AM	W38603
1,1,2-Trichloroethane	ND	1.0		µg/L	1	11/11/2016 5:39:38 AM	W38603
Trichloroethene (TCE)	ND	1.0		µg/L	1	11/11/2016 5:39:38 AM	W38603
Trichlorofluoromethane	ND	1.0		µg/L	1	11/11/2016 5:39:38 AM	W38603
1,2,3-Trichloropropane	ND	2.0		µg/L	1	11/11/2016 5:39:38 AM	W38603
Vinyl chloride	ND	1.0		µg/L	1	11/11/2016 5:39:38 AM	W38603
Xylenes, Total	ND	1.5		µg/L	1	11/11/2016 5:39:38 AM	W38603
Surr: 1,2-Dichloroethane-d4	92.4	70-130		%Rec	1	11/11/2016 5:39:38 AM	W38603
Surr: 4-Bromofluorobenzene	94.8	70-130		%Rec	1	11/11/2016 5:39:38 AM	W38603
Surr: Dibromofluoromethane	97.2	70-130		%Rec	1	11/11/2016 5:39:38 AM	W38603
Surr: Toluene-d8	97.1	70-130		%Rec	1	11/11/2016 5:39:38 AM	W38603

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Intera, Inc. **Client Sample ID:** TRIP BLANK
Project: Abq Railyard **Collection Date:**
Lab ID: 1611262-009 **Matrix:** TRIP BLANK **Received Date:** 11/4/2016 3:30:00 PM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8011/504.1: EDB						Analyst: **JME**	
1,2-Dibromoethane	ND	0.010		µg/L	1	11/10/2016 5:58:38 PM	28587
EPA METHOD 8260B: VOLATILES						Analyst: **DJF**	
Benzene	ND	1.0		µg/L	1	11/11/2016 6:08:06 AM	W38603
Toluene	ND	1.0		µg/L	1	11/11/2016 6:08:06 AM	W38603
Ethylbenzene	ND	1.0		µg/L	1	11/11/2016 6:08:06 AM	W38603
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	11/11/2016 6:08:06 AM	W38603
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	11/11/2016 6:08:06 AM	W38603
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	11/11/2016 6:08:06 AM	W38603
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	11/11/2016 6:08:06 AM	W38603
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	11/11/2016 6:08:06 AM	W38603
Naphthalene	ND	2.0		µg/L	1	11/11/2016 6:08:06 AM	W38603
1-Methylnaphthalene	ND	4.0		µg/L	1	11/11/2016 6:08:06 AM	W38603
2-Methylnaphthalene	ND	4.0		µg/L	1	11/11/2016 6:08:06 AM	W38603
Acetone	ND	10		µg/L	1	11/11/2016 6:08:06 AM	W38603
Bromobenzene	ND	1.0		µg/L	1	11/11/2016 6:08:06 AM	W38603
Bromodichloromethane	ND	1.0		µg/L	1	11/11/2016 6:08:06 AM	W38603
Bromoform	ND	1.0		µg/L	1	11/11/2016 6:08:06 AM	W38603
Bromomethane	ND	3.0		µg/L	1	11/11/2016 6:08:06 AM	W38603
2-Butanone	ND	10		µg/L	1	11/11/2016 6:08:06 AM	W38603
Carbon disulfide	ND	10		µg/L	1	11/11/2016 6:08:06 AM	W38603
Carbon Tetrachloride	ND	1.0		µg/L	1	11/11/2016 6:08:06 AM	W38603
Chlorobenzene	ND	1.0		µg/L	1	11/11/2016 6:08:06 AM	W38603
Chloroethane	ND	2.0		µg/L	1	11/11/2016 6:08:06 AM	W38603
Chloroform	ND	1.0		µg/L	1	11/11/2016 6:08:06 AM	W38603
Chloromethane	ND	3.0		µg/L	1	11/11/2016 6:08:06 AM	W38603
2-Chlorotoluene	ND	1.0		µg/L	1	11/11/2016 6:08:06 AM	W38603
4-Chlorotoluene	ND	1.0		µg/L	1	11/11/2016 6:08:06 AM	W38603
cis-1,2-DCE	ND	1.0		µg/L	1	11/11/2016 6:08:06 AM	W38603
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	11/11/2016 6:08:06 AM	W38603
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	11/11/2016 6:08:06 AM	W38603
Dibromochloromethane	ND	1.0		µg/L	1	11/11/2016 6:08:06 AM	W38603
Dibromomethane	ND	1.0		µg/L	1	11/11/2016 6:08:06 AM	W38603
1,2-Dichlorobenzene	ND	1.0		µg/L	1	11/11/2016 6:08:06 AM	W38603
1,3-Dichlorobenzene	ND	1.0		µg/L	1	11/11/2016 6:08:06 AM	W38603
1,4-Dichlorobenzene	ND	1.0		µg/L	1	11/11/2016 6:08:06 AM	W38603
Dichlorodifluoromethane	ND	1.0		µg/L	1	11/11/2016 6:08:06 AM	W38603
1,1-Dichloroethane	ND	1.0		µg/L	1	11/11/2016 6:08:06 AM	W38603
1,1-Dichloroethene	ND	1.0		µg/L	1	11/11/2016 6:08:06 AM	W38603
1,2-Dichloropropane	ND	1.0		µg/L	1	11/11/2016 6:08:06 AM	W38603

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Intera, Inc. **Client Sample ID:** TRIP BLANK
Project: Abq Railyard **Collection Date:**
Lab ID: 1611262-009 **Matrix:** TRIP BLANK **Received Date:** 11/4/2016 3:30:00 PM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **DJF**	
1,3-Dichloropropane	ND	1.0		µg/L	1	11/11/2016 6:08:06 AM	W38603
2,2-Dichloropropane	ND	2.0		µg/L	1	11/11/2016 6:08:06 AM	W38603
1,1-Dichloropropene	ND	1.0		µg/L	1	11/11/2016 6:08:06 AM	W38603
Hexachlorobutadiene	ND	1.0		µg/L	1	11/11/2016 6:08:06 AM	W38603
2-Hexanone	ND	10		µg/L	1	11/11/2016 6:08:06 AM	W38603
Isopropylbenzene	ND	1.0		µg/L	1	11/11/2016 6:08:06 AM	W38603
4-Isopropyltoluene	ND	1.0		µg/L	1	11/11/2016 6:08:06 AM	W38603
4-Methyl-2-pentanone	ND	10		µg/L	1	11/11/2016 6:08:06 AM	W38603
Methylene Chloride	ND	3.0		µg/L	1	11/11/2016 6:08:06 AM	W38603
n-Butylbenzene	ND	3.0		µg/L	1	11/11/2016 6:08:06 AM	W38603
n-Propylbenzene	ND	1.0		µg/L	1	11/11/2016 6:08:06 AM	W38603
sec-Butylbenzene	ND	1.0		µg/L	1	11/11/2016 6:08:06 AM	W38603
Styrene	ND	1.0		µg/L	1	11/11/2016 6:08:06 AM	W38603
tert-Butylbenzene	ND	1.0		µg/L	1	11/11/2016 6:08:06 AM	W38603
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	11/11/2016 6:08:06 AM	W38603
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	11/11/2016 6:08:06 AM	W38603
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	11/11/2016 6:08:06 AM	W38603
trans-1,2-DCE	ND	1.0		µg/L	1	11/11/2016 6:08:06 AM	W38603
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	11/11/2016 6:08:06 AM	W38603
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	11/11/2016 6:08:06 AM	W38603
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	11/11/2016 6:08:06 AM	W38603
1,1,1-Trichloroethane	ND	1.0		µg/L	1	11/11/2016 6:08:06 AM	W38603
1,1,2-Trichloroethane	ND	1.0		µg/L	1	11/11/2016 6:08:06 AM	W38603
Trichloroethene (TCE)	ND	1.0		µg/L	1	11/11/2016 6:08:06 AM	W38603
Trichlorofluoromethane	ND	1.0		µg/L	1	11/11/2016 6:08:06 AM	W38603
1,2,3-Trichloropropane	ND	2.0		µg/L	1	11/11/2016 6:08:06 AM	W38603
Vinyl chloride	ND	1.0		µg/L	1	11/11/2016 6:08:06 AM	W38603
Xylenes, Total	ND	1.5		µg/L	1	11/11/2016 6:08:06 AM	W38603
Surr: 1,2-Dichloroethane-d4	94.8	70-130		%Rec	1	11/11/2016 6:08:06 AM	W38603
Surr: 4-Bromofluorobenzene	93.9	70-130		%Rec	1	11/11/2016 6:08:06 AM	W38603
Surr: Dibromofluoromethane	98.9	70-130		%Rec	1	11/11/2016 6:08:06 AM	W38603
Surr: Toluene-d8	100	70-130		%Rec	1	11/11/2016 6:08:06 AM	W38603

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1611262**

15-Nov-16

Client: Intera, Inc.

Project: Abq Railyard

Sample ID	**MB-28587**	SampType:	**MBLK**	TestCode:	**EPA Method 8011/504.1: EDB**				
Client ID:	**PBW**	Batch ID:	**28587**	RunNo:	**38602**				
Prep Date:	**11/10/2016**	Analysis Date:	**11/10/2016**	SeqNo:	**1205730**	Units:	**µg/L**		

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2-Dibromoethane	ND	0.010								

Sample ID	**MB-28583**	SampType:	**MBLK**	TestCode:	**EPA Method 8011/504.1: EDB**				
Client ID:	**PBW**	Batch ID:	**28583**	RunNo:	**38602**				
Prep Date:	**11/10/2016**	Analysis Date:	**11/10/2016**	SeqNo:	**1205731**	Units:	**µg/L**		

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2-Dibromoethane	ND	0.010								

Sample ID	**LCS-28583**	SampType:	**LCS**	TestCode:	**EPA Method 8011/504.1: EDB**				
Client ID:	**LCSW**	Batch ID:	**28583**	RunNo:	**38602**				
Prep Date:	**11/10/2016**	Analysis Date:	**11/10/2016**	SeqNo:	**1205732**	Units:	**µg/L**		

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2-Dibromoethane	0.092	0.010	0.1000	0	91.9	70	130			

Sample ID	**LCS-28587**	SampType:	**LCS**	TestCode:	**EPA Method 8011/504.1: EDB**				
Client ID:	**LCSW**	Batch ID:	**28587**	RunNo:	**38602**				
Prep Date:	**11/10/2016**	Analysis Date:	**11/10/2016**	SeqNo:	**1205733**	Units:	**µg/L**		

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2-Dibromoethane	0.097	0.010	0.1000	0	97.4	70	130			

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1611262**

15-Nov-16

Client: Intera, Inc.

Project: Abq Railyard

Sample ID **rb**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **W38593**	RunNo: **38593**
Prep Date:	Analysis Date: **11/9/2016**	SeqNo: **1205422** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Methyl tert-butyl ether (MTBE)	ND	1.0								
1,2,4-Trimethylbenzene	ND	1.0								
1,3,5-Trimethylbenzene	ND	1.0								
1,2-Dichloroethane (EDC)	ND	1.0								
1,2-Dibromoethane (EDB)	ND	1.0								
Naphthalene	ND	2.0								
1-Methylnaphthalene	ND	4.0								
2-Methylnaphthalene	ND	4.0								
Acetone	ND	10								
Bromobenzene	ND	1.0								
Bromodichloromethane	ND	1.0								
Bromoform	ND	1.0								
Bromomethane	ND	3.0								
2-Butanone	ND	10								
Carbon disulfide	ND	10								
Carbon Tetrachloride	ND	1.0								
Chlorobenzene	ND	1.0								
Chloroethane	ND	2.0								
Chloroform	ND	1.0								
Chloromethane	ND	3.0								
2-Chlorotoluene	ND	1.0								
4-Chlorotoluene	ND	1.0								
cis-1,2-DCE	ND	1.0								
cis-1,3-Dichloropropene	ND	1.0								
1,2-Dibromo-3-chloropropane	ND	2.0								
Dibromochloromethane	ND	1.0								
Dibromomethane	ND	1.0								
1,2-Dichlorobenzene	ND	1.0								
1,3-Dichlorobenzene	ND	1.0								
1,4-Dichlorobenzene	ND	1.0								
Dichlorodifluoromethane	ND	1.0								
1,1-Dichloroethane	ND	1.0								
1,1-Dichloroethene	ND	1.0								
1,2-Dichloropropane	ND	1.0								
1,3-Dichloropropane	ND	1.0								
2,2-Dichloropropane	ND	2.0								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1611262**

15-Nov-16

Client: Intera, Inc.

Project: Abq Railyard

Sample ID **rb**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **W38593**	RunNo: **38593**
Prep Date:	Analysis Date: **11/9/2016**	SeqNo: **1205422** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1-Dichloropropene	ND	1.0								
Hexachlorobutadiene	ND	1.0								
2-Hexanone	ND	10								
Isopropylbenzene	ND	1.0								
4-Isopropyltoluene	ND	1.0								
4-Methyl-2-pentanone	ND	10								
Methylene Chloride	ND	3.0								
n-Butylbenzene	ND	3.0								
n-Propylbenzene	ND	1.0								
sec-Butylbenzene	ND	1.0								
Styrene	ND	1.0								
tert-Butylbenzene	ND	1.0								
1,1,1,2-Tetrachloroethane	ND	1.0								
1,1,2,2-Tetrachloroethane	ND	2.0								
Tetrachloroethene (PCE)	ND	1.0								
trans-1,2-DCE	ND	1.0								
trans-1,3-Dichloropropene	ND	1.0								
1,2,3-Trichlorobenzene	ND	1.0								
1,2,4-Trichlorobenzene	ND	1.0								
1,1,1-Trichloroethane	ND	1.0								
1,1,2-Trichloroethane	ND	1.0								
Trichloroethene (TCE)	ND	1.0								
Trichlorofluoromethane	ND	1.0								
1,2,3-Trichloropropane	ND	2.0								
Vinyl chloride	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	9.3		10.00		93.1	70	130			
Surr: 4-Bromofluorobenzene	9.8		10.00		97.7	70	130			
Surr: Dibromofluoromethane	9.5		10.00		94.6	70	130			
Surr: Toluene-d8	9.8		10.00		98.1	70	130			

Sample ID **100ng lcs**	SampType: **LCS**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **LCSW**	Batch ID: **W38593**	RunNo: **38593**
Prep Date:	Analysis Date: **11/9/2016**	SeqNo: **1205423** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	19	1.0	20.00	0	95.7	70	130			
Toluene	21	1.0	20.00	0	105	70	130			
Chlorobenzene	21	1.0	20.00	0	103	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1611262**

15-Nov-16

Client: Intera, Inc.

Project: Abq Railyard

Sample ID **100ng lcs**	SampType: **LCS**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **LCSW**	Batch ID: **W38593**	RunNo: **38593**
Prep Date:	Analysis Date: **11/9/2016**	SeqNo: **1205423** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1-Dichloroethene	21	1.0	20.00	0	106	70	130			
Trichloroethene (TCE)	20	1.0	20.00	0	98.4	70	130			
Surr: 1,2-Dichloroethane-d4	9.3		10.00		93.1	70	130			
Surr: 4-Bromofluorobenzene	9.4		10.00		93.9	70	130			
Surr: Dibromofluoromethane	9.6		10.00		95.5	70	130			
Surr: Toluene-d8	9.8		10.00		97.9	70	130			

Sample ID **rb**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **W38603**	RunNo: **38603**
Prep Date:	Analysis Date: **11/10/2016**	SeqNo: **1206487** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Methyl tert-butyl ether (MTBE)	ND	1.0								
1,2,4-Trimethylbenzene	ND	1.0								
1,3,5-Trimethylbenzene	ND	1.0								
1,2-Dichloroethane (EDC)	ND	1.0								
1,2-Dibromoethane (EDB)	ND	1.0								
Naphthalene	ND	2.0								
1-Methylnaphthalene	ND	4.0								
2-Methylnaphthalene	ND	4.0								
Acetone	ND	10								
Bromobenzene	ND	1.0								
Bromodichloromethane	ND	1.0								
Bromoform	ND	1.0								
Bromomethane	ND	3.0								
2-Butanone	ND	10								
Carbon disulfide	ND	10								
Carbon Tetrachloride	ND	1.0								
Chlorobenzene	ND	1.0								
Chloroethane	ND	2.0								
Chloroform	ND	1.0								
Chloromethane	ND	3.0								
2-Chlorotoluene	ND	1.0								
4-Chlorotoluene	ND	1.0								
cis-1,2-DCE	ND	1.0								
cis-1,3-Dichloropropene	ND	1.0								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1611262**

15-Nov-16

Client: Intera, Inc.

Project: Abq Railyard

Sample ID **rb**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **W38603**	RunNo: **38603**
Prep Date:	Analysis Date: **11/10/2016**	SeqNo: **1206487** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2-Dibromo-3-chloropropane	ND	2.0								
Dibromochloromethane	ND	1.0								
Dibromomethane	ND	1.0								
1,2-Dichlorobenzene	ND	1.0								
1,3-Dichlorobenzene	ND	1.0								
1,4-Dichlorobenzene	ND	1.0								
Dichlorodifluoromethane	ND	1.0								
1,1-Dichloroethane	ND	1.0								
1,1-Dichloroethene	ND	1.0								
1,2-Dichloropropane	ND	1.0								
1,3-Dichloropropane	ND	1.0								
2,2-Dichloropropane	ND	2.0								
1,1-Dichloropropene	ND	1.0								
Hexachlorobutadiene	ND	1.0								
2-Hexanone	ND	10								
Isopropylbenzene	ND	1.0								
4-Isopropyltoluene	ND	1.0								
4-Methyl-2-pentanone	ND	10								
Methylene Chloride	ND	3.0								
n-Butylbenzene	ND	3.0								
n-Propylbenzene	ND	1.0								
sec-Butylbenzene	ND	1.0								
Styrene	ND	1.0								
tert-Butylbenzene	ND	1.0								
1,1,1,2-Tetrachloroethane	ND	1.0								
1,1,2,2-Tetrachloroethane	ND	2.0								
Tetrachloroethene (PCE)	ND	1.0								
trans-1,2-DCE	ND	1.0								
trans-1,3-Dichloropropene	ND	1.0								
1,2,3-Trichlorobenzene	ND	1.0								
1,2,4-Trichlorobenzene	ND	1.0								
1,1,1-Trichloroethane	ND	1.0								
1,1,2-Trichloroethane	ND	1.0								
Trichloroethene (TCE)	ND	1.0								
Trichlorofluoromethane	ND	1.0								
1,2,3-Trichloropropane	ND	2.0								
Vinyl chloride	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	10		10.00		105	70	130			

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1611262**

15-Nov-16

Client: Intera, Inc.

Project: Abq Railyard

Sample ID **rb**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **W38603**	RunNo: **38603**
Prep Date:	Analysis Date: **11/10/2016**	SeqNo: **1206487** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	9.6		10.00		95.9	70	130			
Surr: Dibromofluoromethane	11		10.00		108	70	130			
Surr: Toluene-d8	9.8		10.00		98.2	70	130			

Sample ID **100ng lcs**	SampType: **LCS**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **LCSW**	Batch ID: **W38603**	RunNo: **38603**
Prep Date:	Analysis Date: **11/10/2016**	SeqNo: **1206488** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	20	1.0	20.00	0	102	70	130			
Toluene	20	1.0	20.00	0	101	70	130			
Chlorobenzene	20	1.0	20.00	0	101	70	130			
1,1-Dichloroethene	22	1.0	20.00	0	108	70	130			
Trichloroethene (TCE)	20	1.0	20.00	0	101	70	130			
Surr: 1,2-Dichloroethane-d4	9.6		10.00		95.7	70	130			
Surr: 4-Bromofluorobenzene	9.6		10.00		95.7	70	130			
Surr: Dibromofluoromethane	9.6		10.00		95.8	70	130			
Surr: Toluene-d8	9.3		10.00		93.3	70	130			

Sample ID **1611262-005a ms**	SampType: **MS**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **MW-01**	Batch ID: **W38603**	RunNo: **38603**
Prep Date:	Analysis Date: **11/11/2016**	SeqNo: **1206491** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	100	5.0	100.0	0	103	70	130			
Toluene	100	5.0	100.0	0	104	70	130			
Chlorobenzene	100	5.0	100.0	0	101	70	130			
1,1-Dichloroethene	110	5.0	100.0	0	107	70	130			
Trichloroethene (TCE)	99	5.0	100.0	0	99.0	70	130			
Surr: 1,2-Dichloroethane-d4	46		50.00		92.6	70	130			
Surr: 4-Bromofluorobenzene	47		50.00		94.8	70	130			
Surr: Dibromofluoromethane	47		50.00		94.5	70	130			
Surr: Toluene-d8	47		50.00		93.6	70	130			

Sample ID **1611262-005a msd**	SampType: **MSD**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **MW-01**	Batch ID: **W38603**	RunNo: **38603**
Prep Date:	Analysis Date: **11/11/2016**	SeqNo: **1206492** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	100	5.0	100.0	0	102	70	130	1.80	20	

Qualifiers:

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H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1611262**

15-Nov-16

Client: Intera, Inc.

Project: Abq Railyard

Sample ID **1611262-005a msd**	SampType: **MSD**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **MW-01**	Batch ID: **W38603**	RunNo: **38603**
Prep Date:	Analysis Date: **11/11/2016**	SeqNo: **1206492** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Toluene	100	5.0	100.0	0	102	70	130	1.76	20	
Chlorobenzene	98	5.0	100.0	0	98.4	70	130	2.58	20	
1,1-Dichloroethene	100	5.0	100.0	0	102	70	130	4.58	20	
Trichloroethene (TCE)	99	5.0	100.0	0	99.4	70	130	0.446	20	
Surr: 1,2-Dichloroethane-d4	48		50.00		96.0	70	130	0	0	
Surr: 4-Bromofluorobenzene	48		50.00		95.7	70	130	0	0	
Surr: Dibromofluoromethane	48		50.00		95.7	70	130	0	0	
Surr: Toluene-d8	48		50.00		95.9	70	130	0	0	

Sample ID **1611262-005a ms**	SampType: **MS**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **MW-01**	Batch ID: **W38603**	RunNo: **38633**
Prep Date:	Analysis Date: **11/11/2016**	SeqNo: **1207711** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	22	1.0	20.00	0.4404	108	70	130			
Toluene	21	1.0	20.00	0	104	70	130			
Chlorobenzene	21	1.0	20.00	0	104	70	130			
1,1-Dichloroethene	22	1.0	20.00	0	108	70	130			
Trichloroethene (TCE)	21	1.0	20.00	0	107	70	130			
Surr: 1,2-Dichloroethane-d4	10		10.00		103	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		103	70	130			
Surr: Dibromofluoromethane	10		10.00		102	70	130			
Surr: Toluene-d8	9.7		10.00		97.2	70	130			

Sample ID **1611262-005a msd**	SampType: **MSD**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **MW-01**	Batch ID: **W38603**	RunNo: **38633**
Prep Date:	Analysis Date: **11/11/2016**	SeqNo: **1207712** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	20	1.0	20.00	0.4404	99.3	70	130	7.98	20	
Toluene	20	1.0	20.00	0	101	70	130	2.55	20	
Chlorobenzene	21	1.0	20.00	0	103	70	130	1.77	20	
1,1-Dichloroethene	20	1.0	20.00	0	100	70	130	7.30	20	
Trichloroethene (TCE)	20	1.0	20.00	0	99.1	70	130	8.00	20	
Surr: 1,2-Dichloroethane-d4	10		10.00		99.7	70	130	0	0	
Surr: 4-Bromofluorobenzene	10		10.00		103	70	130	0	0	
Surr: Dibromofluoromethane	9.6		10.00		96.3	70	130	0	0	
Surr: Toluene-d8	9.8		10.00		98.1	70	130	0	0	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: INT | Work Order Number: 1611262 | RcptNo: 1

Received by/date: 11/04/16

Logged By: Ashley Gallegos 11/4/2016 3:30:00 PM

Completed By: Ashley Gallegos 11/4/2016 6:14:39 PM

Reviewed By: 11/07/16

Chain of Custody

1. Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
2. Is Chain of Custody complete?	Yes ☑	No ☐	Not Present ☐
3. How was the sample delivered?	Client		

Log In

4. Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
5. Were all samples received at a temperature of >0° C to 6.0°C	Yes ☑	No ☐	NA ☐
6. Sample(s) in proper container(s)?	Yes ☑	No ☐	
7. Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
8. Are samples (except VOA and ONG) properly preserved?	Yes ☑	No ☐	
9. Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
10. VOA vials have zero headspace?	Yes ☑	No ☐	No VOA Vials ☐
11. Were any sample containers received broken?	Yes ☐	No ☑	# of preserved bottles checked for pH: (<2 or >12 unless noted)
12. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ☑	No ☐	Adjusted?
13. Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	
14. Is it clear what analyses were requested?	Yes ☑	No ☐	
15. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes ☑	No ☐	Checked by:

Special Handling (if applicable)

16. Was client notified of all discrepancies with this order?	Yes ☐	No ☐	NA ☑

Person Notified: _____ Date _____

By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: _____

Client Instructions: _____

17. Additional remarks:

18. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.3	Good	Not Present			

Chain-of-Custody Record

Client: Intera

Mailing Address: 6000 Uptown Blvd NE #220
Albuquerque NM 87110

Phone #: 505-246-1600

Email or Fax#: jtracy@intera.com

QA/QC Package:
☑ Standard ☐ Level 4 (Full Validation)

Accreditation
☐ NELAP ☐ Other _____

☐ EDD (Type) Excel

Turn-Around Time:
☑ Standard ☐ Rush _____

Project Name:
Abq Railyard

Project #:
COA.OCSS.#17

Project Manager:
Joe Tracy / Erika Marcillo

Sampler: Matt Sophy, Frank Loecker

On Ice: ☑ Yes ☐ No

Sample Temperature: 1.3

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1611262	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)				Air Bubbles (Y or N)
11/4/16	0912	AQ	MW-07	VOA 3x VOA 2x	HCl SOTH	-001					X					X					
11/4/16	0947	AQ	MW-06	VOA 3x VOA 2x	HCl SOTH	-002					X					X					
11/4/16	1145	AQ	MW-08	VOA 3x VOA 2x	HCl SOTH	-003					X					X					
11/4/16	1310	AQ	MW-02	VOA 3x VOA 2x	HCl SOTH	-004					X					X					
11/4/16	1335	AQ	MW-01	VOA 3x VOA 2x	HCl SOTH	-005					X					X					
11/4/16	1402	AQ	MW-03	VOA 3x VOA 3x	HCl SOTH	-006					X					X					
11/4/16	1427	AQ	MW-04	VOA 3x VOA 2x	HCl SOTH	-007					X					X					
11/4/16	1500	AQ	MW-05	VOA 3x VOA 2x	HCl SOTH	-008					X					X					
			Trip Blank			-009															

Date: 11/4/16 Time: 1532 Relinquished by: [signature]

Received by: [signature] Date: 11/04/16 Time: 1538

Date: Time: Relinquished by:

Received by: Date: Time:

Remarks:
cc results to
emarcillo@intera.com

Certificate of Destruction

is presented to

EarthTech

for

Received Materials are Hereby Guaranteed Destroyed & Recycled

Signature

04/15/19
Date

Acme Iron and Metal

DC Environmental
Consulting and Training Services

January 5, 2019

Mr. Bart Faris and Mr. Ed Adam
City of Albuquerque
Environmental Health Manager
PO Box 1293
Albuquerque, New Mexico 87103

Re: TCLP Lead Sampling of Expected Waste Stream
Railyard Project – Sheet Metal House
DC Environmental Project Number 18-350

Dear Mr. Faris and Mr. Adam:

DC Environmental has completed the sample collection and analysis for the Creosote constituent from the above referenced facility. Samples were collected of the structure and analyzed for Creosote in substantial compliance with the Environmental Protection Agency Method 8015 (SW846). Samples were collected as a result of the history and knowledge of the site where wood preservatives were used to protect this structure.

Mr. David Charlesworth, Certified Industrial Hygienist, collected the sample on December 11, 2018. Mr. Charlesworth collected representative components from the expected waste stream of the building materials, prior to the building demolition, in order to determine the waste disposal method as it pertains to Creosote. In the structure, the representative sample was collected from the interior columns, exterior siding and the foundation. These individual components were the items identified as being coated with the suspect Creosote material.

The samples were delivered by commercial carrier to an independent laboratory. EMSL Laboratories is an accredited laboratory headquartered in Cinnaminson, New Jersey. The sample was processed, prepared and analyzed for Creosote. The Environmental Protection Agency (EPA) Regulatory Limit for isomers of Cresol is 200 milligrams per kilogram (mg/l) or 200 parts per million (ppm).

The sample was analyzed for the total Creosote concentration. The result from the samples collected was reported as 876.86 milligrams per kilogram. To determine if this was a regulated waste stream, DC Environmental applied the EPA twenty times rule. Application of the twenty times rule is used when a sample has been analyzed for Total Creosote and not the leachable Cresol fraction.

The criteria established for the twenty times rule indicates that the Total Concentration of the chemical would have been analyzed by the TCLP in a 20:1 dilution for analysis. Thus, if the result of the Total Concentration analysis is greater than 20 times the regulatory standard; then the material would likely be considered hazardous. This is based on the probability of leachable Cresol fraction being in excess of the standard.

DC Environmental
Consulting and Training Services

For this discussion, the Total Concentration result for Creosote is considered to be 100% Cresol and then divided by twenty. This derived concentration would then be (876 ÷ 20), approximately 44 ppm. This derived concentration is below the 200 ppm regulatory limit for Cresol. Therefore, the material is not considered hazardous waste nor regulated waste based on the Cresol component.

Literature suggests that the chemical makeup of Creosote is only approximately 10-17% Cresol isomers. This would indicate that the leachable Cresol fraction would be even less than the derived concentration.

Therefore, based on the data provided and the analytical results received, the demolition debris generated from demolition of these buildings may be disposed of as normal construction and demolition debris.

Sincerely,

AEIH, Inc. dba DC Environmental

J. David Charlesworth
Certified Industrial Hygienist

Attn: Analytical Results

EMSL Analytical, Inc.
200 Route 130 North, Cinnaminson, NJ 08077
Phone: (856) 303-2500 Fax: (856) 858-4571 Email: EnvChemistry2@emsl.com

Attn: **JD Charlesworth**
DC Environmental
PO Box 9315
Albuquerque, NM 87119
Phone: (505) 934-1319
Fax:

12/20/2018

The following analytical report covers the analysis performed on samples submitted to EMSL Analytical, Inc. on 12/12/2018. The results are tabulated on the attached data pages for the following client designated project:

18-350 and 18-351

The reference number for these samples is EMSL Order #011810832. Please use this reference when calling about these samples. If you have any questions, please do not hesitate to contact me at (856) 303-2500.

Approved By:

Phillip Worby, Environmental Chemistry
Laboratory Director

The test results contained within this report meet the requirements of NELAP and/or the specific certification program that is applicable, unless otherwise noted.
NELAP Certifications: NJ 03036, NY 10872, PA 68-00367, CA ELAP 1877

EMSL Analytical, Inc.
200 Route 130 North, Cinnaminson, NJ 08077
Phone/Fax: (856) 303-2500 / (856) 858-4571
http://www.EMSL.com EnvChemistry2@emsl.com

EMSL Order:	011810832
CustomerID:	ACME25
CustomerPO:	18350PO1
ProjectID:	

Attn: **JD Charlesworth**
DC Environmental
PO Box 9315
Albuquerque, NM 87119

Phone: (505) 934-1319
Fax:
Received: 12/12/18 10:00 AM

Project: **18-350 and 18-351**

Analytical Results

Client Sample Description 18-350-01 Sheetmetal House ***Collected:*** 12/11/2018 ***Lab ID:*** *011810832-0001*

Method	*Parameter*	*Result*	*RL*	*Units*	*Prep Date*	*Analyst*	*Analysis Date*	*Analyst*
GC-SVOA								
8015D Modified	Creosote	876.86	84.39	mg/Kg	12/18/2018	AC	12/18/2018	AC

Client Sample Description 18-351-01 North Washroom ***Collected:*** 12/11/2018 ***Lab ID:*** *011810832-0002*

Method	*Parameter*	*Result*	*RL*	*Units*	*Prep Date*	*Analyst*	*Analysis Date*	*Analyst*
METALS								
TCLP 1311/6010D	Lead	9.8 D	0.10	mg/L	12/19/2018	JS	12/20/2018	JS
Exceeded the TCLP regulatory limit of 5.0 mg/L								

Definitions:

ND - indicates that the analyte was not detected at the reporting limit
RL - Reporting Limit (Analytical)
D - Dilution

EMSL Analytical, Inc.
200 Route 130 North, Cinnaminson, NJ 08077
Phone: (856) 303-2500 Fax: (856) 858-4571 Email: EnvChemistry2@emsl.com

Attn: **JD Charlesworth**
DC Environmental
PO Box 9315
Albuquerque, NM 87119
Phone: (505) 934-1319
Fax:

1/22/2019

The following analytical report covers the analysis performed on samples submitted to EMSL Analytical, Inc. on 12/12/2018. The results are tabulated on the attached data pages for the following client designated project:

18-350 and 18-351

The reference number for these samples is EMSL Order #011810832. Please use this reference when calling about these samples. If you have any questions, please do not hesitate to contact me at (856) 303-2500.

Approved By:

Phillip Worby, Environmental Chemistry
Laboratory Director

The test results contained within this report meet the requirements of NELAP and/or the specific certification program that is applicable, unless otherwise noted.
NELAP Certifications: NJ 03036, NY 10872, PA 68-00367, CA ELAP 1877

At the client's request Cresols were analyzed from the Creosote extraction, no surrogate or LCS recoveries can be reported.

Report amended 01/22/2019 12:33:17 Replaces initial report from 12/20/2018 18:19:08

EMSL Analytical, Inc.
200 Route 130 North, Cinnaminson, NJ 08077
Phone/Fax: (856) 303-2500 / (856) 858-4571
http://www.EMSL.com EnvChemistry2@emsl.com

EMSL Order:	011810832
CustomerID:	ACME25
CustomerPO:	18350PO1
ProjectID:	

Attn: **JD Charlesworth**
DC Environmental
PO Box 9315
Albuquerque, NM 87119

Phone: (505) 934-1319
Fax:
Received: 12/12/18 10:00 AM

Project: **18-350 and 18-351**

Analytical Results

Client Sample Description 18-350-01 Sheetmetal House ***Collected:*** 12/11/2018 ***Lab ID:*** *011810832-0001*

Method	*Parameter*	*Result*	*RL*	*Units*	*Prep Date*	*Analyst*	*Analysis Date*	*Analyst*
GCMS-SVOA								
3550C/8270D	2,4-Dimethylphenol	ND	2100	µg/Kg	12/18/2018	AC	1/8/2019	AC
3550C/8270D	2-Methylphenol	ND	2100	µg/Kg	12/18/2018	AC	1/8/2019	AC
3550C/8270D	4,6-Dinitro-2-methylphenol	ND	4200	µg/Kg	12/18/2018	AC	1/8/2019	AC
3550C/8270D	4-Chloro-3-methylphenol	ND	2100	µg/Kg	12/18/2018	AC	1/8/2019	AC
3550C/8270D	3&4-Methylphenol	ND	2100	µg/Kg	12/18/2018	AC	1/8/2019	AC
GC-SVOA								
8015D Modified	Creosote	876.86	84.39	mg/Kg	12/18/2018	AC	12/18/2018	AC

Client Sample Description 18-351-01 North Washroom ***Collected:*** 12/11/2018 ***Lab ID:*** *011810832-0002*

Method	*Parameter*	*Result*	*RL*	*Units*	*Prep Date*	*Analyst*	*Analysis Date*	*Analyst*
METALS								
TCLP 1311/6010D	Lead	9.8 D	0.10	mg/L	12/19/2018	JS	12/20/2018	JS
Exceeded the TCLP regulatory limit of 5.0 mg/L								

Definitions:
ND - indicates that the analyte was not detected at the reporting limit
RL - Reporting Limit (Analytical)
D - Dilution

From: Akeley, Chuck, NMENV
To: Faris, Bart
Cc: Schuman, George, NMENV
Subject: RE: Cresol Phenol testing for the Sheet Metal House 18-350
Date: Tuesday, January 22, 2019 1:47:27 PM

Mr. Faris (Bart): Thank you for submitting the additional laboratory analyses results. Because the 8270D indicated ND for methylphenols (Cresol), this waste may be disposed at any New Mexico landfill permitted to accept C&D debris. CHUCK SENDS…

George W. Akeley Jr. (Chuck)
Manager, Enforcement Section
Solid Waste Bureau
NMED District I
121 Tijeras Avenue NE, Suite 1000
Albuquerque, New Mexico 87102-3400
Voice: (505) 222-9585
Cellular: (505) 670-3283
Facsimile: (505) 222-9510

From: Faris, Bart <bfaris@cabq.gov>
Sent: Tuesday, January 22, 2019 1:27 PM
To: Akeley, Chuck, NMENV <chuck.akeley@state.nm.us>; Schuman, George, NMENV <george.schuman@state.nm.us>
Subject: [EXT] FW: Cresol Phenol testing for the Sheet Metal House 18-350

Hi Gentlemen,

I just received these analytical results from the TCLP composite sample from the old wood at the railyards. Cresol (or methylphenols) were all ND. It looks like they ran an 8270D and presented only these results. EPA 8270D is a GCMS semi-volatile for evaluating solid waste. https://19january2017snapshot.epa.gov/hw-sw846/sw-846-test-method-8270d-semivolatile-organic-compounds-gas-chromatographymass-spectrometry_.html

If you concur with these results, would you be able to provide a response saying this wood could be disposed at a C&D landfill? Granted, it is my understanding that very little, if any, of the wood will be disposed at a landfill. Thanks. Bart

From: David Charlesworth [mailto:jdcharlesworthcih@gmail.com]
Sent: Tuesday, January 22, 2019 12:48 PM
To: Faris, Bart
Subject: Cresol Phenol testing for the Sheet Metal House 18-350

Mr. Faris:

Please see the attached results.

David
Happy Holidays!

Sincerely,
DC Environmental
David Charlesworth, CIH 505.869.8000
"Promoting Safety in the Workplace"
To register for courses, please visit https://ddei3-0-ctp.trendmicro.com:443/wis/clicktime/v1/query?url=www.dcenvironmental.net&umid=646C2287-8011-4505-BE26-7059296CF3B8&auth=f0ebcd052f61e7a39dc93191e8a01d02608499af-d484861c5ddcb254d0ffd5468b18c3fde3a9edc4
We appreciate the opportunity to provide our services.

CES Contract Holder APS Contract Holder Bernalillio County Contract Holder SFSWMA Contract Holder

Two office locations to serve you better:
Albuquerque Training Office: 4801 Lang NE,Suite 110, Albuquerque, New Mexico, 87109
Administrative Office: 5501 Eagle Rock NE, ABQ, NM, 87113 Open Monday Through Friday 8:00 AM - 3:00 PM closed for lunch 12:00 PM-1:00 PM
Mailing Address: PO Box 9315, Albuquerque, NM, 87119

Please e-mail all invoices to DCEVendors@gmail.com
or via USPS to AEIH, INc. dba DC Environmental PO BOX 9315, ABQ, NM, 87119

DC Environmental, Inc.
"Promoting Safety in the Workplace"
Upcoming Classes

- Asbestos Contractor Supervisor Initial January 14tth- January 18th 2019
- Asbestos Maintenance Worker Initial January 14th - January 15th 2019
- Asbestos Awareness January 14, 2019
- Asbestos Building Inspector Initial January 21st - January 23, 2019
- First Aid CPR AED January 24, 2019
- Asbestos Project Designer Refresher January 25, 2019
- OSHA 10 HR Construction Safety January 28th - January 29th 2019
- Asbestos Management Planner Initial January 30th- January 31, 2019
- HAZWOPER 40 Hour February 4th - February 8th 2019
- HAZWOPER 24 Hour February 4th - February 6th 2019
- Asbestos Building Inspector Refresher February 11, 2019
- Asbestos Management Planner Refresher February 11, 2019
- HAZWOPER Refresher February 12, 2019
- Asbestos Contractor Supervisor Refresher February 13, 2019
- Asbestos Maintenance Worker Refresher February 13, 2019
- HAZWOPER Refresher February 14, 2019
- OSHA Confined Space February 15, 2019

To see a full listing of courses,to register or to request an estimate please visit https://ddei3-0-ctp.trendmicro.com:443/wis/clicktime/v1/query?url=www.dcenvironmental.net&umid=646C2287-8011-4505-BE26-7059296CF3B8&auth=f0ebcd052f61e7a39dc93191e8a01d02608499af-d484861c5ddcb254d0ffd5468b18c3fde3a9edc4 ,call 505.869.8000, or email us at aeihpayables@gmail.com.
Follow us on linkedin http://www.linkedin.com/company/dc-environmental-inc-

==========
This message has been analyzed by Deep Discovery Email Inspector.

CERL, INC. ENVIRONMENTAL CONSULTANTS

A Division of CERL, Inc.
2301 Yale Blvd SE, Suite D-2 Albuquerque, NM 87106 Phone (505) 764-9251 Fax (505) 764-0117
e-mail: cerl@cerl-fsi.com Web Site: www.cerl-fsi.com

PROJECT: Lead TCLP Building Debris Evaluation	**CODE:** KMW
LOCATION: 1100 2nd Street SW, Albuquerque, NM	**CLIENT:** Earthtech, Inc.
INSPECTOR: Ian Keane	**SURVEY DATE:** 2/7/19

SITUATION

Lead-based paints were identified on building structures of the north shower building of the Albuquerque Railyard, located at the referenced address. Sampling of the contaminated materials for the US EPA RCRA (Resource Conservation and Recovery Act) lead toxicity characteristic was requested, prior to demolition.

CONDITIONS AT TIME OF INSPECTION

For the purpose of this report, the 2nd Street right-of-way is assumed to lie west of the building. All measurements are approximate.

The building is a single floor brick structure constructed on a concrete slab-on-grade, with a flat roof. The walls are constructed of 3 layers of standard brick. The building foundation measures 2,860 sq ft. Interior ceilings are tongue-and-groove wood planks, 10' above floor level. Window casements and doorways are wood. The building is vacant and in poor repair. Many of the painted surfaces are heavily weathered. A lead-based paint evaluation performed by others in 2016 identified lead-based paint on the ceilings, window casements, doorways, brick walls, painted metal pipes and the concrete floor.

SAMPLING

Samples of materials that would be included in the demolition and form parts of the waste stream were collected. Analysis for lead content was performed using the US EPA toxicity characteristic leachate procedure (TCLP). Analytical results are summarized below.

SAMPLE #	MATERIALS	RESULTS SUMMARY
TC1	composite sample: concrete floor, brick walls, wood ceilings, wood window casements, wood door frames, paint chips from metal pipes	1.9 milligrams of lead per liter of extraction fluid

Note: US EPA defines as hazardous waste any waste stream that exhibits a lead level greater than 5 mg/L, when analyzed by the toxicity characteristic leachate procedure (TCLP).

FINDINGS

Lead was detected in the sample taken of the projected demolition waste stream at a level below the US EPA definition of lead-contaminated hazardous waste.

February 15, 2019

Ian Keane
CERL, Inc.

SAMPLE LOG AND LABORATORY REPORT

CERL, INC. ENVIRONMENTAL CONSULTANTS

A Division of CERL, Inc.
2301 Yale Blvd SE, Suite D-2 Albuquerque, NM 87106 Phone (505) 764-9251 Fax (505) 764-0117
e-mail: cerl@cerl-fsi.com Web Site: www.cerl-fsi.com

LEAD TCLP BULK SAMPLE LOG

Project Code: KMW

North Shower Building, Albuquerque Railyard,
1100 2nd Street SW, Albuquerque, NM

Sample ID	Description	Analysis (mg/L)
TC1	all painted surfaces, including substrates*	1.9

*Substrates in the building include wood, brick, concrete and metal. Paint applied to metal surfaces was sampled as paint chips, with no substrate included.

US EPA defines as hazardous waste any waste stream that exhibits a lead level greater than 5 mg/L, when analyzed by the toxicity characteristic leachate procedure (TCLP).

Environmental Hazards Services, L.L.C.
7469 Whitepine Rd
Richmond, VA 23237
Telephone: 800.347.4010

Lead TCLP
Analysis Report

Report Number: 19-02-01049

Client: CERL, Inc.
P.O. Box 4873
Santa Fe, NM 87502

Received Date: 02/08/2019
Analyzed Date: 02/13/2019
Reported Date: 02/13/2019

Project/Test Address: KMW

Client Number:
32-1483

Laboratory Results

Fax Number:
505-982-6759

Lab Sample Number	Client Sample Number	Sample Description	Sample Weight (g)	Concentration ppm (mg/L)	Narrative ID
19-02-01049-001	TC1	Bldg. Debris	100	1.9	

Regulatory Limit: 5.0 mg/L
Reporting Limit: 0.50 mg/L
Method: EPA SW846 1311/3010A/7000B
Analyst: Elaine King

Reviewed By Authorized Signatory:

Tasha Eaddy
QA/QC Clerk

Method EPA 8080A 1311 recommends 100g for analysis.

Legend g = gram ppm = parts per million mg/L = milligrams per liter

CERL Inc. Environmental Consulting Division

1804 Second St. Suite D, P.O. Box 4873, Santa Fe, NM 87502 Phone: (505) 988-4144 Fax: (505) 982-8758 e-mail: envirolab@cerlpc.com

CHAIN OF CUSTODY FORM

Company Name:	CERL, Inc.	**Date:** 2/7/19	
Address:	P.O. Box 4873	**Contact Name:** Ian Kearns	
City, State, Zip:	Santa Fe, NM 87502	**Sampler Name:** Ian Kearns	
EMS Client Account#:	32-1463	**Project #:** KMW	
Phone#:	(505) 988-4143 **Fax:** (505) 982-8758	**P.O.#:** KMW-19001	

Sample Number	Sample Date	Asbestos: Bulk ID by PLM	Asbestos: Asbestos Wipe	Asbestos: Fiber Count (PCM)	Asbestos: TEM Air	Asbestos: TEM Chatfield (Bulk)	Lead: Air	Lead: Paint	Lead: Soil	Lead: Wipe	Lead: TCLP (Pb)	Lead: Waste Water	Other Metals (Specify metals below): TCLP RCRA 8				
TC1	2/7/19										x						

standard turnaround

1 Pb TCLP

19-02-01049

Due Date: 02/13/2019 (Wednesday) AE

Railyard 1100 2nd St SW, Albuquerque, NM

Received by:	Signature:	Date:
Received by:	Signature:	Date:
Received by:	Signature:	Date:

Environmental Hazards Services, L.L.C.
7469 Whitepine Rd
Richmond, VA 23237
Telephone: 800.347.4010

Lead TCLP Analysis Report

Report Number: 19-02-01049

Client: CERL Inc.
P.O. Box 4673
Santa Fe, NM 87502

Received Date: 02/08/2019
Analyzed Date: 02/12/2019
Reported Date: 02/12/2019

Project/Test Address: KMW

Client Number:
32-1463

Laboratory Results

Fax Number:
505-982-6759

Lab Sample Number	Client Sample Number	Sample Description	Sample Weight (g)	Concentration ppm (mg/L)	Narrative ID
19-02-01049-001	TC1	Bldg. Debris	100	1.9	

Regulatory Limit: 5.0 mg/L

Reporting Limit: 0.50 mg/L

Method: EPA SW846 1311/3010A/7000B

Analyst: Elaine King

Reviewed By Authorized Signatory: Tasha Eaddy

Tasha Eaddy
QA/QC Clerk

Method EPA SW846 1311 recommends 100g for analysis.

The condition of the samples analyzed was acceptable upon receipt per laboratory protocol unless otherwise noted on this report. All internal quality control requirements associated with the batch were met, unless otherwise noted. Results represent the analysis of samples submitted by the client. Sample location, description, area, volume, etc., was provided by the client. This report cannot be used by the client to claim product endorsement by NVLAP or any agency of the U.S. Government. This report shall not be reproduced except in full, without the written consent of the Environmental Hazards Service, L.L.C. California Certification #2319 NY ELAP #11714.

Legend g = gram ppm = parts per million mg/L = milligrams per liter

CERL, Inc. Environmental Consulting Division
1808 Second St. Suite D; P.O. Box 4673; Santa Fe, NM 87501 Phone: (505) 988-4143 Fax: (505) 982-6759 e-mail: mcurtis@execpc.com

CHAIN OF CUSTODY FORM

Company Name: CERL, Inc.
Address: P.O. Box 4673
City, State, Zip: Santa Fe, NM 87502
EHS Client Account#: 32-1463
Phone#: (505) 988-4143 **Fax:** (505) 982-6759

Date: 2/7/19
Contact Name: Ian Keane
Sampler Name: Ian Keane
Project #: KMW
P.O.#: KMW-19001

Sample Number	Sample Date	Asbestos: Bulk ID by PLM	Asbestos: Asbestos Wipe	Asbestos: Fiber Count (PCM)	Asbestos: TEM Air	Asbestos: TEM Chatfield (Bulk)	Lead: Air	Lead: Paint	Lead: Soil	Lead: Wipe	Lead: TCLP (Pb)	Lead: Waste Water	Other Metals (Specify metals below): TCLP RCRA 8	Other Metals	Other Metals	Other Metals	Other Metals	19-02-01049
TC1	2/7/19										x							1 Pb TCLP
																		Railyard 1100 2nd St SW, Albuquerque, NM

standard turnaround

Due Date: 02/13/2019 (Wednesday) AE

Received by:	Signature:	
Received by: T_Nh	Signature:	Date:
Received by:	Signature:	Date: 2/8/19 12:15p
		Date:

Southwest Landfill
5816 Pajarito Rd SW
Albuquerque, NM 87121
505-242-2020
southwestlandfill.com

R E C E I P T

TICKET# 48951
Truck#: ET

DATE:03/25/19 WEIGHMASTER ID
TIME IN:12:02 PM ID IN:AA
TIME OUT:12:18 PM ID OUT:AA

Bill Acct:10539
BILL CO: EarthTech
HAUL ACCT: 10539
HAUL CO: EarthTech

MATERIAL: C&D
ORIGIN: Bernalillo County
DRIVER: In Vehicle

Note:

	LBS	TONS
GROSS:	34500	17.25
TARE:	18020	9.01
NET:	16480	8.24

RATE: 29.00/TN

Special Fee:

DISPOSAL FEE:	238.96
SPECIAL FEE:	0.00
ENV FEE:	10.00
TAX FEE:	15.17
TOTAL FEE:	264.13

PAYMENT INFO :
Charge on Account 264.13
CHANGE: 0.00

Sign:

Southwest Landfill
5816 Pajarito Rd SW
Albuquerque, NM 87121
505-242-2020
southwestlandfill.com

R E C E I P T

TICKET# 48988
Truck#: ET

DATE:03/25/19 WEIGHMASTER ID
TIME IN:01:51 PM ID IN:AA
TIME OUT:02:08 PM ID OUT:AA

Bill Acct:10539
BILL CO: EarthTech
HAUL ACCT: 10539
HAUL CO: EarthTech

MATERIAL: C&D
ORIGIN: Bernalillo County
DRIVER: In Vehicle

Note:

	LBS	TONS
GROSS:	42980	21.49
TARE:	18020	9.01
NET:	24960	12.48

RATE: 29.00/TN

Special Fee:

DISPOSAL FEE:	361.92
SPECIAL FEE:	0.00
ENV FEE:	10.00
TAX FEE:	22.97
TOTAL FEE:	394.89

PAYMENT INFO :
Charge on Account 394.89
CHANGE: 0.00

Sign:

Southwest Landfill
5816 Pajarito Rd SW
Albuquerque, NM 87121
505-242-2020
southwestlandfill.com

R E C E I P T

TICKET# 47044
Truck#: C119

DATE:03/08/19 WEIGHMASTER ID
TIME IN:10:17 AM ID IN:AA
TIME OUT:10:39 AM ID OUT:AA

Bill Acct:10539
BILL CO: EarthTech
HAUL ACCT: 10539
HAUL CO: EarthTech

MATERIAL: C&D
ORIGIN: Bernalillo County
DRIVER: In Vehicle

Note:

	LBS	TONS
GROSS:	37760	18.88
TARE:	17740	8.87
NET:	20020	10.01

RATE: 29.00/TN

Special Fee:

DISPOSAL FEE:	290.29
SPECIAL FEE:	0.00
ENV FEE:	10.00
TAX FEE:	18.43
TOTAL FEE:	318.72

PAYMENT INFO :
Charge on Account 318.72
CHANGE: 0.00

Sign:

Southwest Landfill
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Albuquerque, NM 87121
505-242-2020
southwestlandfill.com

RECEIPT

TICKET# 48670
Truck#: 8401

DATE:03/22/19 WEIGHMASTER ID
TIME IN:02:39 PM ID IN:AA
TIME OUT:02:57 PM ID OUT:AA

Bill Acct:10539
BILL CO: EarthTech
HAUL ACCT: 10539
HAUL CO: EarthTech

MATERIAL: C&D
ORIGIN: Bernalillo County
DRIVER: In Vehicle

Note:

	LBS	TONS
GROSS:	30580	15.29
TARE:	17800	8.90
NET:	12780	6.39

RATE: 29.00/TN

Special Fee:

DISPOSAL FEE:	185.31
SPECIAL FEE:	0.00
ENV FEE:	10.00
TAX FEE:	11.76
TOTAL FEE:	207.07

PAYMENT INFO :
Charge on Account 207.07
CHANGE: 0.00

Sign:

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Albuquerque, NM 87121
505-242-2020
southwestlandfill.com

RECEIPT

TICKET# 48919
Truck#: ET

DATE:03/25/19 WEIGHMASTER ID
TIME IN:10:05 AM ID IN:AA
TIME OUT:10:21 AM ID OUT:AA

Bill Acct:10539
BILL CO: EarthTech
HAUL ACCT: 10539
HAUL CO: EarthTech

MATERIAL: C&D
ORIGIN: Bernalillo County
DRIVER: In Vehicle

Note:

	LBS	TONS
GROSS:	30400	15.20
TARE:	18040	9.02
NET:	12360	6.18

RATE: 29.00/TN
Mattress 1 EA @ 10.00

Special Fee:

DISPOSAL FEE:	179.22
SPECIAL FEE:	10.00
ENV FEE:	10.00
TAX FEE:	12.02
TOTAL FEE:	211.24

PAYMENT INFO :
Charge on Account 211.24
CHANGE: 0.00

Sign:

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Albuquerque, NM 87121
505-242-2020
southwestlandfill.com

RECEIPT

TICKET# 48629
Truck#: ET

DATE:03/22/19 WEIGHMASTER ID
TIME IN:12:17 PM ID IN:AA
TIME OUT:12:29 PM ID OUT:AA

Bill Acct:10539
BILL CO: EarthTech
HAUL ACCT: 10539
HAUL CO: EarthTech

MATERIAL: C&D
ORIGIN: Bernalillo County
DRIVER: In Vehicle

Note:

	LBS	TONS
GROSS:	28960	14.48
TARE:	17840	8.92
NET:	11120	5.56

RATE: 29.00/TN

Special Fee:

DISPOSAL FEE:	161.24
SPECIAL FEE:	0.00
ENV FEE:	10.00
TAX FEE:	10.23
TOTAL FEE:	181.47

PAYMENT INFO :
Charge on Account 181.47
CHANGE: 0.00

Sign:

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RECEIPT

TICKET# 48592
Truck#: 8401

DATE:03/22/19 WEIGHMASTER ID
TIME IN:10:01 AM ID IN:AA
TIME OUT:10:15 AM ID OUT:AA

Bill Acct:10539
BILL CO: EarthTech
HAUL ACCT: 10539
HAUL CO: EarthTech

MATERIAL: C&D
ORIGIN: Bernalillo County
DRIVER: In Vehicle

Note:

	LBS	TONS
GROSS:	29180	14.59
TARE:	17680	8.84
NET:	11500	5.75

RATE: 29.00/TN

Special Fee:

DISPOSAL FEE:	166.75
SPECIAL FEE:	0.00
ENV FEE:	10.00
TAX FEE:	10.58
TOTAL FEE:	187.33

PAYMENT INFO :
Charge on Account 187.33
CHANGE: 0.00

Sign:

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Albuquerque, NM 87121
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RECEIPT

TICKET# 48531
Truck#: 8401

DATE:03/21/19 WEIGHMASTER ID
TIME IN:02:42 PM ID IN:PM
TIME OUT:03:05 PM ID OUT:PM

Bill Acct:10539
BILL CO: EarthTech
HAUL ACCT: 10539
HAUL CO: EarthTech

MATERIAL: C&D
ORIGIN: Bernalillo County
DRIVER: In Vehicle

Note:

	LBS	TONS
GROSS:	30740	15.37
TARE:	17700	8.85
NET:	13040	6.52

RATE: 29.00/TN

Special Fee:

DISPOSAL FEE:	189.08
SPECIAL FEE:	0.00
ENV FEE:	10.00
TAX FEE:	12.00
TOTAL FEE:	211.08

PAYMENT INFO :
Charge on Account 211.08
CHANGE: 0.00

Sign:

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Albuquerque, NM 87121
505-242-2020
southwestlandfill.com

RECEIPT

TICKET# 48500
Truck#: 8401

DATE:03/21/19 WEIGHMASTER ID
TIME IN:12:27 PM ID IN:PM
TIME OUT:12:38 PM ID OUT:PM

Bill Acct:10539
BILL CO: EarthTech
HAUL ACCT: 10539
HAUL CO: EarthTech

MATERIAL: C&D
ORIGIN: Bernalillo County
DRIVER: In Vehicle

Note:

	LBS	TONS
GROSS:	29880	14.94
TARE:	17740	8.87
NET:	12140	6.07

RATE: 29.00/TN

Special Fee:

DISPOSAL FEE:	176.03
SPECIAL FEE:	0.00
ENV FEE:	10.00
TAX FEE:	11.17
TOTAL FEE:	197.20

PAYMENT INFO :
Charge on Account 197.20
CHANGE: 0.00

Sign:

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Albuquerque, NM 87121
505-242-2020
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RECEIPT

TICKET# 48529
Truck#: 3500

DATE:03/21/19 WEIGHMASTER ID
TIME IN:03:02 PM ID IN:PM
TIME OUT:03:02 PM ID OUT:PM

Bill Acct:10539
BILL CO: EarthTech
HAUL ACCT: 10539
HAUL CO: EarthTech

MATERIAL: C&D
ORIGIN: Bernalillo County
DRIVER: In Vehicle

Note:

	LBS	TONS
GROSS:	18580	9.29
TARE:	11900	5.95
NET:	6680	3.34

RATE: 29.00/TN

Special Fee:

DISPOSAL FEE:	96.86
SPECIAL FEE:	0.00
ENV FEE:	10.00
TAX FEE:	6.15
TOTAL FEE:	113.01

PAYMENT INFO :
Charge on Account 113.01
CHANGE: 0.00

Sign:

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Albuquerque, NM 87121
505-242-2020
southwestlandfill.com

RECEIPT

TICKET# 48478
Truck#: 3500

DATE:03/21/19 WEIGHMASTER ID
TIME IN:11:10 AM ID IN:PM
TIME OUT:11:28 AM ID OUT:PM

Bill Acct:10539
BILL CO: EarthTech
HAUL ACCT: 10539
HAUL CO: EarthTech

MATERIAL: C&D
ORIGIN: Bernalillo County
DRIVER: In Vehicle

Note:

	LBS	TONS
GROSS:	16340	8.17
TARE:	11890	5.94
NET:	4460	2.23

RATE: 29.00/TN

Special Fee:

DISPOSAL FEE:	64.67
SPECIAL FEE:	0.00
ENV FEE:	10.00
TAX FEE:	4.10
TOTAL FEE:	78.77

PAYMENT INFO :
Charge on Account 78.77
CHANGE: 0.00

Sign:

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Albuquerque, NM 87121
505-242-2020
southwestlandfill.com

R E C E I P T

TICKET# 48463
Truck#: 8401

DATE:03/21/19 WEIGHMASTER ID
TIME IN:10:25 AM ID IN:PM
TIME OUT:10:36 AM ID OUT:PM

Bill Acct:10539
BILL CO: EarthTech
HAUL ACCT: 10539
HAUL CO: EarthTech

MATERIAL: C&D
ORIGIN: Bernalillo County
DRIVER: In Vehicle

Note:

	LBS	TONS
GROSS:	24200	12.10
TARE:	17780	8.89
NET:	6420	3.21

RATE: 29.00/TN

Special Fee:

DISPOSAL FEE:	93.09
SPECIAL FEE:	0.00
ENV FEE:	10.00
TAX FEE:	5.91
TOTAL FEE:	109.00

PAYMENT INFO :
Charge on Account 109.00
CHANGE: 0.00

Sign:

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Albuquerque, NM 87121
505-242-2020
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R E C E I P T

TICKET# 47784
Truck#: 8401

DATE:03/16/19 WEIGHMASTER ID
TIME IN:09:02 AM ID IN:AA
TIME OUT:09:14 AM ID OUT:AA

Bill Acct:10539
BILL CO: EarthTech
HAUL ACCT: 10539
HAUL CO: EarthTech

MATERIAL: C&D
ORIGIN: Bernalillo County
DRIVER: In Vehicle

Note:

	LBS	TONS
GROSS:	22020	11.01
TARE:	17720	8.86
NET:	4300	2.15

RATE: 29.00/TN

Special Fee:

DISPOSAL FEE:	62.35
SPECIAL FEE:	0.00
ENV FEE:	10.00
TAX FEE:	3.96
TOTAL FEE:	76.31

PAYMENT INFO :
Charge on Account 76.31
CHANGE: 0.00

Sign:

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Albuquerque, NM 87121
505-242-2020
southwestlandfill.com

R E C E I P T

TICKET# 47959
Truck#: ET

DATE:03/18/19 WEIGHMASTER ID
TIME IN:08:05 AM ID IN:AA
TIME OUT:08:20 AM ID OUT:AA

Bill Acct:10539
BILL CO: EarthTech
HAUL ACCT: 10539
HAUL CO: EarthTech

MATERIAL: C&D
ORIGIN: Bernalillo County
DRIVER: In Vehicle

Note:

	LBS	TONS
GROSS:	26600	13.30
TARE:	17660	8.83
NET:	8940	4.47

RATE: 29.00/TN

Special Fee:

DISPOSAL FEE:	129.63
SPECIAL FEE:	0.00
ENV FEE:	10.00
TAX FEE:	8.23
TOTAL FEE:	147.86

PAYMENT INFO :
Charge on Account 147.86
CHANGE: 0.00

Sign:

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Albuquerque, NM 87121
505-242-2020
southwestlandfill.com

R E C E I P T

TICKET# 47753
Truck#: 8401

DATE:03/15/19 WEIGHMASTER ID
TIME IN:03:01 PM ID IN:AA
TIME OUT:03:14 PM ID OUT:AA

Bill Acct:10539
BILL CO: EarthTech
HAUL ACCT: 10539
HAUL CO: EarthTech

MATERIAL: C&D
ORIGIN: Bernalillo County
DRIVER: In Vehicle

Note:

	LBS	TONS
GROSS:	22460	11.23
TARE:	17740	8.87
NET:	4720	2.36

RATE: 29.00/TN

Special Fee:

DISPOSAL FEE:	68.44
SPECIAL FEE:	0.00
ENV FEE:	10.00
TAX FEE:	4.34
TOTAL FEE:	82.78

PAYMENT INFO :
Charge on Account 82.78
CHANGE: 0.00

Sign:

Albuquerque, NM 87121
505-242-2020
southwestlandfill.com

RECEIPT

TICKET# 47497
Truck#: 8401

DATE:03/14/19 WEIGHMASTER ID
TIME IN:07:43 AM ID IN:AA
TIME OUT:08:02 AM ID OUT:AA

Bill Acct:10539
BILL CO: EarthTech
HAUL ACCT: 10539
HAUL CO: EarthTech

MATERIAL: C&D
ORIGIN: Bernalillo County
DRIVER: In Vehicle

Note:

	LBS	TONS
GROSS:	23620	11.81
TARE:	17760	8.88
NET:	5860	2.93

RATE: 29.00/TN

Special Fee:

DISPOSAL FEE:	84.97
SPECIAL FEE:	0.00
ENV FEE:	10.00
TAX FEE:	5.39
TOTAL FEE:	100.36

PAYMENT INFO :
Charge on Account 100.36
CHANGE: 0.00

Sign:

Albuquerque, NM 87121
505-242-2020
southwestlandfill.com

RECEIPT

TICKET# 47440
Truck#: 8401

DATE:03/12/19 WEIGHMASTER ID
TIME IN:12:32 PM ID IN:AA
TIME OUT:12:45 PM ID OUT:AA

Bill Acct:10539
BILL CO: EarthTech
HAUL ACCT: 10539
HAUL CO: EarthTech

MATERIAL: C&D
ORIGIN: Bernalillo County
DRIVER: In Vehicle

Note:

	LBS	TONS
GROSS:	24100	12.05
TARE:	17880	8.94
NET:	6220	3.11

RATE: 29.00/TN

Special Fee:

DISPOSAL FEE:	90.19
SPECIAL FEE:	0.00
ENV FEE:	10.00
TAX FEE:	5.72
TOTAL FEE:	105.91

PAYMENT INFO :
Charge on Account 105.9
CHANGE: 0.00

Sign:

Albuquerque, NM 87121
505-242-2020
southwestlandfill.com

RECEIPT

TICKET# 47525
Truck#: 8401

DATE:03/14/19 WEIGHMASTER ID
TIME IN:10:08 AM ID IN:AA
TIME OUT:10:26 AM ID OUT:AA

Bill Acct:10539
BILL CO: EarthTech
HAUL ACCT: 10539
HAUL CO: EarthTech

MATERIAL: C&D
ORIGIN: Bernalillo County
DRIVER: In Vehicle

Note:

	LBS	TONS
GROSS:	23620	11.81
TARE:	17720	8.86
NET:	5900	2.95

RATE: 29.00/TN

Special Fee:

DISPOSAL FEE:	85.55
SPECIAL FEE:	0.00
ENV FEE:	10.00
TAX FEE:	5.43
TOTAL FEE:	100.98

PAYMENT INFO :
Charge on Account 100.98
CHANGE: 0.00

Sign:

Southwest Landfill
5816 Pajarito Rd SW
Albuquerque, NM 87121
505-242-2020
southwestlandfill.com

RECEIPT

TICKET# 47412
Truck#: ET

DATE:03/12/19 WEIGHMASTER ID
TIME IN:10:22 AM ID IN:AA
TIME OUT:10:34 AM ID OUT:AA

Bill Acct:10539
BILL CO: EarthTech
HAUL ACCT: 10539
HAUL CO: EarthTech

MATERIAL: C&D
ORIGIN: Bernalillo County
DRIVER: In Vehicle

Note:

	LBS	TONS
GROSS:	23240	11.62
TARE:	17580	8.79
NET:	5660	2.83

RATE: 29.00/TN

Special Fee:

DISPOSAL FEE:	82.07
SPECIAL FEE:	0.00
ENV FEE:	10.00
TAX FEE:	5.21
TOTAL FEE:	97.28

PAYMENT INFO :
Charge on Account 97.28
CHANGE: 0.00

Sign:

VOLUNTARY REMEDIATION INTERIM REPORT
ADDITIONAL SITE CHARACTERIZATION
AND EXCAVATION ACTIVITIES

FORMER AT&SF/BNSF CO. CWE FACILITY
ALBUQUERQUE, BERNALILLO COUNTY, NEW MEXICO

Terracon Project No. 66057007
October 31, 2005

Prepared for:

OLD LOCOMOTIVE SHOPS, LLC
Albuquerque, New Mexico

And

UNION DEVELOPMENT CORPORATION
Albuquerque, New Mexico

Prepared by:

TERRACON
Albuquerque, New Mexico

Terracon
Consulting Engineers & Scientists
1630 Hickory Loop, Suite H
Las Cruces, New Mexico 88005
Phone 505.527.1700
Fax : 505.527.1092
www.terracon.com

October 31, 2005

Ed Casebier
Old Locomotive Shops
100 East 15th Street, Suite 630
Fort Worth, Texas 76102

James K. Trump, Jr.
Union Development Corporation
1110 Pennsylvania NE, Suite A
Albuquerque, New Mexico

Re: Voluntary Remediation Interim Report
Additional Site Characterization
and Excavation Activities
Redevelopment of Former AT&SF/BNSF Co. CWE Facility
Albuquerque, Bernalillo County, New Mexico
Terracon Project No. 68057001

Gentlemen:

Terracon is pleased to provide this Interim Report for the above referenced property, currently under the ownership of the Urban Council of Albuquerque (UCA).

Please do not hesitate to contact me at (505) 527-1700 or at mewells@terracon.com if you have any questions or comments. Thank your for the opportunity to assist with this matter.

Regards,
TERRACON

Mary E. Wells, P.E.
Project Manager

TABLE OF CONTENTS

TABLE OF CONTENTS

APPENDICES

1.0 INTRODUCTION AND WORK PLAN RATIONALE

1.1 General Project Background

Site Description

Site Name	Former AT&SF/BNSF Co. CWE Facility
Site Location/Address	Between 2nd and Commercial Streets, Downtown Albuquerque
Land Area	Approximately 27 acres (plus a optional additional 2.3 acres)
Additional Site Improvements	Transfer table, main machine shop, boiler shop, heavy equipment shop, CWE shop, oil cellars, lavatory, lye vat, motor car garage

The subject property is situated within the Town of Albuquerque Grant, within Sections 20 and 29, Township 10 North, Range 3 East, New Mexico Principal Meridian, Albuquerque, Bernalillo County, New Mexico. The property was formerly used as a Centralized Work Equipment Facility (CWE). The facility was operational between the 1880s and the early 1990s and was operated by Atchison Topeka and Santa Fe Railway. The site has many small and large structures scattered across the site including: the transfer table; main machine, CWE, boiler, heavy equipment and machine shops; and CWE storage sheds. The roundhouse was closed in the 1960s (DBS, 2000) and the exterior structure was subsequently demolished; however, the turn table remains in place and is still used occasionally. The site is primarily unpaved and covered by weeds and gravel although some areas are covered by asphalt and concrete.

The subject property is bounded on the west by 2nd Street followed by residential properties and to the east by Commercial Street followed by residential properties. The property is bounded on the south by BNSF property and on the north by BNSF and residential properties.

Figure 1 provides a topographic map illustrating the site location. Figure 2 provides a site diagram illustrating the subject and adjoining properties.

1.1.1 Topography and General Hydrology

The approximate elevation of the subject site is approximately 4,950 feet above msl according to the USGS Albuquerque West Quadrangle, New Mexico, 7.5-Minute Series (Topographic) Albuquerque West, dated 1990. The site slopes down very gently to the west. There are no well-defined water courses on the property. Site runoff (e.g., stormwater) is via overland flow to 2nd Street. Appendix A, Figure 1 provides an area topographic map.

1.1.3 Regional Geology and Hydrogeology

The site occupies a position on the east side of the Albuquerque-Belen basin. The Albuquerque-Belen basin is part of an interconnected series of north-south aligned grabens and structural basins which have subsided between mountain and highland uplifts comprising the Rio Grande Rift. The complex structural basin was formed during the Tertiary Period, more than seven million years ago, when the Sandia-Manzano fault block was uplifted and tilted. The basin is approximately 100 miles long and varies from 20 to 40 miles wide. The sloping surface of the valley fill consists of series of coalescing alluvial fans deposited unconformably on the formations of the Santa Fe Group. The Santa Fe Group consists of beds of unconsolidated to loosely consolidated sediments (detritus consisting of gravel, sand, silt, clay, and caliche) locally interbedded with volcanic rocks and deposits of the Rio Grande.

The "Soil Survey of Bernalillo County and Parts of Sandoval and Valencia Counties, New Mexico," published by the United States Department of Agriculture - Soil Conservation Service (USDA-SCS), dated June 1977, identified the soil underlying the subject site as Glendale loam, a level soil in the Rio Grande Valley.

The Glendale loam soil profile typically has a surface layer of brown clay loam about 10 inches thick. Below the surface layer to a depth of 60 inches or more is mainly a stratified, light brown to gray silt loam. The soil is mildly alkaline or moderately alkaline. The runoff is slow and the hazard for water erosion is slight.

1.1.4 Site-Specific Soil and Groundwater Conditions

Boring logs presented in the Dames & Moore Inc. Phase II Report (2000) indicate that the surface soils in the main portions of the site outside of the building areas consist of undocumented fill primarily comprised of sand and gravel interspersed with debris. The fill material extends to depths of 3 to 4 feet below ground surface (bgs). The fill material is underlain by interbedded silty and clayey sand, sand, silts and gravels to the full depths explored (32 feet bgs). The area of the main machine shop has concrete under the wood-block floor. The concrete is supported by clayey sand and lean and fat clay, which extends to a depth of approximately 8 to 11 feet bgs. These upper soils are underlain primarily by sands interbedded with minor lenses of fat clay and silty sand.

Dames and Moore, Inc. boring logs (2000), indicate that groundwater was encountered at the site at a depth of approximately 32 feet bgs during drilling activities. In the Preliminary Work Plan prepared by DBS&A (October 6, 2000), the site specific groundwater hydrogeologic parameters are discussed as follows.

> A 24-hour constant-rate pumping test was conducted on monitor well MW-8 in May 1996 by DBS&A. Drawdown and recovery data were used to estimate aquifer parameters of hydraulic conductivity, transmissivity, and groundwater

veloOLS. The geometric mean horizontal hydraulic conductivity is 2.46×10^{-1} feet per minute (ft/min). Additionally, the estimated Darcy veloOLS for groundwater beneath the site is 1.7×10^{-3} ft/min.

1.2 Site History

1.2.1 Environmental Site Investigation History

The information in this section is excerpted from the "Final Work Plan for Voluntary Remediation Agreement Former Atchison, Topeka, and Santa Fe Railway Company, Centralized Work Equipment Facility, Albuquerque, New Mexico" prepared by Daniel B. Stephens & Associates, Inc. (DBS&A) dated October 6, 2000. Please see the referenced document for the figures listed in the following paragraphs.

Representatives of the New Mexico Environmental Improvement Board (now the New Mexico Environment Department [NMED]) sampled surface soils at the CWE facility and constructed two off-site monitoring wells in 1988. Surface soils were analyzed and found to contain concentrations of polynuclear aromatic hydrocarbons (PAHs), consistent with constituents commonly found in diesel fuel. The monitoring wells were reportedly installed off-site along the eastern property boundary across from the main shop area. Groundwater samples collected from the wells contained low concentrations of toluene. The off-site wells installed in 1988 were not sampled nor were their data included in subsequent investigation activities, and their condition and whereabouts are unknown.

In 1995, ATSF contracted DBS&A to conduct a Phase I Environmental Site Assessment and generate a work plan for a Phase II investigation at the CWE facility. Based upon the Phase I investigation, DBS&A developed a Phase II investigation work plan designed to establish baseline environmental condition at the facility. Phase II investigation activities were conducted between August and October 1995 and included sampling and analysis of surface soils, subsurface soils, and groundwater using five temporary drive points. Sampling locations are shown on Figure 2.

Following Phase II investigation activities, the New Mexico Water Quality Control Commission (NMWQCC) implemented new abatement regulations for the prevention and abatement of surface and groundwater pollution. These regulations took effect in October 1995. Also during this period, ATSF merged with Burlington Northern to become the BNSF. BNSF voluntarily implemented Stage 1 Abatement Plan activities between July 1996 and February 1997. Eight groundwater monitoring wells were installed as part of the Abatement Plan investigation. Soils from the monitor well borings were sampled and analyzed, and groundwater from the monitor wells was sampled

and analyzed for four quarters. Following submittal of the final investigation report, the NMED made no directives for additional work at the site and approved the Stage 1 Abatement Activities.

In May 1998, BNSF contracted DBS&A to conduct four additional quarters of groundwater monitoring at the CWE facility. These activities were part of BNSF's ongoing efforts to characterize and monitor groundwater quality beneath the facility and were not part of the previously implemented Stage 1 Abatement Plan. In 1999, BNSF voluntarily implemented semi-annual groundwater monitoring as described above.

In the spring of 2000, the Urban Council of Albuquerque approached BNSF about purchasing the CWE facility for development. As part of negotiations, BNSF granted the Urban Council access to the property to conduct investigatory work, consisting of soil and groundwater monitoring and sampling. The Urban Council's consultant, Dames & Moore, Inc., conducted soil and groundwater sampling in the spring of 2000. Results of these sampling activities verified previous findings and provided additional information on the magnitude and extent of contaminants of concern (COCs) at the site. Sampling locations, including monitor wells MW-9 and MW-10 installed by Dames & Moore, Inc., are depicted on Figure 2.

1.2.2 Previous Assessment Findings

The information in this section is also excerpted from "Final Work Plan for Voluntary Remediation Agreement Former Atchison, Topeka, and Santa Fe Railway Company, Centralized Work Equipment Facility, Albuquerque, New Mexico" prepared by DBS&A, dated October 6, 2000. Please see the referenced document for the figures listed in the following sections. Portions of Section A.4 were obsured or blank on the copy provided to Terracon, as indicated.

A.2 Soils Investigation

The Phase II subsurface soil investigation was conducted in August 1995 and consisted of drilling 15 shallow soil borings (Figure 2). Four borings were drilled inside the CWE facility buildings and the remaining borings were drilled outside of the shop buildings.

Soil samples collected during drilling were analyzed for one or more of the following parameters: total recoverable petroleum hydrocarbons (TRPH), volatile compounds (VOCs) semi-volatile organic compounds (SVOCs), including PAH, pesticides, and metals. Analytical results are summarized below.

Field analysis of soils with a photoionization detector/flame-ionization detector (PID/FID) yielded VOC concentrations in excess of 100 parts per million (a guidance action level used by NMED) at various depths in borings SB-1, SB-2, SB-6, SBH-1, SBH-2, and SBH-5.

Subsurface soil samples collected from just above the water table contained low levels of PAHs. Total naphthalene (sum of naphthalene, 1-methylnaphthalene, and 2-methylnaphthalene) concentrations in subsurface soils ranged from less than the laboratory detection limit to 38.6 mg/kg. Trace concentrations of other PAHs were detected in soils but no associated groundwater impacts were observed.

TRPH concentrations above 100 mg/kg in subsurface soils are present throughout the CWE facility. These concentrations appear to be greater in shallower soils and decrease with depth.

A.3 Surface Soils

In August 1995, 32 surface soil samples (typically between 12 to 18 inches below surface) were collected from areas both within the CWE shop buildings and throughout the facility grounds (Figure 2).

Targeted analytes for these sample, based upon DBS&A's understanding of potential contaminants in that area of the site, included one of more of the following: TRPH, VOCs, SVOCs, pesticides, polychlorinated biphenyls (PCBs), and priority pollutant metals. Analytical results are summarized below.

TRPH concentrations in surface soils ranged from 26 milligrams per kilogram (mg/kg) in sample SS-20 to 4,500 mg/kg in SS-22. These samples were collected beneath the flooring of the boiler shop and the main machine shop, respectively.

VOC analyses indicated that trace concentrations of methylene chloride (11 to 24 micrograms per kilogram [ug/kg], toluene (5 to 7 ug/kg), and xylene (7 to 8 ug/kg) were detected in several surface soil samples. One sample contained a trace concentration (5 ug/kg) of tetrachloroethane.

SVOC analyses indicated that only minor concentrations of PAHs were present in CWE facility surface soils. However, benzo(a)pyrene (BAP) concentrations were also detected at concentrations ranging from less than the method detection limit to 7 mg/kg. EPA's Final remediation goals (PRGs) for BAP in soils at industrial facilities is 0.39 mg/kg.

No pesticides, chlorinated herbicides, or PCBs were detected in any of the surface soil samples.

Lead concentrations in surface soils at the CWE facility ranged from 46 to 960 mg/kg. EPA's PRG for lead in soils at industrial facilities is 2,000 mg/kg. Copper concentrations ranged from 58 to 806 mg/kg.

A.4 Groundwater Investigation

Groundwater samples were collected in August 1995 from temporary … [obscured] borings for SBH-1 through SBH-5 (Figure 2). The samples were analyzed for … [obscured] pesticides. Analytical results are summarized in the following … [obscured]

- No concentrations of any regulated compound above … [obscured] detected in any of the groundwater samples collected … [obscured]
- As part of Stage 1 voluntary abatement activities, DBS&A installed eight groundwater monitor wells in July 1996.. [obscured]
- Soils collected for analysis from the monitor well borings contained concentrations of PAHs. In all of the borings, the concentrations of detected analytes decreased with depth.
- Regular groundwater monitoring and sampling of select monitor wells at the CWE facility has been conducted. Only monitor well MW-3 has contained concentrations of regulated compounds above WQCC standards. Benzene has been detected in MW-3 at concentrations slightly above the WQCC groundwater standard.

1.3 Contaminants of Concern

The following list of contaminants of concern (COCs) has been developed based on previous investigations and data collected in September and October 2005 as part of VRP site characterization activities. The site contaminants of concern include:

- Asbestos in the roofing materials in the on-site structures, window glazing of the main machine and boiler Shop windows, transite pipe pieces on the ground on the southern portion of the property and in the plaster on the interior walls of the fire house;
- Lead present in paint throughout the site structures;
- Lead present in site soils in the former battery storage area, the former sandblasting area and in the roundhouse; and
- Diesel and motor oil impacted soils in the area southeast and south of the former roundhouse structure.

1.4 Conceptual Site Model

In order for possible target compounds to do harm to public health or the environment, they must occupy a point of exposure accessible to the population at risk. Compounds to which populations are not currently, or in the future, exposed via complete exposure pathways do not constitute a probable condition of elevated risk.

The first step of the exposure assessment is to establish a Site Conceptual Model (SCM) to identify target populations and receptors for the application of remedial objectives calculations. This approach attempts to map the physical and demographic conditions of the site, determine what pathways appear reasonably complete, and graphically present the information. The SCM was developed using the American Society of Testing and Materials' (ASTM) E-1689-95: Standard Guide for Developing Conceptual Site Models for Contaminated Sites.

The SCM represents potential chemical risk from current conditions on the impacted property to first-order receptors, as if no corrective action were completed. First-order receptors are considered those on the Property, those on property immediately contiguous to the Property and second-order receptors beyond contiguous properties required for evaluation and protection (e.g., a private drinking water well remote from the Property). Residences and businesses directly adjacent to the site are generally assumed to incur greater potential risk from the site. For example, a residence directly adjacent to the site is expected to be at greater potential risk than a residence one-half (.5) mile from the site.

Determining site-specific project action limits for immediate and contiguous populations-at-risk is expected to provide a protective condition for second-order, more remote receptors.

Three (3) human receptor populations were considered:

- The industrial/commercial exposure; persons who occupy the Property under conditions of full-time employment.

- The residential exposure; persons who reside on the Property.

- The construction worker exposure; persons who construct, repair or maintain development on the Property.

One (1) non-human environmental receptor population considered was the general aquatic environment of the Rio Grande.

The completion of a pathway allowing contaminants to be conveyed to a receptor is necessary to produce exposure resulting in added risk.

The assessor can speculate and extrapolate probability upon probability attempting to account for all scenarios of exposure. An overly conservative "what if, what if ... and then what if?" approach results in a cumulative estimate of hazard higher than realistic exposure and practical risk posed. In keeping with 1996 Environmental Protection Agency (EPA) CERCLA emphasis and support for realistic development of exposure scenarios, the SCM evaluated the completion of exposure pathways as practical and reasonable to conditions of the Property. A potential exposure pathway was considered conceptually complete if it satisfied the following logic screen:

- The condition could reasonably present a COC to a media of soil, groundwater, or air without extraordinary circumstance.

- The pathway reasonably sustains transport through the media to the closest receptors.

- The pathway provides a regular and sustainable condition of transport for exposure of significant duration.

In order to visualize exposure pathways and potential receptors, Terracon developed a graphical presentation based on current site conditions. The development was consistent with concept and methodology of ASTM. The project model assumes that populations are exposed to residual soil impact through exposure routes. Pathways considered directly by the SCM include the following;

- Primary ingestion of contaminants in soil/fills by residential populations.
- Primary ingestion of contaminants in soil/fills by industrial/commercial populations.
- Primary ingestion of contaminants in groundwater by residential populations.

Indirect pathways considered likely are;

- Primary ingestion of contaminants in soil/fills by construction worker populations.
- Incidental ingestion of contaminants in soil/fills by residential populations.
- Incidental ingestion of contaminants in soil/fills by industrial/commercial populations.
- Incidental ingestion of contaminants in soil/fills by construction worker populations.
- Inhalation of contaminants from soil/fills by residential populations.
- Inhalation of contaminants from soil/fills by industrial/commercial populations.
- Primary ingestion of contaminants in groundwater by industrial/commercial populations.
- Incidental ingestion of contaminants leaching to groundwater with off-site transport to residential populations.
- Indirect ingestion of contaminants in contaminated groundwater transporting off-site.

- Indirect ingestion of contaminants in groundwater by soil impact leaching to groundwater and then transported off-site to actual and potential groundwater receptors.

The SCM represents a global presentation of exposure pathways available at the site. The mechanics of exposure for the Property as if current conditions were not abated or provided for is depicted graphically in Figure 3, Appendix A.

2.0 SUMMARY OF SITE SAMPLING AND ANALYSIS ACTIVITIES

2.1 Purpose of Investigation

Rick Shean outlined, in his memo, several concerns that New Mexico Environment Department (NMED) has concerning the Preliminary Work Plan that was previously submitted by DBS&A (October 6, 2000). The NMED's primary concern was that the work plan was developed based on a remedial strategy of capping to eliminate future exposure pathways and conducting monitoring. However, the site has not been adequately characterized to do a risk-based closure relative to the hydrocarbon, lead and PCB impacted soils. Therefore, the objectives for the investigation were to:

1. Asses if the wood-block floor within the main machine and boiler shops contained chlorodane and pentachlorophenol;
2. Assess polyaromatic hydrocarbons (PAH) concentrations in heavy hydrocarbon impacted soils not previously tested;
3. Refine the horizontal extent of heavy hydrocarbon and the vertical and horizontal extent of lead impacted soils by additional subsurface hand auger borings or through excavation procedures utilizing a backhoe;
4. Assess the potential for asbestos containing materials (ACM) on the site and in the building areas that have not been previously sampled;
5. Assess the potential and its condition, if applicable, for lead-based paint (LBP) in the on-site structures;
6. Establish the ownership of the on-site transformer and assess the potential for PCB in the transformer oil and in the surrounding soil surrounding the former transformer areas;
7. Assess the benzene and PAH concentrations in the groundwater during the investigation and upon completion of select hydrocarbon impacted soil removal;
8. Re-calculate volumes of hydrocarbon and lead impacted soils estimated by Dames & Moore, Inc. (05/25/00) and PCB impacted soils (if encountered); and
9. Re-evaluate costs developed by Dames and Moore, Inc. (05/25/00) to remediate the site.

Based on previous assessment findings and available information, several specific areas within the site property boundary were targeted for additional investigation. The targeted areas and rationale for further investigation are discussed in the following paragraphs.

1. Previous assessment activities have identified lead impacts to surface soils in the former sandblasting area on the northeast portion of the site, in the battery story area directly adjacent to the machine shop, and in the roundhouse area. Available data do not indicate that impacts extend to depths greater than five feet below ground surface (and appear to be generally less than two feet below ground surface), and do not extend laterally greater than 150 feet. The soils areas with lead concentrations exceeding the NMED commercial\industrial soils screening level (SSL) for lead will need to be refined to develop updated remediation costs. Additionally, the presence or absence of lead based paint within the on-site structures has not been ascertained.

2. Previous assessment activities have identified significant TPH impacted soils in the fueling area located generally south and southeast of the roundhouse. These samples did not contain high concentrations of PAHs. High concentrations of TPH were also detected in soil samples collected from subsurface soils beneath the main machine shop and the boiler shop and in the area of the old fuel oil cellar located northeast of the CWE shop but these samples were not tested for PAHs. Deeper samples are to be collected in the areas with previously detected high concentrations of TPH and tested for PAHs to verify that they fall below NMED commercial\industrial SSLs. Additionally, the areas with elevated concentrations of TPH need further delineation to update the remediation cost associated with hydrocarbon impacted soils.

3. The on-site transformer that is currently being used by BNSF Railroad does not appear to have been tested for PCBs. Additionally, the soils surrounding the former transformer locations on the southwestern portion of the site have not been tested for PCBs.

4. Asbestos may be present in the window glazing and caulk (putty) of the main machine and boiler shops but this material has not been characterized. Additionally, approximately 180 linear feet of damaged chrysotile and crocidolite transite pipe and additional lengths of suspected ACM pipe were previously noted in the area around the former substation and former electrical transformer pad near the northwest portion of the former roundhouse.

5. Low levels of hydrocarbons including benzene, naphthalene, fluorine and phenanthrene have been detected historically in the on-site monitoring wells. Benzene was detected during a December 1999 sampling event at a concentration exceeding the New Mexico Water Quality Control Commission (NMWQCC) standard

(18 ug/L), the other detected constituents were not above NMWQCC standards. The wells should be sampled during the investigation and upon removal of the hydrocarbon source areas to verify that the groundwater is not impacted.

The site investigation activities therefore included characterization by drilling and excavation strategies to assess the extent of soil impacts within the above-referenced areas. Soil conditions were evaluated through drilling and systematic excavation base and sidewall grab sampling as described in the following sections. A limited asbestos survey was also conducted for the site and paint inside the main machine and boiler shops was tested for the presence or absence of lead. Additionally, Rick Shean in his e-mail dated September 21, 2005 asked us to address several items including suspect ACM on the ground north of the heavy equipment storage building and the paint shop area adjacent to the boiler shop.

2.2 Results of Sampling and Analysis

Specific areas addressed during site characterization activities are presented in the following sections. The following sections also discuss sampling and XRF, PetroFlag, Lead Check™ and laboratory analytical procedures in detail. Boring and test pit locations are shown on Figure 2. Figures 4 and 5 illustrates the excavation areas.

2.2.1 Lead (Pb) Impacted Areas

Characterization by excavation strategies were applied to investigate soil conditions in the three lead impacted areas referred to herein as the roundhouse, battery storage and the sandblasting lead areas. Heavy excavation equipment (e.g., backhoe), was used to perform characterization of the areas previously identified with elevated lead concentrations. A visual survey was conducted of the area and indicated that the area was concrete with a residual layer of soil. This was verified by probing using a digging bar.

XRF characterization samples were collected from the excavation base and each excavation side-wall following the initial excavation. Samples were collected at a minimum frequency of one side-wall sample per every 20 linear feet, and one base sample per every 400 square feet. A systematic 20 by 20-foot (or less) grid pattern was used to establish excavation base locations. Side-wall samples were collected from the exposed side-wall surface at 0 to 1-foot vertical intervals, based on the greatest potential for lead impacts. Excavation base samples were collected from the excavation base surface. Excavation side-wall and base samples were collected with a stainless steel trowel or shovel using general grab sampling methods.

Soil samples were collected for laboratory verification for lead at a frequency of 10 percent of the total number of XRF characterization samples collected, or at a frequency of one final excavation base sample and one sample for each final excavation side-wall, whichever resulted in the greater number of verification samples. The samples selected for laboratory

verification generally included the XRF samples that indicate the most elevated lead concentrations. Laboratory samples were analyzed for lead per EPA Method 6010.

XRF technology was used to analyze soil characterization samples for lead. Field XRF procedures were consistent with EPA Method 6200. Samples were homogenized prior to analyses to provide data representative of the entire sample interval. Rocks, gravel, and other heterogeneous materials were removed prior to analysis to limit matrix interference.

Eight-five (85) excavation side-wall and base samples were collected for XRF lead and ninety-three (93) samples were submitted for laboratory verification analyses following the initial excavation and from areas exhibiting concentration above the commercial/industrial SSLs. Additionally, 36 discrete soil samples were collected from the resultant stockpiles and composited by the analytical laboratory into nine (9) composite samples for TCLP Pb analysis. These composite soil samples collected from the stockpiles, associated with the lead impacted areas, were below laboratory detection limits for TCLP Pb. The approximate XRF field screen and soil sampling locations are presented on Figures A thru C, Appendix A. Total lead results of the XRF field screen, excavation and stockpile soil samples are summarized on Tables 1, 2 and 3, respectively, in Appendix B. Laboratory test results and Chain-of-Custody forms are presented in Appendix C.

The roundhouse excavation area currently extends approximately 15 feet (east to west) by 25 feet (north to south), comprising an approximate total area of 375 square feet. The excavation extends to average of 3 feet in depth, resulting in an initial soil excavation volume of approximately 40 cubic yards. However, since lead concentrations in portions of this area are still greater than the commercial/industrial SSL, it is estimated that the final excavation area will be 600 square feet and 5 feet deep resulting in a total soil excavation volume of approximately 110 cubic yards.

The sandblasting excavation area is generally rectangular in shape and extends an average of 25 feet (east to west) by an average 60 feet (north to south), comprising an approximate total area of 1,500 square feet. The excavation is approximately 2.5 feet in depth, resulting in an initial soil excavation volume of approximately 140 cubic yards. Confirmation soil testing indicates that soils with lead concentrations above commercial/industrial SSLs have been excavated from this location.

The battery storage excavation area is L-shaped and extends approximately 85 feet (east to west) by approximately 85 feet (north to south), comprising an approximate total area of 5,045 square feet. The excavation currently extends to approximately depth of 1.5 feet, resulting in an initial soil excavation volume of approximately 280 cubic yards. However, since lead concentrations in portions of this area are still greater than the commercial/industrial SSL, it is estimated that limited addition excavation will be required in four discrete areas within the excavation. The final excavation in these areas will be about 5 feet deep resulting in a total soil excavation volume of approximately 400 cubic yards.

2.2.2 Outside Petroleum Impacted Areas

Soil volumes initially calculated by Dames & Moore (05/25/00) were based on a limited number of borings. Test pit and excavation techniques were used to refine the limits of the hydrocarbon impacted soils and to re-evaluate the total volume of impacted soils. Due to the potential depth of hydrocarbon impacted soils and the type of soils encountered previously on the site (clays, sands, gravels and debris), a backhoe equipped with an extend-a-hoe was used for assessment activities.

Soils in areas of hydrocarbon impacts were screened using a MiniRae photoionization detector (PID) calibrated at the site. Hydrocarbon characterization samples for soil screening were collected from the excavation base and each excavation side-wall following the initial excavation. Samples were collected at a minimum frequency of one side-wall sample per every 20 linear feet (at 1 to 2-foot intervals), and one base sample per every 400 square feet. A systematic 20 by 20-foot (or less) grid pattern was used to establish excavation base locations. Excavation side-wall and base samples were collected with a stainless steel towel or shovel using general grab sampling methods.

Preliminary analysis of heavy hydrocarbons concentrations in the soil samples was conducted using field testing methology (PetroFlag). Selection of soil samples to be field tested were based on PID readings and visual and olfactory methods. PetroFlag samples were also collected from each of the test pits excavated in the roundhouse fueling area. Samples were homogenized prior to analyses to provide data representative of the entire sample interval. Rocks, gravel, and other heterogeneous materials were removed prior to analysis to limit matrix interference. The samples selected for laboratory verification generally included the PetroFlag samples or PID readings that indicate the most elevated TPH concentrations.

An area surrounding the former oil cellar and 25-tall above-ground storage tank (AST) south southeast of the former roundhouse was excavated. The excavation area extends approximately 62 feet (east to west) by 29 feet (north to south), comprising an approximate total area of about 1,800 square feet. The excavation extends to an average approximate depth of 5 feet, with some deeper areas, resulting in an initial soil excavation volume of approximately 330 cubic yards. Each of the side walls in the excavation is visibly stained and free product that is perched on a clay layer has collected in the excavation. A sample of the free product was tested for TPH by EPA Method 8015 Modified. The area to the west of the excavation is currently being utilized to store the new commuter train cars so investigation in this area was limited to test pits to assess the horizontal boundaries of the hydrocarbon impacted soils (the vertical limits were delineated during earlier investigations). The test pits extended to depths of approximately 5 to 10 feet in depth. One sample was submitted from each of the test pits excavated in the roundhouse area and analyzed for TPH per EPA Method 8015 Modified. Twenty-four (24) discrete soil samples were collected from the resultant stockpiles and composited by the environmental laboratory into six (6)

composite samples for TPH and Toxicity Leachate Characteristic Procedure (TCLP) 8 RCRA Metals analysis.

The area on the north portion of the property in the area of the former oil cellar north of the CWE building, was also excavated. The excavation extended approximately 18 feet east to west and 20 feet north to south. The excavation was extended to a general depth of 6 feet. The excavation was extended to a total depth of approximately 12.5 feet in the center of the excavation. One sample was collected from the area north of the northern former oil cellar excavation was analyzed for PAHs by EPA Method 8310. Based on PID readings, and approval from Rick Shean of NMED, this excavation was backfilled immediately after sample collection for safety considerations.

Concentrations for the soil sample collected from the northern former oil cellar excavation were below laboratory detection limits for PAHs. TPH concentrations from the soil samples collected from the test pits ranged from below laboratory detection limits to 11,022 mg/kg. TPH concentrations were 350 mg/kg in TP-1 (5 feet bgs), 1,563 mg/kg for test pit TP-6 (5 feet bgs), 11,022 mg/kg for test pit TP-7 (2.5 feet bgs), 200 mg/kg for test pit TP-8 (2.5 feet bgs) and 280 mg/kg in test pit TP-9 (2.5 feet bgs). TPH was not detected above laboratory detection limits for TPH in test pits TP-2, TP-3 and TP-4 or in samples collected at depths of 5 feet bgs in test pits TP-8 and TP-9. Concentrations of TPH for samples collected from the resultant stockpiles for the southeast excavation range from 11,000 to 44,000 mg/kg; however, results for TCLP RCRA 8 metals were below laboratory detection limits. Results of the excavation and stockpile soil samples and of the free product are summarized on Tables 4 thru 7 in Appendix B. Laboratory test results and Chain-of-Custody forms are presented in Appendix C.

2.2.3 Interior Petroleum Impacted Areas

The previous investigation performed by DBS&A (1995) indicated elevated hydrocarbon concentrations in soil samples collected from borings advanced in the main machine and boiler shops, specifically samples collected from soil borings SB-2, SB-4 and SB-5 (see Figure 2, Appendix A for boring locations). However, these soil samples were not previously tested for PAHs. Three additional soil borings were advanced directly adjacent to the original boring locations (and identified with the previous boring numbers) and samples were collected from the depths that previously exhibited the highest concentrations of hydrocarbon (11.5 to 13 feet, 14 to 15 feet and 2 to 3 feet, for borings SB-2, SB-4 and SB-5, respectively). Additionally, soil samples were tested to verify PAH concentrations in deeper soils. Nine (9) soil samples were analyzed for PAHs by EPA Method 8310. Results for soil samples from boring SB-2, SB-4 and SB-5 are below commercial/industrial SSLs for PAHs. Results of soil testing for PAHs are presented on Table 8, Appendix B. The approximate boring locations are presented on Figure 2, Appendix A. Laboratory test results and Chain-of-Custody forms are presented in Appendix C. Boring Logs are presented in Appendix D.

2.2.4 Presence of PCBs in on site Soils and/or Transformer Oils

Several former transformers were located in the area west, northwest of the former roundhouse, on the western portion of the site in the fenced area directly north of the existing pad mounted transformer. The soils surrounding the former locations of the transformers on the southwestern portion of the property were sampled. Sixteen soil samples (16) were collected and tested for PCBs using EPA Method 8082. PCBs were not detected above laboratory detections limits in the 16 soils samples tested. The approximate sampling locations are presented on Figure D, Appendix A. The laboratory test results and Chain-of-Custody forms are presented in Appendix C.

There is also a 12,400-volt on-site transformer in the boiler shop that is currently operated by BNSF. Ownership of this transformer is unknown but it will need to be removed from the site prior to any redevelopment activities. The ownership of the on-site transformer has not been researched. If the transformer is the responsibility of UCA, it will be sampled for the presence of PCBs.

2.2.5 Presence of Chlordane and Pentachlorophenol in the Wood-Block Floor of the Main Machine Shop

The wood-block floor in the main machine and boiler shops have not been tested previously as part of site characterization activities. At other similar sites, these floors were historically flooded with chlordane, pentachlorophenol and/or similar compounds for pest control (e.g., termites). To access the potential for these compounds, samples were collected and analyzed for chlordane, pentachlorophenol and/or similar compounds using EPA Methods 8081 and 8270. The areas to be sampled within the main machine and boiler shop wood-block floors were identified based on the location selection methodologies outlined in EPA 560/5-85/026. Samples of the wood were collected using a standard battery-powered hand-held drill. Wood cuttings generated by advancing the drill were collected for laboratory analysis. A total of 30 wood-block floor samples were collected, composited into 6 samples and analyzed. The wood-block floors did not contain detectable concentrations of chlordane or pentachlorophenol. The location of the wood-block floor samples are presented in Table 10, Appendix B. Laboratory test results and Chain-of-Custody forms are presented in Appendix C.

2.2.6 Asbestos Containing Materials (ACM)

An asbestos survey was conducted at the site in the buildings not previously sampled and was limited to accessible areas within the subject buildings. The asbestos survey report is included as Appendix E.

2.2.7 Lead Based Paint (LBP)

The paint in the interior sections of the buildings that the Client proposes to revitalize had not been assessed for LBP. A LBP was conducted of the interior portions of the buildings using Lead Check™, a nondestructive method of assessing if the paint contains lead or not. Locations sampled were determined using HUD Lead-Based Paint: Interim Guidelines for

Hazard Identification and Abatement in Public and Indian Housing, September 1990. A total of 26 paint samples were tested using Lead Check™. Ten (10) paint samples tested positive for lead.

2.2.8 Sampling Existing On-site Groundwater Monitoring Wells

The eight existing on-site groundwater monitoring wells (MW-1 and MW-3 thru MW-9) were sampled as part of the assessment activities on October 15 and 22, 2005. These wells will also be sampled upon removal of the upper hydrocarbon impacted soils.

Prior to sampling, the wells were checked for the presence of phase-separated hydrocarbons (PSH). After the wells were checked for PSH, they were gauged for depth to groundwater using a Slope Indicator™ water level meter. Immediately prior to collecting groundwater samples, each monitoring well was purged by hand bailing of a minimum of three well casing volumes of water. Groundwater samples were collected from each of the eight groundwater monitoring wells using a new PVC bailer per well. Groundwater samples collected from the on-site groundwater monitoring wells were analyzed for PAHs using EPA Method 8310 and for benzene using EPA Method 8021B.

Depth to ground water in the eight on-site monitoring wells ranged from about 29.4 feet bgs in MW-2 to 37.6 feet bgs in MW-6. Groundwater flow direction is generally to the northeast. Benzene was detected in MW-3 at a concentration of 13 ug/L (0.013 mg/L). Benzene concentrations in MW-3 have historically ranged from 5.2 ug/L to 150 ug/L. Benzene was not detected above laboratory detection limits in the other seven wells sampled at the site. Naphthalene, 1-Methylnaphthalene, and 2- Methylnaphthalene were also detected at concentrations 5.1, 17 and 21 ug/L, respectively. Naphthalene was not detected in the other seven wells sampled at the site above laboratory detection limits. Low concentrations (below 2 ug/L) of 1-Methylnaphthalene, and 2- Methylnaphthalene were detected in MW-1, MW-4 and MW-6 thru MW-9. Neither compound was detected above laboratory detection limits in MW-5. Results of ground water testing for the monitoring wells are presented on Table 9, Appendix B. The approximate monitor well locations are presented on Figure 2, Appendix A. Laboratory test results and Chain-of-Custody forms are presented in Appendix C.

2.2.9 On-site Oil Water Separator

An on-site oil water separator was noted directly west of the roundhouse. The liquid was sampled for pumping and subsequent disposal. Laboratory test results and Chain-of-Custody forms are presented in Appendix C.

2.3 Nature and Extent of Contamination

2.3.1 Lead Impacted Areas

Lead is ranked #2 on the 1999 Agency for Toxic Substances and Disease Registry (ATSDR) list, primarily because of its prevalence and in concentration can be toxic in its affects on

children. Exposure to lead happens mostly from breathing workplace air or dust, and eating contaminated foods. Children can be exposed from eating lead-based paint chips, or playing in contaminated soil. Lead can damage the nervous system, kidneys, and the immune systems. Lead has been found in at least 922 of 1,300 National Priorities List sites identified by the Environmental Protection Agency.

Lead is a naturally occurring bluish-gray metal found in small amounts in the earth's crust. It has no characteristic taste or smell. Metallic lead does not dissolve in water and does not burn. Some natural and man-made substances contain lead, but do not look like elemental lead in its metallic form.

Lead has many different uses. Its most important use is in the production of some types of batteries. Other uses include the production of ammunition, in some kinds of metal products (such as sheet lead, solder, and pipes) and in ceramic glazes. Some chemicals containing lead, such as tetraethyl lead and tetramethyl lead, are used as gasoline additives. However, the use of these lead- containing chemicals in gasoline is much less than it used to be because the last producer of these additives in the United States stopped making them in early 1991. Other chemicals containing lead are used in paint. The amount of lead added to paints and ceramic products, caulking, gasoline additives, and solder has been reduced in recent years because of lead's harmful effects in humans and animals. However, the use of lead in ammunition and roofing has actually increased in recent years. Lead is used for radiation shields for protection against X-rays and in a large variety of medical, scientific, and military equipment.

Most lead used by industry comes from mined ores ("primary") or from recycled scrap metal or batteries ("secondary"). Human activities (such as use of "leaded" gasoline) have spread lead and substances that contain lead to all parts of the environment. For example, lead is in air, drinking water, rivers, lakes, oceans, dust, and soil.

Lead is a heavy metal that exists in three oxidation states: O, +2(II), and +4(IV). Lead is generally the most widespread and concentrated contaminant present at a lead battery recycling site (i.e., battery breaker or secondary lead smelter). Lead tends to accumulate in the soil surface, usually within 3 to 5 centimeters of the surface. Concentrations decrease with depth. Insoluble lead sulfide is typically immobile in soil as long as reducing conditions are maintained. Lead can also be biomethylated, forming tetramethyl and tetraethyl lead. These compounds may enter the atmosphere by volatilization. The capacity of soil to adsorb lead increases with pH, cation exchange capacity, organic carbon content, soil/water Eh (redox potential), and phosphate levels. Lead exhibits a high degree of adsorption on clay-rich soil. Only a small percent of the total lead is leachable; the major portion is usually solid or adsorbed onto soil particles. Surface runoff, which can transport soil particles containing adsorbed lead, facilitates migration and subsequent desorption from contaminated soils. On the other hand, groundwater (typically low in suspended soils and leachable lead salts) does

not normally create a major pathway for lead migration. Lead compounds are soluble at low pH and at high pH, such as those induced by solidification/stabilization treatment.

The lead impacted areas on the site are limited to shallow subsurface soils. The total lead impacts to soils appear to have resulted primarily from particulates (e.g., paint from sand blasting). Results of TCLP analysis indicate that the lead is not leachable. The total lead in the roundhouse area is most likely tied up in the clinker materials. The remainder of the lead impacted soil does not appear to extend beyond a depth of approximately 5 feet bgs.

2.3.2 Petroleum Impacted Areas

ATSDR indicates Total Petroleum Hydrocarbons (TPH) is a term used to describe a broad family of several hundred chemical compounds that originally come from crude oil. In this sense, TPH is really a mixture of chemicals. They are called hydrocarbons because almost all of them are made entirely from hydrogen and carbon. Crude oils can vary in how much of each chemical they contain, and so can the petroleum products that are made from crude oils. Most products that contain TPH will burn. Some are clear or light-colored liquids that evaporate easily, and others are thick, dark liquids or semi-solids that do not evaporate. Many of these products have characteristic gasoline, kerosene, or oily odors. Because modern society uses so many petroleum-based products (for example, gasoline, kerosene, fuel oil, mineral oil, and asphalt), contamination of the environment by them is potentially widespread. Contamination caused by petroleum products will contain a variety of these hydrocarbons. Because there are so many, it is not usually practical to measure each one individually. However, it can be useful to measure the total amount of all hydrocarbons found together in a particular sample of soil, water, or air.

The amount of TPH found in a sample is useful as a general indicator of petroleum contamination at that site. However, this TPH measurement or number tells us little about how the particular petroleum hydrocarbons in the sample may affect people, animals, and plants. By dividing TPH into groups of petroleum hydrocarbons that act alike in the soil or water, scientists can better know what happens to them. These groups are called petroleum hydrocarbon fractions. Each fraction contains many individual compounds.

TPH is released to the environment through accidents, as releases from industries, or as byproducts from commercial or private uses. When TPH is released directly to water through spills or leaks, certain TPH fractions will float in water and form thin surface films. Other heavier fractions will accumulate in the sediment at the bottom of the water, which may affect bottom-feeding fish and organisms. Some organisms found in the water (primarily bacteria and fungi) may break down some of the TPH fractions. TPH released to the soil may move through the soil to the groundwater. Individual compounds may then separate from the original mixture, depending on the chemical properties of the compound. Some of these compounds will evaporate into the air and others will dissolve into the groundwater and move away from the release area. Other compounds will attach to particles in the soil

and may stay in the soil for a long period of time, while others will be broken down by organisms found in the soil.

The outside petroleum impacted areas appear to be the result of many small leaks over time from former oil cellars, the former fuel AST, and spills from the locomotives. Soils saturated by diesel and motor oil are present in the area directly south southeast of the former roundhouse. The petroleum appears to be confined by intermittent clay layers. The Main machine and boiler shops have localized areas of hydrocarbon impacted soils most likely the result of small leaks from locomotives being serviced.

3.0 RESULTS OF REMEDIATION ACTIVITIES

3.1 Analysis of Brownfield Cleanup Alternatives for Feasibility Planning

Terracon prepared an Analysis of Brownfields Cleanup Alternatives (ABCA) for Feasibility Planning report (Terracon Project No. 68057001, dated October 12, 2005). This analysis presents discussion of scenarios and potential costs for approaches to remedy and closure relative to the referenced property.

3.2 Status of Site Remediation

The majority of lead impacted soils above commercial/industrial SSLs have been excavated; however, limited additional removal will be required in the battery storage area and in the roundhouse area. Approximately 330 cubic yards of petroleum impacted soil has been excavated from the former oil cellar/AST area south southeast of the former roundhouse. A sump has been installed to facilitate the removal of the free product that is perched on the clay layer. Additional excavation will be required in this area. Surface soils impacted with heavy hydrocarbons, above the commercial/industrial SSLs, will be removed in the area south southeast of the roundhouse to a depth of approximately two (2) feet below the existing ground surface. This area will be eventually covered by a combination of building foundations and parking areas. No landscaping is planned in this area.

3.3 Planned Long Term Remediation System Operation and Maintenance

There is no long term remediation system planned for this site.

3.4 Institutional Controls

Consideration must be given during planning to environmental issues not related directly to negotiated or technical remedy of site conditions. Just as actual or perceived environmental impairment often keeps a brownfields property from consideration of redevelopment, the

stigma and associated perceptions of impairment can extend beyond re-establishing the property's marketability.

Consistent with this evaluation for use by the Client in determining feasibility for redevelopment, Terracon presents additional issues as reference in planning. Except for soil management plans for risk-managed remedies, these issues and associated discussions of potential costs have not been included in remedy cost analyses.

These discussions presume the Client or other party finds the property feasible within the limits discussed herein and moves to ownership or direct management of the redevelopment project

3.4.1 Subcontractor Education Regarding Chemical Risk

The Client or directing party should consider an educational package for inclusion with bid documents to educate subcontractors and provide sufficient information to perform Employee-Right-To-Know Training for any redevelopment projects on the property. This effort can take a variety of forms, however, it should convey to subcontractors the following issues;

- The Client or directing party does not want to infer there is no chemical risk. Rather it wishes to convey that, after evaluating impacts, conditions pose acceptable risk on a par with physical and chemical exposures.

- Although conditions identify manageable chemical risk, the Client or directing party acknowledges the potential for unknown discovery and is prudently providing for such contingencies.

The approach can be as simple as attaching this report directly to bid documents and allowing individual interpretation by the contractor. Another effort that is more advanced could have the Client or directing party developing a site-specific educational summary relative to risk-based redevelopment for attachment to bid documents.

Either approach should involve a pre-bid or pre-construction presentation of risk-based findings by the Client or directing party or their representatives to bidders. Either effort should include development of a site-specific safety plan as a template for contractor use and at least one initial "tool box" presentation to rank-and-file workers on the job site. The safety plan should include site-specific hazard recognition and response. The upper-end effort could include development of the program and materials in conjunction with management or technical support groups of organized labor (i.e., laborers, and operators) in contact with soils.

Terracon experience has shown the complexity of this activity determines final cost. For planning purposes, the Client or directing party could estimate costs for conditions of the

magnitude discussed herein to range on the order of $3,000 to $6,000. These costs can be integrated into construction budgets of the Client or other directing party.

3.4.2 On-site Construction Worker Exposure

Often the perception of exposure or environmental impact to the construction worker can impair on-site construction activity as effectively as actual chemical risk. Workers are protected under law from excess chemical risk from exposures to hazardous substances. A loss of confidence in personal protection can result in work stoppage[1] until workers feel adequate characterization of the work environment has occurred. Worker concern can also prompt out-of-project calls to public agencies by workers seeking satisfaction on health issues. In addition to developing the educational component for bidding, counsel's client should consider a contingency program to respond to concerns of on-site workers during actual construction. Experience shows the program can be preemptive or reactive in nature.

Preemptive Planning

An example of a preemptive approach might begin immediately after the preliminary types and locations of site work are determined. During final geotechnical drilling and sampling for foundation design, additional samples could be concurrently obtained in locations requiring soil/spoil removal. Risk information for specific areas could be included in the safety plan.

This approach attempts to provide for "no surprises" and typically has the least potential to disrupt construction schedules. Preemptive approaches have the value of instilling in on-site parties that environmental impacts are merely another component of the construction process to be managed, not significantly different than traditional safety issues.

Similarly, during actual on-site construction counsel's client could also perform third-party observation and testing through field screening of spoils to monitor consistency with drilling and sampling. This field screening can take the forms used in the preliminary assessment or other field methods appropriate to findings (e.g., bioimmunoassay screening of VOC/SVOCs, colorimetric reagent testing of lead in soils, on-site portable gas chromatography).

Cost becomes dependent on sampling locations and number of field days, full- or part-time, for monitoring services. Terracon experience has shown this type of approach for conditions of the magnitude discussed could result in costs on the order of $20,000 to $30,000 with an estimated fifty percent (~50%) of fees expended in sampling and analytical chemistry. These costs can be integrated into construction budgets of the Client or other

[1] Public works redevelopment for *John Deere Plow & Planter Works/The Mark of the Quad Cities*, Moline, Illinois 1993-4. Considered a *EPA Region 5 Brownfields Success Story*, organized labor recognized a non-strike agreement for economic redevelopment contracts unless hazardous waste materials were encountered. Historical fills contained non-hazardous levels of staining and oils, prompting caisson worker concerns, stoppage and a potential strike. The implementation of an educational subcontractor program in conjunction with a reactive sampling plan allowed construction on schedule.

directing party, often overlapping with traditional construction testing for quality control and monitoring.

Reactive Planning

The Client or directing party could consider a reactive approach. In example, design and hold in standby a program to quickly sample, chemically analyze and report to workers on suspect materials which are discovered during construction. This approach needs to be integrated into the initial educational segment and hazard recognition portion of the safety plan as pre-construction presentations to contractors.

This type program must carefully integrate with contractor planning, since some chemistry can require a week turnaround even with "RUSH" analysis. This requires isolation/storage of the spoil materials and possible movement of the contractor to another area of the site until chemistry is received and verified. This approach has the highest variability and is reflected in the range of costs for planning.

Reactive monitoring requires expedited response by testing personnel and "RUSH" chemistry, thereby escalating costs when needed but having the advantage of being only needed "on call." This approach leaves itself open to the determination of need by the contractor. Failure to respond promptly and with similar effort every time can result in loss of confidence by workers in the program. The concern can prompt worker/contractor requests for personnel monitoring in addition to testing and analyses of soil/fills.

Terracon and industry experience has shown these costs to be highly variable and solely dependent on actual incidents of reaction, planning should consider variable costs on the order of $50,000 to $150,000. These costs can be integrated into construction budget contingencies of the Client or other directing party, and do not readily overlap with traditional construction testing for quality control and monitoring.

3.4.3 Consideration of On- and Off-site Soil Disposal

Risk-based corrective action or risk-managed sites using institutional controls can be very cost-effective with regard to corrective action. However, these approaches often carry with them non-traditional restrictions regarding construction. The protectiveness of the SSL remedy requires that the impacted material at depths and locations remain reasonably unchanged from the time of assessment. Contractors and construction crews cannot freely move soils through grading or minor cut-and-fill as is routinely done on construction projects.

Redevelopment should consider in design of construction a bias toward minimal disturbance of soil/fills during construction (i.e., a slightly more expensive foundation option rather than a less expensive method generating large amounts of spoil). The lowest generation of soil/fills as spoils is preferred to minimize environmental exposures and possible issues of disposal. Impacted materials cannot enter the cut-and-fill balance for site construction.

In the event soils impacted above the risk-based levels are removed as part of construction, the Client or directing party will need to consider appropriate characterization and disposal. Following removal, impacted soils would need to be protected from weather and accidental dispersal while the landfill or other receiver conducts new acceptance characterization (routinely one to two weeks). If the material tests out as hazardous waste (RCRA Subtitle C), special transport and disposal criteria become necessary. The cost per contaminated cubic yard of bulked soil removed from depth, separate from a planned remediation effort, can result in higher per unit costs. These can be on the order of $45 to $80 per ton for local Subtitle D landfill disposal and $250 to $350 per ton for hazardous waste Subtitle C disposal, based on local project experience.

The communications on handling soil should be formalized in a project Contingency and Soil Management Plan (CSMP) at the construction planning stage. A Draft CSMP is included as Appendix F.

3.4.4 Routine Maintenance/Construction to Control Exposures

The placement of engineered fills, floor slabs and pavements over residual sediments would further provide protection against exposure to potentially impacted fills and sediments, for both secondary construction workers and future occupants/workers. Routinely, caps placed as part of corrective action require extended future inspection/testing services and financial instruments/funds to assure future maintenance.

3.4.5 Risk Management Practice

In considering VRP property for redevelopment, solutions of remedy are greatly strengthened by other than technical or engineered means. The following are a few issues the Client or other directing party may wish to consider. They are discussed briefly and only to establish a preliminary awareness for the reader. Some items are mentioned in previous discussion for emphasis. The Client or other directing party may wish to explore further these issues as part of risk management practice.

Institutional Controls and Easements

Restriction of property land use to industrial or commercial activity controls the future exposure types and duration as defined by risk calculations under the VRP. This is done through institutional control, as an environmental easement or deed restriction. These will control future exposure pathways and duration as defined by risk calculations under the VRP. Cost for these items was estimated in the remedy scenarios discussed.

The VRP process is structured so that a restrictive covenant, sometimes referred to as a deed restriction, must be filed in the subject property's chain of title for any cleanup that does not meet the residential SSLs. For properties remediated to residential SSLs cleanup levels, only a notification, in the form of a copy of the certification of completion letter, must be filed in the subject property's chain of title. The restrictive covenant provides notification that contaminants remain onsite at levels the Department has determined exceed residential

SSLs (unrestricted use) concentrations. It is a legal document that describes both required and prohibited activities.

When engineering controls are employed at a property, the restrictive covenant may establish certain criteria which will normally be both prescriptive, explaining what must be done, and restrictive, explaining what must not be done, with regard to installing and maintaining an engineering control. Similarly, land use restrictions are laid out in terms of required and prohibited activities.

Institutional controls are a key element of the risk-based remediation and closure process. Because future property use may result in cleanup to less stringent standards, institutional controls must be used to ensure that the criteria used to evaluate the property use does not change substantially. For example, a site cleaned up to an industrial land use cleanup level will not be considered clean by NMED if the land use changes to residential. Likewise, when engineering controls are used to minimize exposure to contamination remaining on a site, institutional controls must be put into place. In this case, the institutional control is designed to ensure that the engineering control is maintained so that it continues to function as an effective exposure barrier to the contaminants remaining on the site. For these reasons, institutional controls may become an integral part of the overall remediation of a contaminated property.

The NMED requires that the certification of completion letter be recorded in the property chain of title for all sites. This requirement is meant to ensure that subsequent purchasers of the property are aware that investigation and/or remediation have occurred at the site. The notification may then prompt the prospective purchaser or other interested party to contact the NMED to learn more about the site remediation, most likely through review of NMED's files. This mechanism may assuage concerns the interested party has regarding the environmental condition of the property, or point out the limits of the remediation. This provision benefits the owner of the property by ensuring that anyone conducting a title search is aware that actions have been taken to remediate contamination.

The department uses the restrictive covenant as its primary institutional control, although the title notification will also be frequently used. The restrictive covenant, as explained in greater detail below, is filed in the subject property's chain of title. Recording the document with the Recorder's Office in the county or City in which the property is located causes the restrictive covenant to become legally binding and therefore enforceable. The restrictive covenant is written so that it is applicable to the current property owner and all subsequent property owners. The restrictive covenant also provides NMED an easement by which the department will conduct routine inspections of the property. The department requires such easements when engineering controls are used so as to verify their integrity. Inspection easements also allow the department to verify that any land use restrictions are being met.

Public participation requirements are an integral part of the overall remediation of a site. They allow members of the public who may be affected by the remedial actions proposed for a site to comment and make their concerns known. These requirements are structured so that NMED is made aware of all relevant comments. The level of public participation is affected by the complexity of the cleanup, the location of the site in relation to municipalities and population, and the character of the surrounding neighborhood (residential, industrial, etc.).

Environmental Insurance Products

Actual remedial costs to restore properties cannot usually be precisely determined during the feasibility stage. The best site assessment does not test everywhere and everything, it is a directed process that relies on generalizing the site from adequate data. The quantity and quality of data in the Work Plan is dictated by the project plans and appropriate sampling designs derived from them. It does not purport to be a guarantee of identification of all risk. Insurance products have recently entered the market to control open-ended risk of unanticipated cleanup, protect lenders reluctant to loan on environmentally impaired property and protect against new discoveries during redevelopment construction. The Client or other directing party should contact their commercial insurance broker to identify appropriate insurance products that might assist them in risk management of the VRP property.

EPA Environmental Insurance Survey

To better understand potential insurance products and their usefulness in brownfields revitalization, EPA conducted a survey to answer three key questions: 1) do insurance policies exist that could effectively serve as risk transfer mechanisms for potentially contaminated properties; 2) if policies exist or are under development, how many of the risks encountered at potentially contaminated properties are covered; and 3) if no policies exist for specific risks, what factors are inhibiting their development or use?

EPA surveyed eight major insurance companies offering environmental plans. Results of the survey indicate that environmental insurance is available and being purchased. Environmental insurance has developed as a distinct subset of property and casualty insurance. The most common types of environmental insurance available on the market include property transfer insurance, cleanup cost cap/stop loss insurance, and owner controlled insurance:

- Property Transfer Insurance—protects an insured against on-site cleanup costs of unknown, pre-existing, or new conditions, and against third-party claims for off-site cleanup costs that result from on-site pollution.

- Cleanup Cost Cap/Stop Loss Insurance—protects an insured against a cleanup project that runs substantially over budget.

- Owner-Controlled Insurance—allows an owner or prime contractor undertaking cleanup to determine the desired scope of insurance protection against the acts or omissions of other parties involved in the cleanup.

The minimum amount of coverage generally ranges from $100,000 to $1 million per policy, and the maximum coverage ranges from $10 million to $40 million per policy. To date, coverage has been limited to commercial properties and multi-family residential properties. Premiums range from $5,000 to $1 million, and deductibles vary widely.

Availability/Market Factors

Two groups of factors influence the availability and marketability of useful insurance policies. Availability of environmental insurance products factors include:

- *Underwriting Factors: Cost of Cleanup.* In order to accurately price the coverage of risks, environmental insurers must create tools or underwriting methodologies. The environmental consulting industry is an effective primary data source for insurance risk underwriting.

- *Underwriting Factors: Property Value Impairment.* Underwriting of property value impairment risks is directly related to appraisal industry practices. The appraisal industry's position is that value impairment attributable to environmental conditions is outside the purview of a routine appraisal, making it more difficult for insurance providers to underwrite property value impairment risks.

- *Market Factors: Product Awareness.* Many survey respondents were concerned that sufficient information is not available to the commercial real estate industry regarding the availability of environmental insurance products. While this information dissemination is clearly the responsibility of the insurance industry, it was frequently suggested that EPA could provide useful support to the insurance industry's efforts to increase product awareness in the marketplace.

- *Legal Factors: Uncertainty.* A factor that impacts the extent of coverage is the uncertainty created by liability. Some survey respondents anticipate that as liability is further clarified, lender confidence will increase and coverage costs will decline.

Insurance products, even at reasonable costs, may not provide adequate incentive in economic redevelopment to purchase, redevelop, and reuse brownfields because the current products lack many factors necessary to make them "marketable." Three key issues, among many, affect insurance marketability.

- *Policies offered focus on the "high" end of the market.* The insurance industry tends to insure larger, well-financed transactions involving financially sound enterprises. Many brownfields' prospective purchasers may not qualify for insurance coverage because they are not as financially sound or well-financed as large corporations.

- *Owners of properties still concerned with CERCLA liability.* Many larger, financially strong companies are not interested in returning their properties to the real estate market until Federal and state hazardous waste laws further limit or clarify their liability following a cleanup and transfer of property.

- *Lenders reluctant to finance properties.* Major sources of credit, like large, financially strong companies, fear being viewed as "deep pockets." They are not interested in financing the return of contaminated properties to the real estate market if contingent liability risks are unacceptable, based on the uncertainties of future liability.

Survey Interviews

The commercial real estate industry is used to managing risks such as changes in interest rates and market conditions. Environmental liability risk, on the other hand, is not viewed by the industry as inherent in doing business, and is often poorly understood and seen as too unpredictable. EPA developed a list of potential risks and questions related to the coverage of those risks in its survey. Using the list, EPA interviewed eight representatives from three segments of the insurance industry: underwriters, insurance providers, and bankers.

Most respondents to EPA's survey identified two relevant issues: lack of knowledge of available risk transfer insurance products, and lack of explanation of clear risks and CERCLA liability encountered at potentially contaminated properties. Therefore, educating stakeholders about the availability and use of insurance risk transfer mechanisms, clarifying the liability encountered at these sites, and encouraging broader and more consistent implementation of financing and underwriting standards will help to encourage redevelopment and reuse of brownfields. For copies of the survey report or other information contact U.S. EPA-OSWER at (202) 260-4039.

Environmental Indemnification

A Client or other directing party considering acquisition or redevelopment of a VRP property with environmental impairment measured, either above or below state cleanup standards should consider engaging environmental counsel to structure the formal documents of negotiation. Environmental counsel will be able to address contractual arrangements and issues of liability and indemnification specific to environmental impairment and New Mexico code.

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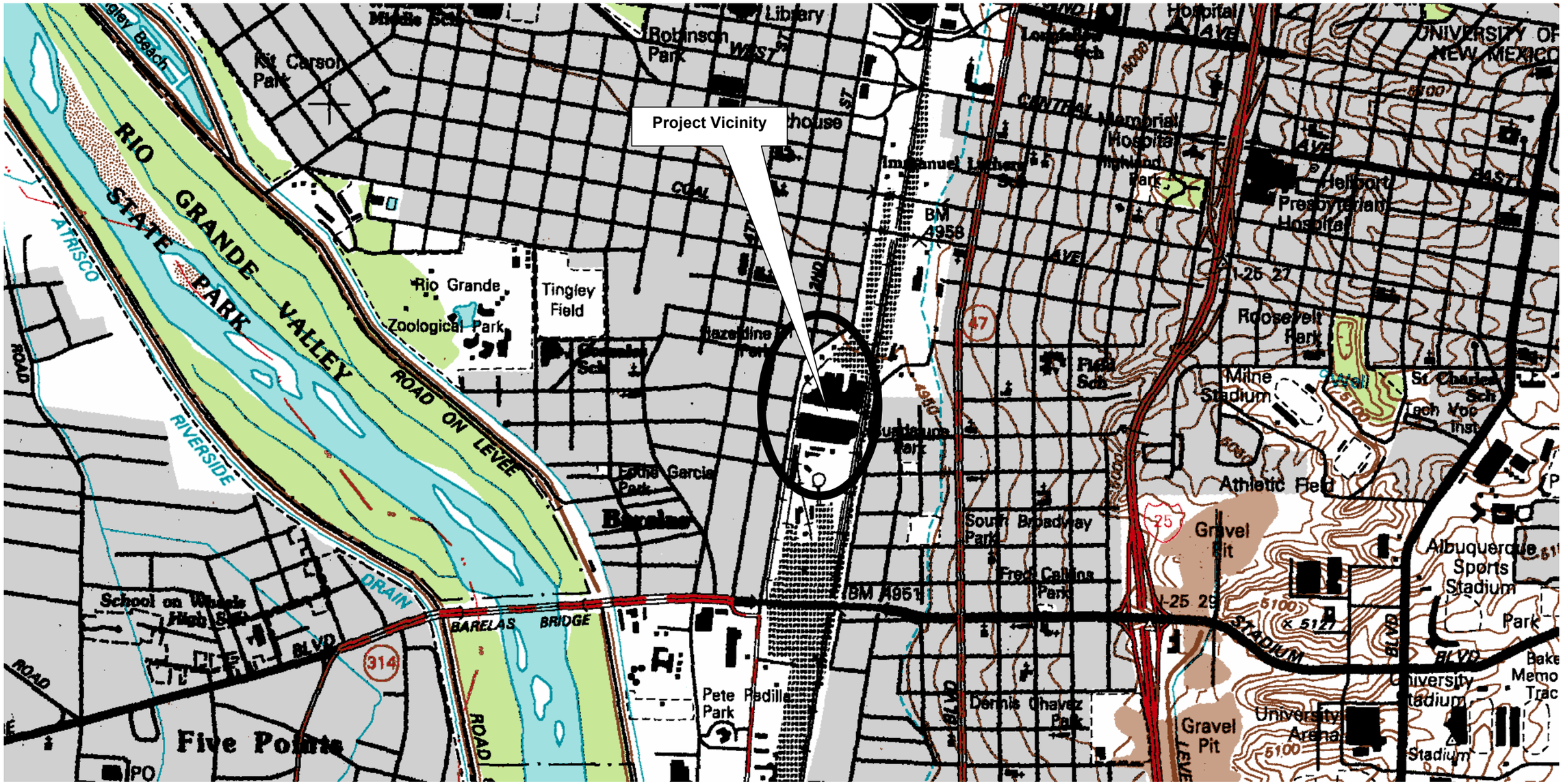
USGS Albuquerque West Quadrangle, New Mexico, 7.5 Series (Topographic) Albuquerque West. 1990.

APPENDIX A FIGURES

Figure 1	Site Location and Topographic Map
Figure 2	Site Diagram
Figure 3	Site Conceptual Model
Figure 4	Southern Section of Site
Figure 5	Northern Section of Site
Figures A thru C	Lead XRF Testing and Soil Sampling Locations
Figure D	PCB Sampling Locations-Former Transformer Area



Source: USGS 7.5 Series Topographic Map “Albuquerque West, New Mexico”, dated 1990.

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DIAGRAM IS FOR GENERAL LOCATION ONLY, AND IS NOT INTENDED FOR CONSTRUCTION PURPOSES.

SITE LOCATION AND TOPOGRAPHIC MAP
FORMER AT&SF/ BNSF CO. CWE FACILITY
ALBUQUERQUE, BERNALILLO COUNTY, NEW MEXICO

Project Mngr: MEW	Terracon	**Project No.** 68057001
Designed By: OTHER		**Scale:** ~1” = 2,000’
Checked By: MEW	1630 Hickory Loop, Suite H Las Cruces, New Mexico 88005 505.527.1700 Fax: 505.527.1092	**Date:** 04/19/2005
Approved By: MEW		**Drawn By:** VVT (68)
File Name: \68057001\Figure 1.doc		**Figure No.** 1

A	Sump
B	Former Oil Cellar
C	Former Oil Tank
D	New Transformer
E	Former Transformer Area
F	Northern Petroleum Area
⊕	Approximate Boring Location
◇	Approximate Monitoring Well Location

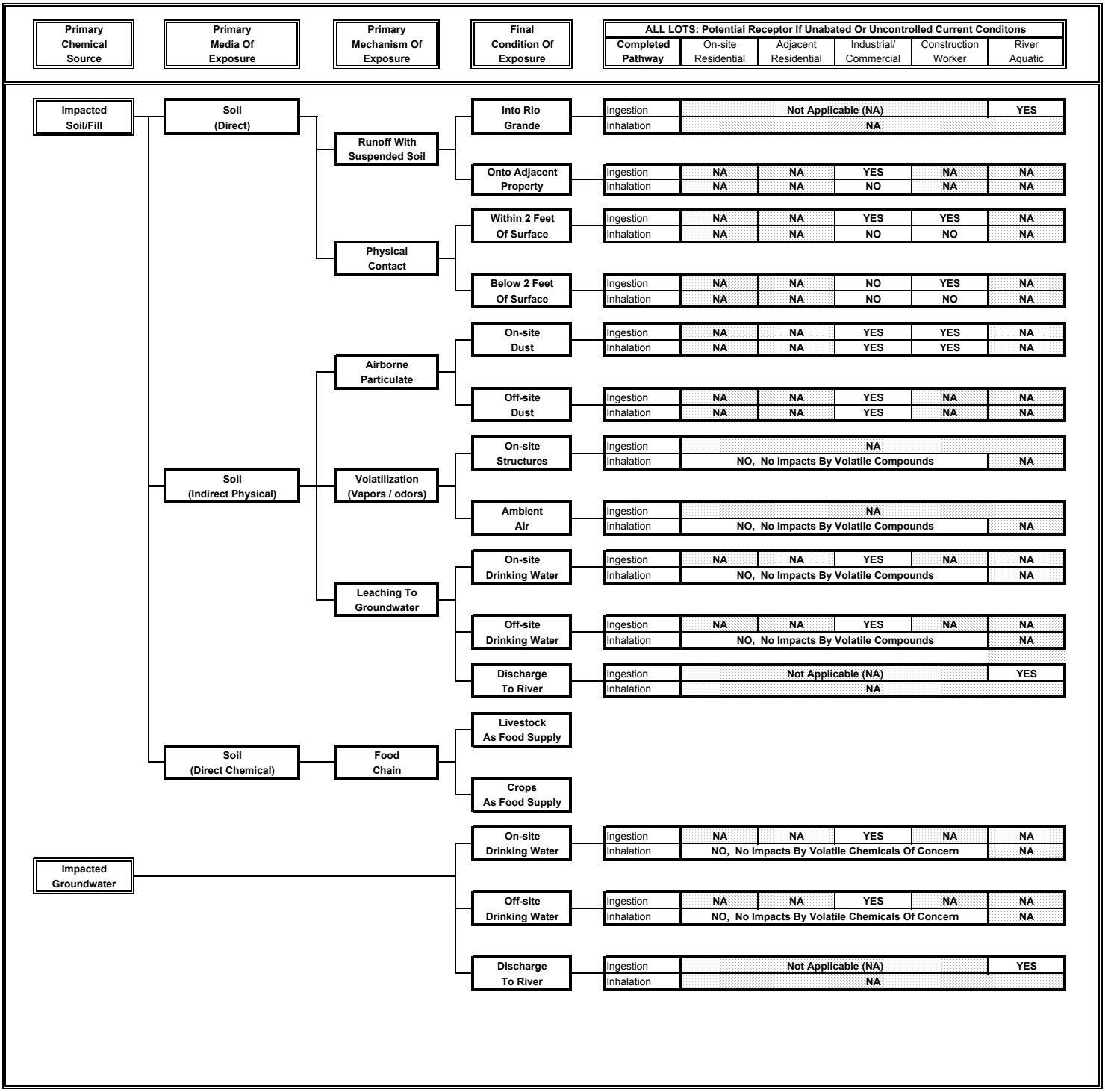
DIAGRAM IS FOR GENERAL LOCATION ONLY, AND IS NOT INTENDED FOR CONSTRUCTION PURPOSES.

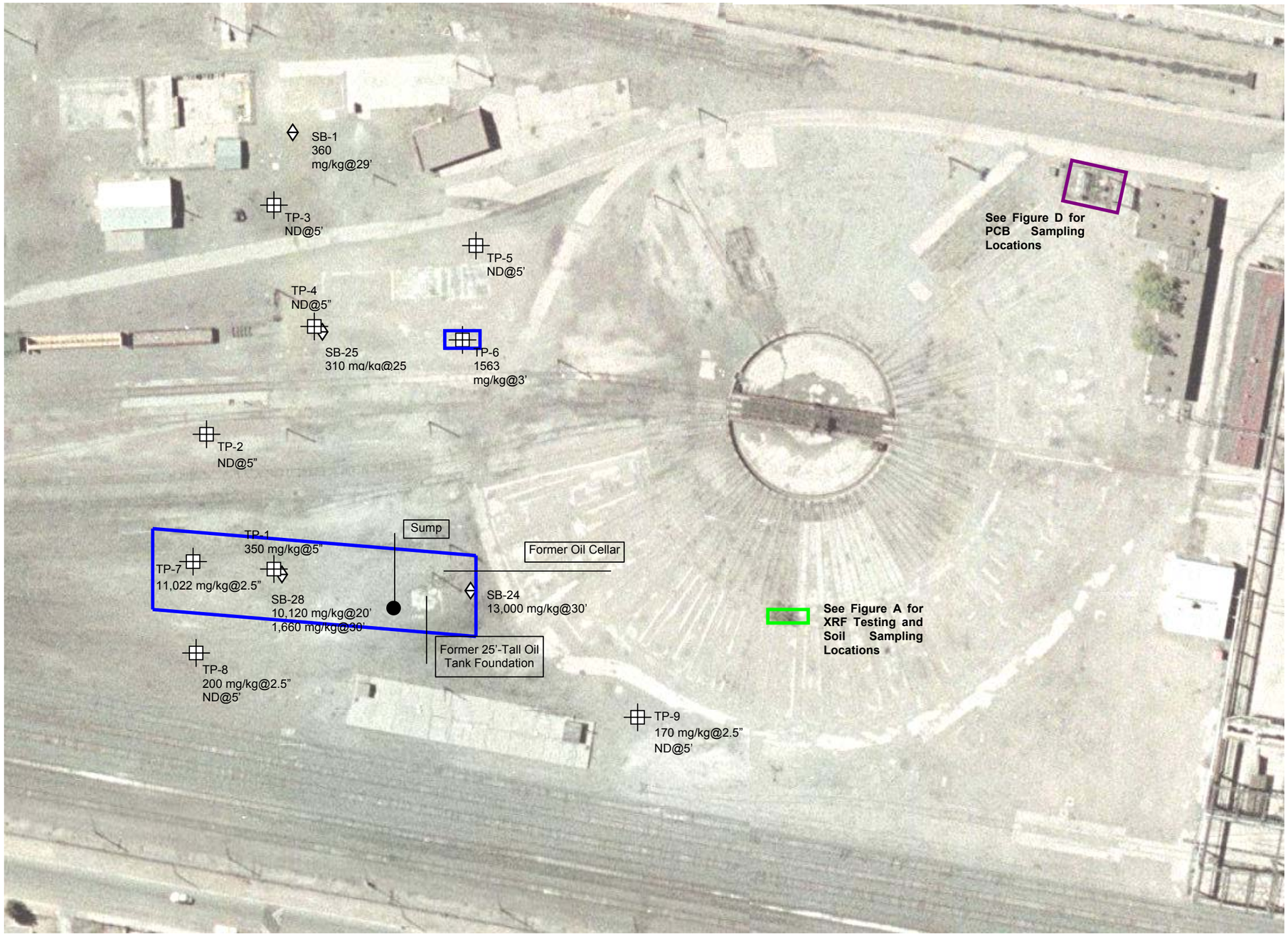
SOURCE: http://terraserver-usa.com/ USGS Aerial Photographs, Albuquerque, New Mexico, dated 2002

SITE DIAGRAM
FORMER AT&SF/ BNSF CO. CWE FACILITY
2ND STREET
ALBUQUERQUE, BERNALILLO COUNTY, NEW MEXICO
Old Locomotive Shops, LLC Option

Project Mngr: MEW	Terracon	Project No. 68057001
Designed By: OTHER		Scale: NTS
Checked By: MEW	1630 Hickory Loop, Suite H Las Cruces, New Mexico 88005 505.527.1700 Fax: 505.527.1092	Date: 04/19/2005
Approved By: MEW		Drawn By: VVT (68)
File Name: \68057001\Figure 3.dwg		Figure No. 2

Preliminary Site Conceptual Model
Former ATF/BNSF CO. CWE Facility
Albuquerque, Bernalillo County, New Mexico





LEGEND

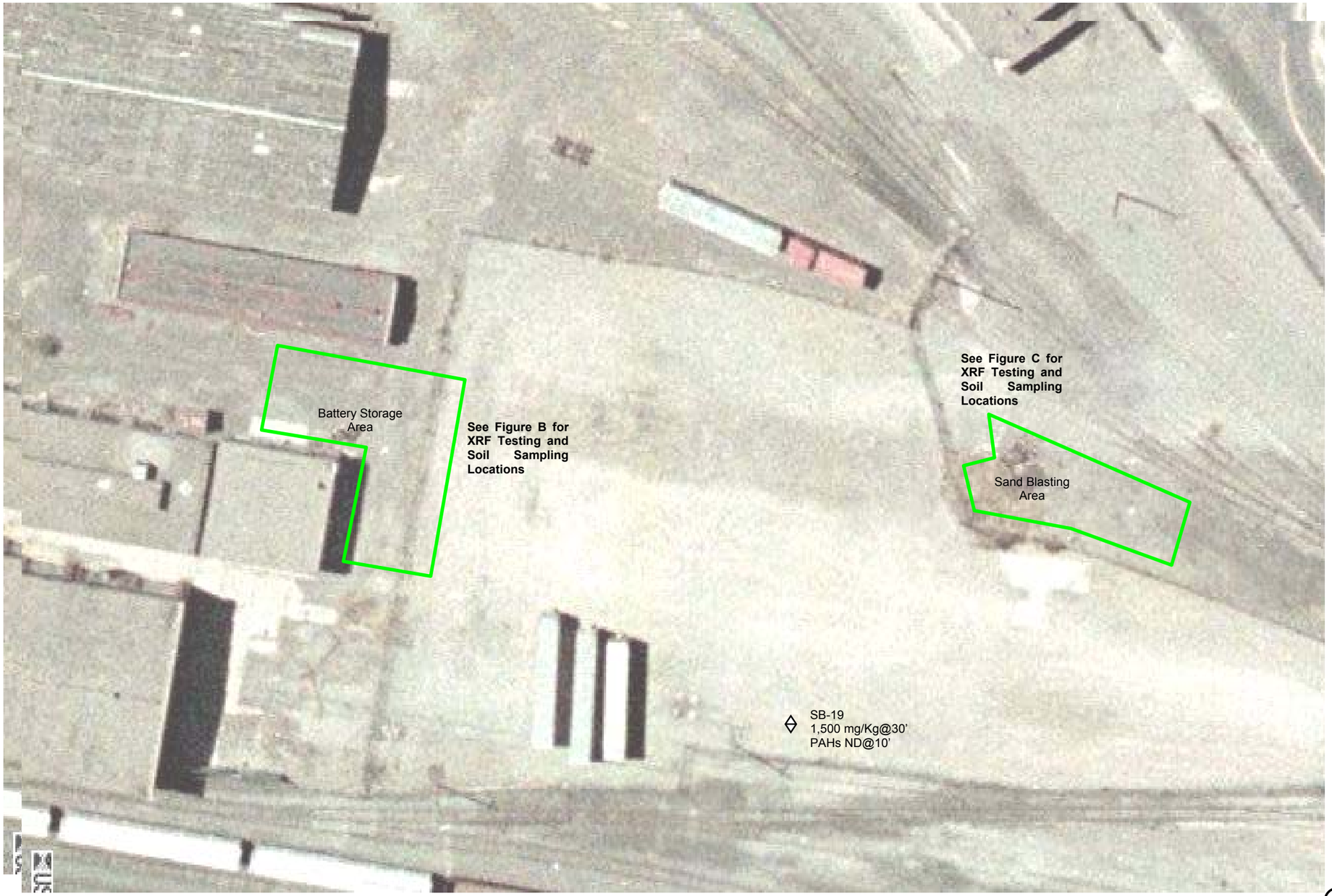
- Approximate Boring Location
- Approximate Test Pit Location
- Estimated Hydrocarbon Impacts Greater than 2,250 mg/Kg*
  Former Oil Cellar/AST Area
  Estimated Volume ~4,850 yds^3
  Test Pit TP6 Area
  Estimated Volume = ~285 yds^3
- Former Transformer Area
- Estimated Lead Impacts Greater than 750 mg/Kg*
  Roundhouse Area
  Estimated Volume = ~110 yds^3

*Commercial/Industrial SSLs

DIAGRAM IS FOR GENERAL LOCATION ONLY, AND IS NOT INTENDED FOR CONSTRUCTION PURPOSES.

EXCAVATION AREAs
Former AT&SF/ BNSF COMPANY CWE FACILITY
ALBUQUERQUE, BERNALILLO COUNTY, NEW MEXICO

Project Mngr: MEW	Terracon 1630 Hickory Loop, Suite H Las Cruces, New Mexico 88005 505.527.1700 Fax: 505.527.1092	**Project No.** 66057007
Designed By: OTHER		**Scale:** NTS
Checked By: MEW		**Date:** 10/10/2005
Approved By: MEW		**Drawn By:** VVT (68)
File Name: \66057007\ OLS Excavation Area.doc		**Figure No.** 4



LEGEND

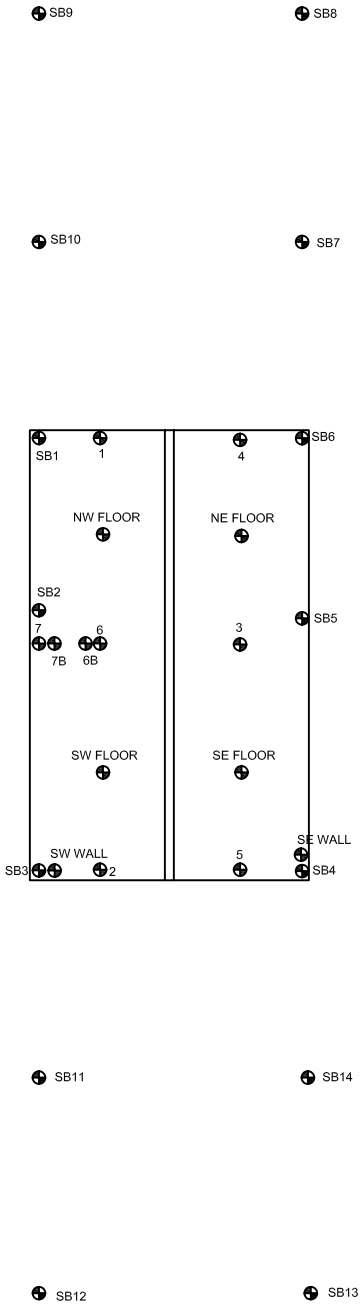
Approximate Boring Location

Lead Impacted Soil Areas-Estimated Lead Impacts Greater than 750 mg/Kg*
Battery Storage Excavated Area
Estimated Total Volume = ~400 yds^3
Sand Blasting Excavated Area
Estimated Total Volume = ~140 yds^3
*Commercial/Industrial SSLs

DIAGRAM IS FOR GENERAL LOCATION ONLY, AND IS NOT INTENDED FOR CONSTRUCTION PURPOSES.

EXCAVATION AREAS
FORMER AT&SF/ BNSF COMPANY CWE FACILITY
ALBUQUERQUE, BERNALILLO COUNTY, NEW MEXICO

Project Mngr: MEW	Terracon 1630 Hickory Loop, Suite H Las Cruces, New Mexico 88005 505.527.1700 Fax: 505.527.1092	**Project No.** 66057007
Designed By: OTHER		**Scale:** NTS
Checked By: MEW		**Date:** 10/10/2005
Approved By: MEW		**Drawn By:** VVT (68)
File Name: \66057007\ UDC Petroleum Area.doc		**Figure No.** 5



SB1 APPROXIMATE SAMPLING LOCATION FOR LABORATORY ANALYSIS

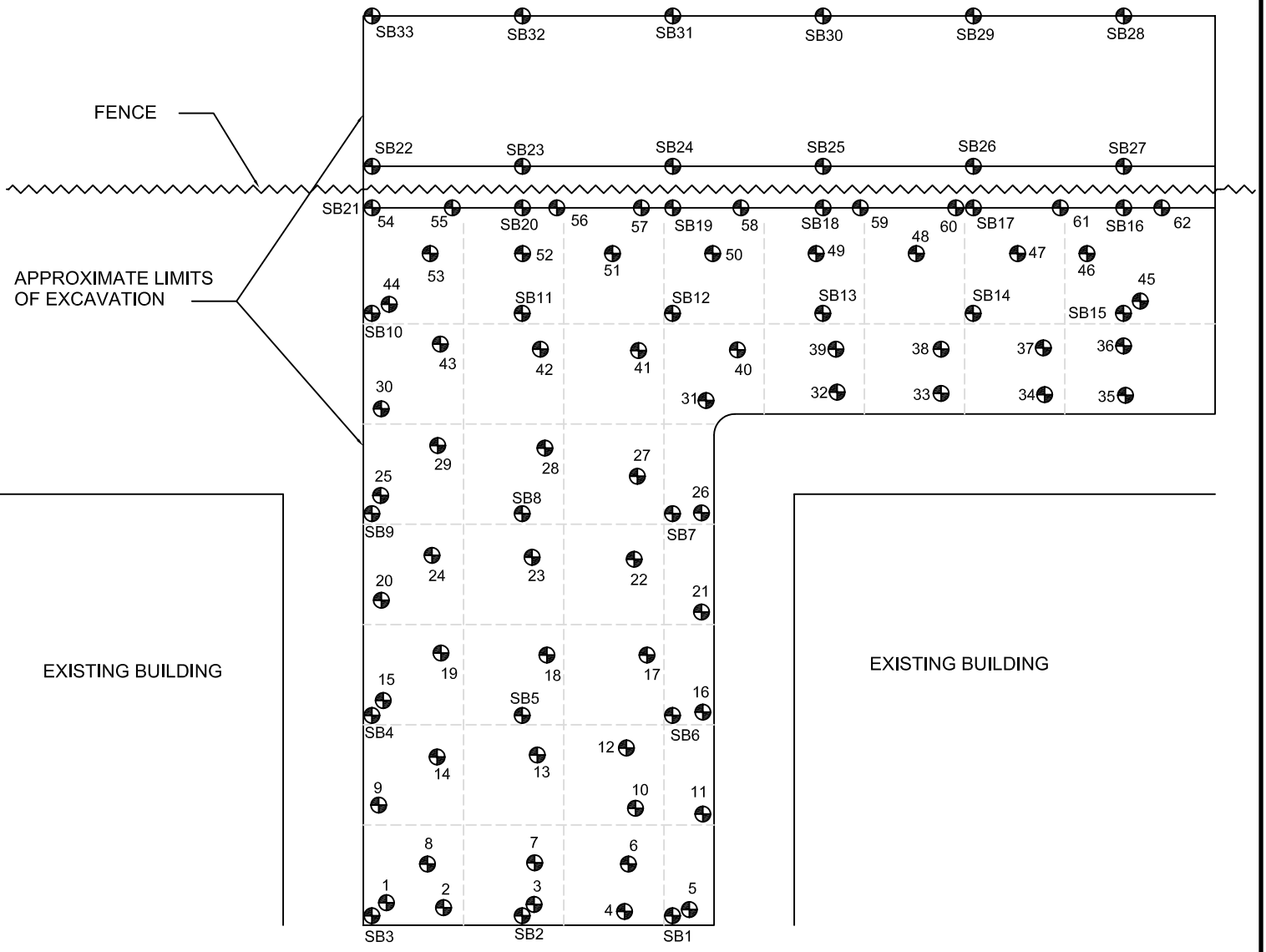
1 APPROXIMATE XRF TESTING LOCATION

DIAGRAM IS FOR GENERAL LOCATION ONLY, AND IS NOT INTENDED FOR CONSTRUCTION PURPOSES

N

ROUNDHOUSE LEAD AREA
FORMER AT&SF / BNSF COMPANY CWE FACILITY
ALBUQUERQUE, BERNALILLO COUNTY, NEW MEXICO

Project Mngr: MEW		Project No.	66057007
Designed By:	Terracon	Scale:	1' = 3/32"
Checked By: MEW		Date:	10/28/05
Approved By: MEW		Drawn By:	WTM (68)
File Name: 66057007		Figure No.	A



SB1 APPROXIMATE SAMPLING LOCATION FOR LABORATORY ANALYSIS

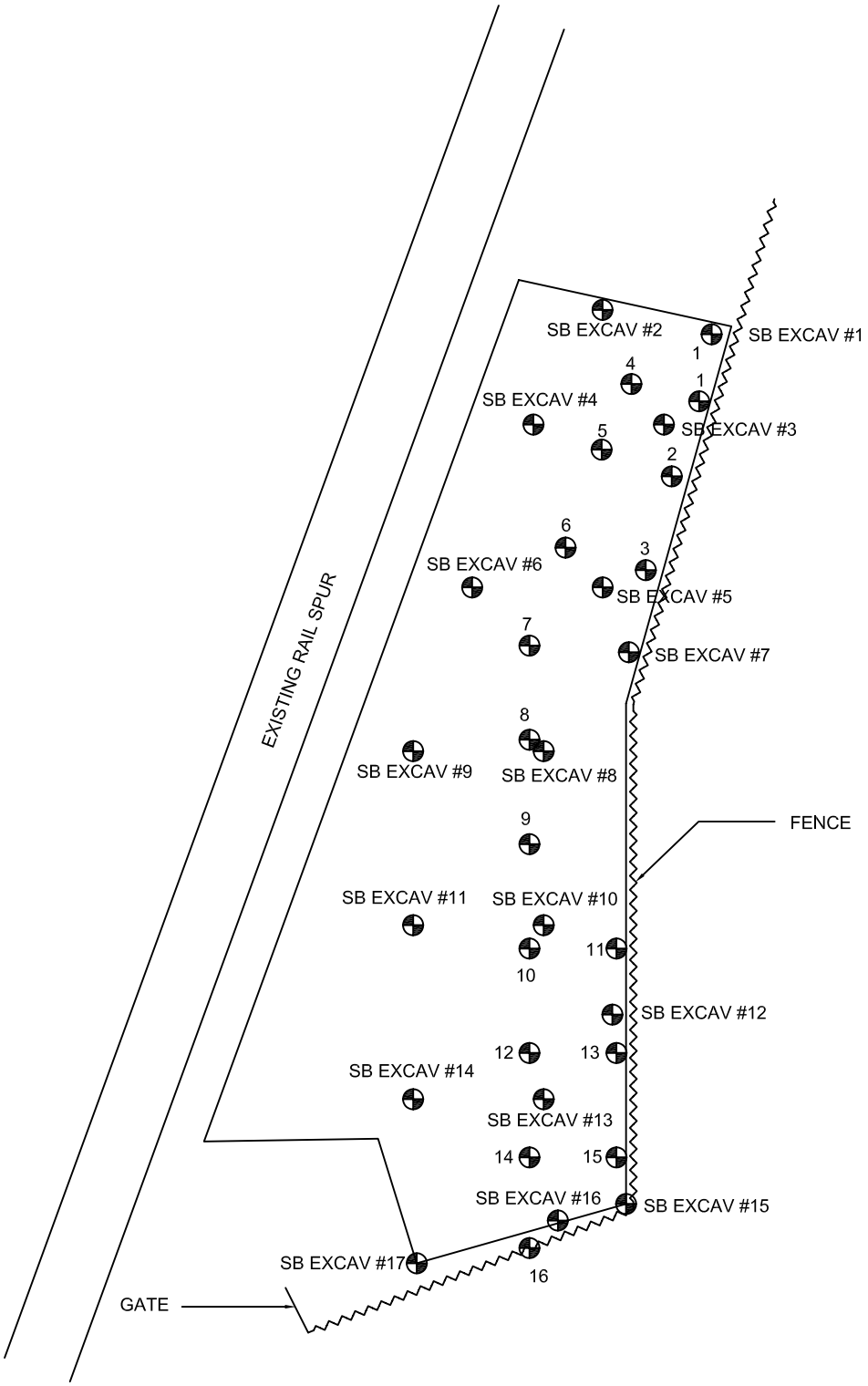
1 APPROXIMATE XRF TESTING LOCATION

N

DIAGRAM IS FOR GENERAL LOCATION ONLY,
AND IS NOT INTENDED FOR CONSTRUCTION PURPOSES

BATTERY STORAGE LEAD AREA
FORMER AT&SF / BNSF COMPANY CWE FACILITY
ALBUQUERQUE, BERNALILLO COUNTY, NEW MEXICO

Project Mngr: MEW	Terracon	Project No.	66057007
Designed By:		Scale:	1' = 1/16"
Checked By: MEW		Date:	10/28/05
Approved By: MEW		Drawn By:	WTM (68)
File Name: 66057007		Figure No.	B



SB EXCAV #1 — APPROXIMATE SAMPLING LOCATION FOR LABORATORY ANALYSIS

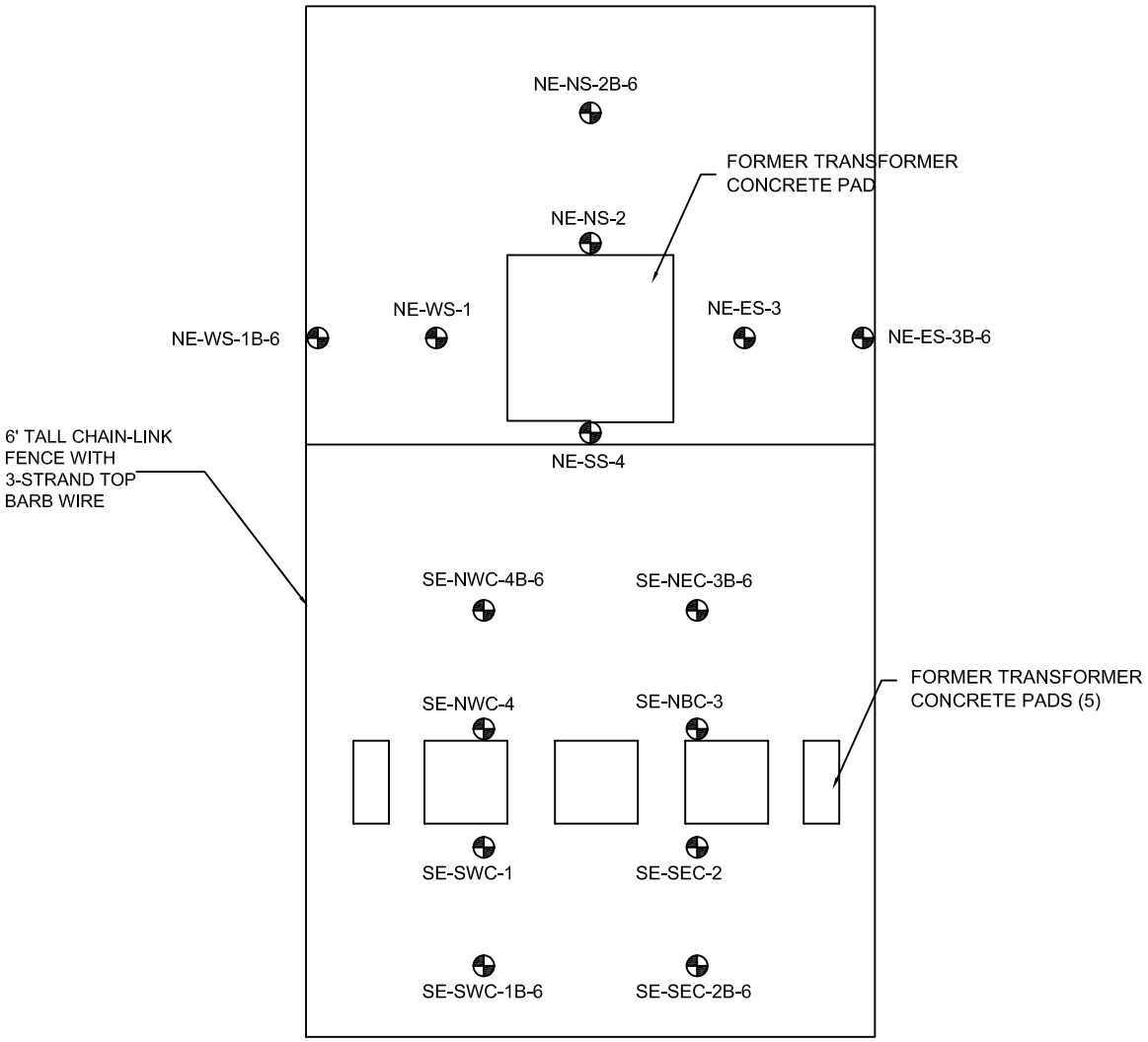
1 — APPROXIMATE XRF TESTING LOCATION

DIAGRAM IS FOR GENERAL LOCATION ONLY,
AND IS NOT INTENDED FOR CONSTRUCTION PURPOSES

N

FORMER SANDBLASTING LEAD AREA
FORMER AT&SF / BSNF COMPANY CWE FACILITY
ALBUQUERQUE, BERNALILLO COUNTY, NEW MEXICO

Project Mngr: MEW	Terracon	Project No.	66057007
Designed By:		Scale:	1" = 10'
Checked By: MEW		Date:	10/28/05
Approved By: MEW		Drawn By:	WTM (68)
File Name: 66057007		Figure No.	C



SE-SWC-1 APPROXIMATE SAMPLING LOCATION FOR LABORATORY ANALYSIS

N

DIAGRAM IS FOR GENERAL LOCATION ONLY,
AND IS NOT INTENDED FOR CONSTRUCTION PURPOSES

FORMER TRANSFORMER AREA
FORMER AT&SF / BSNF COMPANY CWE FACILITY
ALBUQUERQUE, BERNALILLO COUNTY, NEW MEXICO

Project Mngr: MEW	Terracon	Project No.	66057007
Designed By:		Scale:	1' = 1/8"
Checked By: MEW		Date:	10/28/05
Approved By: MEW		Drawn By:	WTM (68)
File Name: 66057007		Figure No.	D

APPENDIX B TABLES

TABLE 1 - XRF LEAD SAMPLING
FORMER AT&SF/BNSF CO. CWE FACILITY
Albuquerque, Bernalillo County, New Mexico
Terracon Project Number: 66057007

SITE PLAN ID NUMBER	LEAD RESULTS (mg/kg)
Roundhouse Area	
1	90
2	118
3	24
4	25
5	48
6	1154
6B	5621
7	267
7B	58
Battery Storage Area	
1	453
2	89
3	297
4	303
5	212
6	247
7	464
8	221
9	100
10	387
11	64
12	1468
13	482
14	790
15	657
16	535
17	553
18	464
19	852
20	250
21	505
22	461

SITE PLAN ID NUMBER	LEAD RESULTS (mg/kg)
Battery Storage Area (cont.)	
23	330
24	560
25	19
26	364
27	541
28	314
29	348
30	267
31	328
32	422
33	550
34	378
35	289
36	368
37	441
38	501
39	536
40	299
41	518
42	427
43	539
44	236
45	48
46	362
47	402
48	262
49	603
50	588
51	338
52	349
53	341
54	196

SITE PLAN ID NUMBER	LEAD RESULTS (mg/kg)
Battery Storage Area (cont.)	
55	336
56	329
57	543
58	373
59	420
60	366
61	64
62	393
Sand Blasting Area	
1	595
2	600
3	642
4	134
5	225
6	262
7	422
8	358
9	739
10	1294
11	724
12	736
13	440
14	412
15	527
16	520

.

TABLE 2: TOTAL LEAD - LEAD IMPACTED AREAS
FORMER AT&SF/BNSF CO. CWE FACILITY
Albuquerque, Bernalillo County, New Mexico
Terracon Project Number: 66057007
Location: Battery Storage Area

BORING NUMBER AND DEPTH	LOCATION		RESULTS (mg/kg)	SOIL SCREENING LEVELS (SSL) COMMERCIAL / INDUSTRIAL (mg/Kg)
	LONGITUDE (North)	LATITUDE (West)		
SB1 @ 2.5 ft.	35°4.568'	106°38.956'	240	750
SB2 @ 1.7 ft.	35°4.568'	106°38.959'	200	750
SB3 @ 2.5 ft.	35°4.571'	106°38.961'	130	750
SB3 @ 5 ft.	35°4.571'	106°38.961'	5	750
SB4 @ 2.5 ft.	35°4.573'	106°38.961'	160	750
SB4 @ 5 ft.	35°4.573'	106°38.961'	4.5	750
SB5 @ 2.5 ft.	35°4.572'	106°38.958'	110	750
SB5 @ 5 ft.	35°4.572'	106°38.958'	5.9	750
SB6 @ 2.5 ft.	3564.572'	106°38.965'	170	750
SB7 @ 2.5 ft.	35°4.576'	106°38.956'	240	750
SB8 @ 2.5 ft.	35°20.458'	106°39.522'	170	750
SB8 @ 5 ft.	35°20.458'	106°39.522'	5.5	750
SB9 @ 2.5 ft.	35°4.577'	106°38.96'	29	750
SB9 @ 5 ft.	35°4.577'	106°38.96'	4.3	750
SB10 @ 2.5 ft.	35°4.577'	106°38.96'	7.5	750
SB10 @ 5 ft.	35°4.577'	106°38.96'	6.5	750
SB11 @ 2.5 ft.	35°4.577'	106°38.955'	2100	750
SB11 @ 5 ft.	35°4.577'	106°38.955'	4.4	750
SB12 @ 2.5 ft.	35°4.577'	106°38.953'	1600	750
SB12 @ 5ft.	35°4.578'	106°38.956'	4.6	750
SB13@ 2.5 ft	35°4.578'	106°38.956'	320	750
SB14 @ 2.5 ft.	35°4.578'	106°38.949'	99	750
SB14 @ 5 ft.	35°4.578'	106°38.949'	3.1	750
SB15 @ 5 ft.	35°4.577'	106°38.946'	120	750
SB16 @ 2.5 ft.	35°4.579'	106°38.945'	240	750
SB16 @ 5 ft.	35°4.579'	106°38.945'	4.3	750
SB17 @ 2.5 ft.	35°4.582'	106°38.949'	1400	750
SB17 @ 5 ft.	35°4.582'	106°38.949'	4	750
SB18 @ 2.5	35°4.579'	106°38.951	770	750

TABLE 2: TOTAL LEAD - LEAD IMPACTED AREAS
FORMER AT&SF/BNSF CO. CWE FACILITY
Albuquerque, Bernalillo County, New Mexico
Terracon Project Number: 66057007
Location: Battery Storage Area

SAMPLE ID	LOCATION		RESULTS	SOIL SCREENING LEVELS (SSL) COMMERCIAL / INDUSTRIAL (mg/Kg)
	NORTH	WEST		
SB19 @ 2.5 ft.	35°4.579'	106°38.954'	900	750
SB19 @ 5 ft.	35°4.579'	106°38.954'	5	750
SB20 @ 2.5 ft.	35°4.58'	106°38.649'	540	750
SB21 @ 2.5 ft.	35°4.58'	35°4.58'	56	750
SB21 @ 5 ft.	35°4.58'	35°4.58'	4.7	750
SB22 @ 2.5 ft.	35°4.581'	106°38.960'	28	750
SB22 @ 5 ft.	35°4.581'	106°38.960'	6.2	750
SB23 @ 2.5 ft.	35°4.58'	35°4.587'	600	750
SB23 @ 5 ft.	35°4.58'	35°4.587'	5.8	750
SB24 @ 2.5 ft.	35°4.577'	106°38.960'	370	750
SB25 @ 2.5 ft.	35°4.58'	106°38.649'	1600	750
SB25 @ 5 ft.	35°4.58'	106°38.649'	4	750
SB26 @ 1.4 ft.	35°4.581'	106°38.948'	1300	750
SB27 @ 1.4 ft.	35°4.58'	106°38.945'	390	750
SB28 @ 2.5	35°4.582'	106°38.944'	180	750
SB28 @ 5 ft.	35°4.582'	106°38.944'	3.9	750
SB29 @ 1.5 ft.	35°4.582'	106°38.947'	900	750
SB30 @ 1.9 ft.	35°4.578'	106°38.949'	290	750
SB31 @ 2.5 ft.	35°4.583'	106°38.953'	3700	750
SB31 @ 5 ft.	35°4.583'	106°38.953'	5.9	750
SB32 @ 1.6 ft.	35°4.585'	106°38.955'	200	750
SB33 @ 2 ft.	35°4.583'	106°38.957'	16	750
BAT. EXCAV. #1 (@ 1 ft.)	3564.572'	106°38.965'	930	750

TABLE 2: TOTAL LEAD - LEAD IMPACTED AREAS
FORMER AT&SF/BNSF CO. CWE FACILITY
Albuquerque, Bernalillo County, New Mexico
Terracon Project Number: 66057007
Location: Roundhouse Lead Area

BORING NUMBER AND DEPTH	LOCATION		RESULTS (mg/kg)	SOIL SCREENING LEVELS (SSL) COMMERCIAL / INDUSTRIAL (mg/Kg)
	LONGITUDE (North)	LATITUDE (West)		
SE Floor	*	*	497	750
NE Floor	*	*	495	750
NW Floor	*	*	484	750
SW Floor	*	*	443	750
SE Wall	*	*	1,980	750
SW Wall	*	*	995	750
SB1 @ 4.2 ft.	35°4.398'	106°38.99'	57	750
SB2 @ 5 ft.	35°4.397'	106°38.992'	2.6	750
SB3 @ 5 ft.	35°4.396'	106°38.991'	4.7	750
SB4 @ 2.5 ft.	35°4.394'	106°38.99'	29	750
SB5 @ 2.5 ft.	35°4.396'	106°38.989'	69	750
SB5 @ 5 ft.	35°4.396'	106°38.989'	3.4	750
SB6 @ 2.5 ft.	35°4.398'	106°38.989'	7.1	750
SB6 @ 3.5 ft/	35°4.398'	106°38.989'	39	750
SB7 @ 2.5 ft.	35°4.410'	106°38.99'	2	750
SB8 @ 2.8 ft	35°4.404'	106°38.986'	530	750
SB8 @ 2.5 ft.	35°4.404'	106°38.986'	1.9	750
SB8 @ 3 ft.	35°4.404'	106°38.986'	16	750
SB11 @ 2.5 ft.	35°4.391'	106°38.991'	160	750
SB11 @ 4 ft.	35°4.391'	106°38.991'	240	750
SB12 @ 1 ft.	35°4.388'	106°38.992'	1200	750
SB13@ 2.5 ft	35°4.388'	106°38.989'	2.2	750
SB14 @ 2.5 ft.	35°4.390'	106°38.991'	3.2	750
SB14 @ 4 ft.	35°4.390'	106°38.991'	2.5	750

** GPS data not available for this location*

TABLE 2: TOTAL LEAD - LEAD IMPACTED AREAS
FORMER AT&SF/BNSF CO. CWE FACILITY
Albuquerque, Bernalillo County, New Mexico
Terracon Project Number: 66057007
Location: Sand Blasting Area

SAMPLE ID	LOCATION		EPA METHOD 6010B: SOIL METALS		SOIL SCREENING LEVELS (SSL) COMMERCIAL / INDUSTRIAL (mg/Kg)
			TOTAL LEAD (Pb)		
	NORTH	WEST	RESULT	UNITS	
SB EXCAV #1	35°4.634'	106°38.944'	64	mg/Kg	750
SB EXCAV #2	35°4.636'	106°38.946'	120	mg/Kg	750
SB EXCAV #3	35°4.633'	106°38.946'	92	mg/Kg	750
SB EXCAV #4	35°4.635'	106°38.947'	95	mg/Kg	750
SB EXCAV #5	35°4.633'	106°38.947'	66	mg/Kg	750
SB EXCAV #6	35°4.633'	106°38.948'	290	mg/Kg	750
SB EXCAV #7	35°4.630'	106°38.945'	70	mg/Kg	750
SB EXCAV #8	35°4.626'	106°38.947'	280	mg/Kg	750
SB EXCAV #9	35°4.628'	106°38.952'	480	mg/Kg	750
SB EXCAV #10	35°4.623'	106°38.948'	660	mg/Kg	750
SB EXCAV #11	35°4.625'	106°38.953'	580	mg/Kg	750
SB EXCAV #12	35°4.621'	106°38.947'	380	mg/Kg	750
SB EXCAV #13	35°4.620'	106°38.952'	260	mg/Kg	750
SB EXCAV #14	35°4.621'	106°38.953'	380	mg/Kg	750
SB EXCAV #15	35°4.616'	106°38.950'	160	mg/Kg	750
SB EXCAV #16	35°4.617'	106°38.951'	120	mg/Kg	750
SB EXCAV #17	35°4.617'	106°38.952'	490	mg/Kg	750

TABLE 3: TOTAL LEAD - STOCKPILE COMPOSITE DOILS SAMPLES
FORMER AT&SF/BNSF CO. CWE FACILITY
Albuquerque, Bernalillo County, New Mexico
Terracon Project Number: 66057007

SAMPLE ID	LOCATION	EPA METHOD 6010B: SOIL METALS	
		TCLP LEAD	
		RESULT	UNITS
SB STOCK #1-4	Sandblasting Area	ND	mg/Kg
SB STOCK #5-8	Sandblasting Area	ND	mg/Kg
SB STOCK #9-12	Sandblasting Area	ND	mg/Kg
SB STOCK #13-16	Sandblasting Area	ND	mg/Kg
BAT. STOCK #1-4	Battery Storage Area	ND	mg/Kg
BAT. STOCK #5-8	Battery Storage Area	ND	mg/Kg
BAT. STOCK #9-12	Battery Storage Area	ND	mg/Kg
BAT. STOCK #13-16	Battery Storage Area	ND	mg/Kg
RH. STOCK #1-4	Roundhouse Area	ND	mg/Kg

TABLE 4: TPH - ROUNDHOUSE PETROLEUM EXCAVATION STOCKPILE

FORMER AT&SF/BNSF CO. CWE FACILITY

Albuquerque, Bernalillo County, New Mexico

Terracon Project Number: 66057007

SAMPLE ID	EPA METHOD 418.1: TPH PETROLEUM HYDROCARBONS	
	RESULT	UNITS
OLSPASP 1 A-D	2,200	mg/Kg
PAHS / 8310		
Naphthalene	6.1	mg/Kg
1-Methylnaphthalene	10	mg/Kg
2-Methylnaphthalene	4.8	mg/Kg
Acenaphthylene	ND	mg/Kg
Acenaphthene	ND	mg/Kg
Fluorene	4	mg/Kg
Phenanthrene	14	mg/Kg
Anthracene	3.3	mg/Kg
Anthracene	3.8	mg/Kg
Fluoranthene	11	mg/Kg
Pyrene	15	mg/Kg
Benz(a)anthracene	3.4	mg/Kg
Chrysene	5.4	mg/Kg
Benzo(b)fluoranthene	5.3	mg/Kg
Benzo(k)fluoranthene	1.6	mg/Kg
Benzo(a)pyrene	3.5	mg/Kg
Dibenz(a,h)anthracene	0.82	mg/Kg
Benzo(g,h,i)perylene	4.9	mg/Kg
Indeno(1,2,3-cd)pyrene	4.1	mg/Kg
Surr. Benzo(e)pyrene	2,480	% REC
OLSPASP 2 A-D	60,000	mg/Kg
OLSPASP 3 A-D	25,000	mg/Kg
OLSPASP 4 A-D	22,000	mg/Kg
OLSPASP 5 A-D	11,000	mg/Kg
OLSPASP 6 A-D	17,000	mg/Kg

NOTE: TCLP metals results were below the detection limit. For futher information please refer to Appendix C

ND Not Detected

TABLE 5: TPH - ROUNDHOUSE PETROLEUM EXCAVATION FREE PRODUCT

FORMER AT&SF/BNSF CO. CWE FACILITY

Albuquerque, Benalillo County, New Mexico

Terracon Project Number: 66057007

SAMPLE ID	ANALYSIS / METHOD	RESULT	UNITS
OLS Sump Free Product	DRO / 8015		
	Diesel Range Organics (DRO)	27	wt%
	Motor Oil Range Organics (MRO)	14	wt%
	Surr. DNOP	91.5	%REC
	GRO / 8015		
	Gasoline Range Organics (GRO)	ND	wt%
	Surr. BFB	97.3	%REC

TABLE 6: PAHs - NORTH PETROLEUM EXCAVATION AREA
FORMER AT&SF/BNSF CO. CWE FACILITY
Albuquerque, Bernalillo County, New Mexico
Terracon Project Number: 66057007

ANALYSIS EPA METHOD 8310: PAHS	DEPTH 10-12 feet		SOIL SCREENING LEVELS (SSL) COMMERCIAL / INDUSTRIAL (mg/Kg) **
	RESULT	UNITS	
Naphthalene	ND	mg/Kg	98.30
1-Methylnaphthalene	ND	mg/Kg	*
2-Methylnaphthalene	ND	mg/Kg	*
Acenaphthylene	ND	mg/Kg	*
Acenaphthene	ND	mg/Kg	34,800
Fluorene	ND	mg/Kg	29,400
Phenanthrene	ND	mg/Kg	20,500
Anthracene	ND	mg/Kg	264,000
Fluoranthene	ND	mg/Kg	24,400
Pyrene	ND	mg/Kg	31,300
Benzo(a)anthracene	ND	mg/Kg	23.4
Chrysene	ND	mg/Kg	2,340
Benzo(b)fluoranthene	ND	mg/Kg	23.4
Benzo(k)fluoranthene	ND	mg/Kg	234
Benzo(a)pyrene	ND	mg/Kg	2.34
Dibenz(a,h)anthracene	ND	mg/Kg	2,340
Benzo(g,h,i)perylene	ND	mg/Kg	*
Indeno(1,2,3-cd)pyrene	ND	mg/Kg	23.4
Surr. Benzo(e)pyrene	102	%REC	NA

** *According to the Technical Background Document for Development of Soil Screening Levels, Revision 2.0 prepared by the New Mexico Environment Department (NMED) Hazardous*

* *No NMED values available*

NA *Not Applicable*

TABLE 7: TPH AND PAHs - ROUNDHOUSE PETROLEUM AREA
FORMER AT&SF/BNSF CO. CWE FACILITY
Albuquerque, Bernalillo County, New Mexico
Terracon Project Number: 66057007

ANALYSIS / METHOD	BORING NUMBER AND DEPTH											UNITS	SOIL SCREENING LEVELS (SSL) COMMERCIAL / INDUSTRIAL (mg/Kg)
	TP-1 @ 5 ft.	TP-2 @ 5 ft.	TP-3 @ 5 ft.	TP-4 @ 5 ft.	TP-5 @ 5 ft.	TP-6 @ 5 ft.	TP-7 @ 2.5 ft.	TP-8 @ 2.5 ft.	TP-8 @ 5 ft.	TP-9 @ 2.5 ft.	TP-9 @ 5 ft.		
	RESULT	RESULT	RESULT	RESULT	RESULT	RESULT	RESULT	RESULT	RESULT	RESULT	RESULT		
DRO / 8015B													
Diesel Range Organics (DRO)	100	BDL	BDL	BDL	BDL	980	11000	200	BDL	170	BDL	mg/Kg	2200
Motor Oil Range Oganics (MRO)	250	BDL	BDL	BDL	BDL	570	NA	NA	NA	NA	NA	mg/Kg	5000
Surr: DNOP	113	118	107	110	107	123	0	86	79	110	89	%REC	NA
GRO / 8015B													
Gasoline Range Organics (GRO)	BDL	BDL	BDL	BDL	BDL	13	22	BDL	BDL	BDL	BDL	mg/Kg	NA
Surr: DNOP	102	102	103	102	99.9	107	96	95	96	97	97	%REC	NA
PAHS / 8310													
Naphthalene	BDL	BDL	BDL	BDL	BDL	BDL	NA	NA	NA	NA	NA	mg/Kg	98.30
1-Methylnaphthalene	BDL	BDL	BDL	BDL	BDL	BDL	NA	NA	NA	NA	NA	mg/Kg	*
2-Methylnaphthalene	BDL	BDL	BDL	BDL	BDL	BDL	NA	NA	NA	NA	NA	mg/Kg	*
Acenaphthylene	BDL	BDL	BDL	BDL	BDL	BDL	NA	NA	NA	NA	NA	mg/Kg	*
Acenaphthene	BDL	BDL	BDL	BDL	BDL	BDL	NA	NA	NA	NA	NA	mg/Kg	34,800
Fluorene	BDL	BDL	BDL	BDL	BDL	BDL	NA	NA	NA	NA	NA	mg/Kg	29,400
Phenanthrene	0.75	0.35	BDL	BDL	BDL	0.083	NA	NA	NA	NA	NA	mg/Kg	20,500
Anthracene	0.078	BDL	BDL	BDL	BDL	BDL	NA	NA	NA	NA	NA	mg/Kg	264,000
Fluoranthene	0.58	BDL	BDL	BDL	BDL	0.049	NA	NA	NA	NA	NA	mg/Kg	24,400
Pyrene	0.67	0.68	BDL	BDL	BDL	0.059	NA	NA	NA	NA	NA	mg/Kg	31,300
Benz(a)anthracene	0.2	0.16	BDL	BDL	BDL	BDL	NA	NA	NA	NA	NA	mg/Kg	23.4
Chrysene	0.34	BDL	BDL	BDL	BDL	BDL	NA	NA	NA	NA	NA	mg/Kg	2,340.00
Benzo(b)fluoranthene	0.24	0.38	BDL	BDL	BDL	0.079	NA	NA	NA	NA	NA	mg/Kg	23.4
Benzo(k)fluoranthene	0.098	0.063	BDL	BDL	BDL	0.088	NA	NA	NA	NA	NA	mg/Kg	234
Benzo(a)pyrene	0.15	0.18	BDL	BDL	BDL	0.015	NA	NA	NA	NA	NA	mg/Kg	2.34
Dibenz(a,h)anthracene	0.033	0.075	BDL	BDL	BDL	BDL	NA	NA	NA	NA	NA	mg/Kg	2,340
Benzo(g,h,i)perylene	0.21	0.53	BDL	BDL	BDL	BDL	NA	NA	NA	NA	NA	mg/Kg	*
Indeno(1,2,3-cd)pyrene	BDL	BDL	BDL	BDL	BDL	BDL	NA	NA	NA	NA	NA	mg/Kg	23.4
Surr. Benzo(e)pyrene	105	10	78	76	67.9	111	NA	NA	NA	NA	NA	%REC	NA

BDL *Below Detection Limit*

NA *Not Analyzed*

TABLE 8: PAHs - MAIN MACHINE AND BOILER SHOP BORINGS
FORMER AT&SF/BNSF CO. CWE FACILITY
Albuquerque, Bernalillo County, New Mexico
Terracon Project Number: 66057007

ANALYSIS EPA METHOD 8310: PAHS	BORING NUMBER AND DEPTH									UNITS	SOIL SCREENING LEVELS (SSL) COMMERCIAL/ INDUSTRIAL (mg/Kg) **
	SB-2 @ 10 ft.	SB-2 @ 15 ft.	SB-4 @ 10 ft	SB-4 @ 15 ft.	SB-5 @ 2.5 ft.	SB-5 @ 5 ft.	SB-5 @ 10 ft.	SB-5 @ 15 ft.	SB-5 @ 20 ft.		
	RESULT	RESULT	RESULT	RESULT	RESULT	RESULT	RESULT	RESULT	RESULT		
Naphthalene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	mg/Kg	98.30
1-Methylnaphthalene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	mg/Kg	*
2-Methylnaphthalene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	mg/Kg	*
Acenaphthylene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	mg/Kg	*
Acenaphthene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	mg/Kg	34,800
Fluorene	0.55	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	mg/Kg	29,400
Phenanthrene	BDL	BDL	BDL	BDL	1.1	0.0072	0.0088	BDL	BDL	mg/Kg	20,500
Anthracene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	mg/Kg	264,000
Fluoranthene	BDL	BDL	BDL	BDL	0.95	BDL	BDL	BDL	BDL	mg/Kg	24,400
Pyrene	BDL	BDL	BDL	BDL	1.2	0.0062	BDL	BDL	BDL	mg/Kg	31,300
Benz(a)anthracene	BDL	BDL	BDL	BDL	0.4	0.024	0.002	BDL	BDL	mg/Kg	23.4
Chrysene	BDL	BDL	BDL	BDL	0.24	BDL	BDL	BDL	BDL	mg/Kg	2,340.00
Benzo(b)fluoranthene	BDL	BDL	0.66	BDL	0.33	0.0021	BDL	BDL	BDL	mg/Kg	23.4
Benzo(k)fluoranthene	BDL	BDL	BDL	BDL	0.18	0.0013	0.0007	BDL	BDL	mg/Kg	234
Benzo(a)pyrene	BDL	BDL	0.10	BDL	0.25	0.0018	0.001	BDL	BDL	mg/Kg	2.34
Dibenz(a,h)anthracene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	mg/Kg	2,340
Benzo(g,h,i)perylene	BDL	BDL	BDL	BDL	BDL	0.0022	BDL	BDL	BDL	mg/Kg	*
Indeno(1,2,3-cd)pyrene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	mg/Kg	23.4
Surr. Benzo(e)pyrene	0.46	105	375	450	20	69.7	61.7	80.3	76.9	%REC	NA

** *According to the Technical Background Document for Development of Soil Screening Levels, Revision 2.0 prepared by the New Mexico Environment Department (NMED) Hazardous Waste Bureau, Ground Water Quality Bureau, and Voluntary Remediation Program.*

* *No NMED values available*

NA *Not Applicable*

BDL *Below Detection Limit*

TABLE 9: BENZENE AND PAHs - ON SITE MONITORING WELLS

FORMER AT&SF/BNSF CO. CWE FACILITY

Albuquerque, Bernalillo County, New Mexico

Terracon Project Number: 66057007

PARAMETER	MW-1	NW-3	MW-4	MW-5	MW-6	MW-7	MW-8	MW-9	UNITS
	RESULTS	RESULTS	RESULTS	RESULTS	RESULTS	RESULTS	RESULTS	RESULTS	
Benzene	BDL	0.013	BDL	BDL	BDL	BDL	BDL	BDL	mg/L
Toluene	NOT TESTED	NOT TESTED	NOT TESTED	NOT TESTED	BDL	BDL	BDL	NOT TESTED	mg/L
Ethylbenzene	NOT TESTED	NOT TESTED	NOT TESTED	NOT TESTED	BDL	BDL	BDL	NOT TESTED	mg/L
Total Xylene	NOT TESTED	NOT TESTED	NOT TESTED	NOT TESTED	BDL	BDL	BDL	NOT TESTED	mg/L
Surrogate Recovery (77-118)	NA	NA	NA	NA	NA	NA	NA	NA	NA
a,a,a-Trifluorotoluene	NOT TESTED	NOT TESTED	NOT TESTED	NOT TESTED	98	98	99	NOT TESTED	% Rec
Polynuclear Aromatic Hydrocarbons									
Anthracene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	mg/L
Acenaphthene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	mg/L
Acenaphthylene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	mg/L
Benzo (a) anthracene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	mg/L
Benzo (a) pyrene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	mg/L
Benzo (b) fluoranthene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	mg/L
Benzo (g,h,i) perylene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	mg/L
Benzo (k) fluoranthene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	mg/L
Chrysene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	mg/L
Dibenz (a,h) anthracene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	mg/L
Fluoranthene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	mg/L
Fluorene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	mg/L
Inteno (1,2,3-cd) pyrene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	mg/L
1-Methylnaphthalene	BDL	0.017	BDL	BDL	BDL	BDL	BDL	BDL	mg/L
2-Methylnaphthalene	0.00011	0.021	0.00014	BDL	0.00013	0.00013	0.00012	0.0012	mg/L
Naphthalene	0.00013	0.0051	0.00015	BDL	0.00017	0.00019	0.0002	0.00017	mg/L
Phenanthrene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	mg/L
Pyrene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	mg/L
Surrogate									
p-Terphenyl-dl4	83.0	75.5	81.8	76.9	77.2	77.1	77.5	79.1	% Rec

BDL *Below Detection Limit*

NA *Not Applicable*

TABLE 10: WOOD BLOCK FLOORS - SAMPLING LOCATIONS
FORMER AT&SF/BNSF CO. CWE FACILITY
Albuquerque, Bernalillo County, New Mexico
Terracon Project Number 66057007

Location:	Boiler Shop			Main Machine Shop		
SAMPLING GROUP	**SAMPLE ID**	**LOCATION**		**SAMPLE ID**	**LOCATION**	
#1	NWB-1	48'N	76'E	SWB-1	17'S	97'E
	NWB-2	59'N	70'E	SWB-2	35.5'S	99'E
	NWB-3	30'N	55'E	SWB-3	23.5'S	125'E
	NWB-4	62'N	119'E	SWB-4	29.5'S	144'E
	NWB-5	35'N	172'E	SWB-5	70.5'S	142'E
#2	NWB-6	36'N	215'E	SWB-6	89.5'S	127'E
	NWB-7	31'N	268'E	SWB-7	21'S	390'E
	NWB-8	62'N	281'E	SWB-8	78'S	369'E
	NWB-9	41'N	312'E	SWB-9	78'S	387'E
	NWB-10	25'N	397'E	SWB-10	100'S	456;E
#3	NWB-11	100'N	45'E	SWB-11	84'W	15'S
	NWB-12	110'N	83'E	SWB-12	64'W	45'S
	NWB-13	92'N	68'E	SWB-13	44'W	45'S
	NWB-14	93'N	128'E	SWB-14	20'W	44'N
	NWB-15	103'N	306'E	SWB-15	60'W	36'N

APPENDIX C LABORATORY TEST RESULTS AND CHAIN-OF-CUSTODY FORMS

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Est. 1970

REPORT OF ANALYSIS

Ms. Mary E. Wells
Terracon - Las Cruces
1630 Hickory Loop Ste H
Las Cruces, NM 88005

November 01, 2005

ESC Sample # : L219782-01

Site ID :

Project # : 66057007

Date Received : October 25, 2005
Description : OLF UDC VRP

Sample ID : OWS-COMP 9 FT

Collected By : Fred Small
Collection Date : 10/22/05 16:30

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
TPH - Oil & Grease	32000	1.7	mg/l	1664A	10/31/05	1
Benzene	BDL	0.025	mg/l	8021B	10/30/05	50
Toluene	BDL	0.25	mg/l	8021B	10/30/05	50
Ethylbenzene	BDL	0.025	mg/l	8021B	10/30/05	50
Total Xylene	0.098	0.075	mg/l	8021B	10/30/05	50
Surrogate Recovery (77-118)						
a,a,a-Trifluorotoluene	95.		% Rec.	8021B	10/30/05	50

Terrie Fudge, ESC Representative

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)

Laboratory Certification Numbers:
AIHA - 100789, AL - 40660, CA - I-2327, CT- PH-0197, FL - E87487, GA - 923, IN - C-TN-01
KY - 90010, KYUST - 0016, NC - ENV375,DW21704, ND - R-140, SC - 84004, TN - 2006, VA - 00109, WV - 233
AZ -0612, MN - 047-999-395, NY - 11742, NJ - 81002, WI - 998093910

Note:
The reported analytical results relate only to the sample submitted.

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Reported: 11/01/05 10:08 Printed: 11/01/05 10:08

Summary of Remarks For Samples Printed
11/01/05 at 10:08:55

TSR Signing Reports: 064
R5 - Desired TAT

Sample: L219782-01 Account: TERRLCNM Received: 10/25/05 10:30 Due Date: 11/01/05 00:00 RPT Date: 11/01/05 10:08
Run Oil Layer. Top

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REPORT OF ANALYSIS

Ms. Mary E. Wells
Terracon - Las Cruces
1630 Hickory Loop Ste H
Las Cruces, NM 88005

October 31, 2005

ESC Sample # : L219725-01

Site ID :

Project # : 66057007

Date Received : October 25, 2005
Description : OLS UDS VRP

Sample ID : A2-SB1 4.2FT

Collected By : Fred Small
Collection Date : 10/22/05 10:15

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Total Solids	91.0		%	2540G	10/26/05	1
Lead	57.	0.25	mg/kg	6010B	10/26/05	1

Terrie Fudge, ESC Representative

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)

Laboratory Certification Numbers:
AIHA - 100789, AL - 40660, CA - I-2327, CT- PH-0197, FL - E87487, GA - 923, IN - C-TN-01
KY - 90010, KYUST - 0016, NC - ENV375,DW21704, ND - R-140, SC - 84004, TN - 2006, VA - 00109, WV - 233
AZ -0612, MN - 047-999-395, NY - 11742, NJ - 81002, WI - 998093910

Note:
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REPORT OF ANALYSIS

Ms. Mary E. Wells
Terracon - Las Cruces
1630 Hickory Loop Ste H
Las Cruces, NM 88005

October 31, 2005

ESC Sample # : L219725-02

Site ID :

Project # : 66057007

Date Received : October 25, 2005
Description : OLS UDS VRP

Sample ID : A2-SB2 5FT

Collected By : Fred Small
Collection Date : 10/22/05 10:20

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Total Solids	82.4		%	2540G	10/26/05	1
Lead	2.6	0.25	mg/kg	6010B	10/26/05	1

Terrie Fudge, ESC Representative

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)

Laboratory Certification Numbers:
AIHA - 100789, AL - 40660, CA - I-2327, CT- PH-0197, FL - E87487, GA - 923, IN - C-TN-01
KY - 90010, KYUST - 0016, NC - ENV375,DW21704, ND - R-140, SC - 84004, TN - 2006, VA - 00109, WV - 233
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REPORT OF ANALYSIS

Ms. Mary E. Wells
Terracon - Las Cruces
1630 Hickory Loop Ste H
Las Cruces, NM 88005

October 31, 2005

ESC Sample # : L219725-03

Date Received : October 25, 2005
Description : OLS UDS VRP

Site ID :

Sample ID : A2-SB3 5FT

Project # : 66057007

Collected By : Fred Small
Collection Date : 10/22/05 10:28

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Total Solids	76.9		%	2540G	10/26/05	1
Lead	4.7	0.25	mg/kg	6010B	10/26/05	1

Terrie Fudge, ESC Representative

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)

Laboratory Certification Numbers:
AIHA - 100789, AL - 40660, CA - I-2327, CT- PH-0197, FL - E87487, GA - 923, IN - C-TN-01
KY - 90010, KYUST - 0016, NC - ENV375,DW21704, ND - R-140, SC - 84004, TN - 2006, VA - 00109, WV - 233
AZ -0612, MN - 047-999-395, NY - 11742, NJ - 81002, WI - 998093910

Note:
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REPORT OF ANALYSIS

Ms. Mary E. Wells
Terracon - Las Cruces
1630 Hickory Loop Ste H
Las Cruces, NM 88005

October 31, 2005

ESC Sample # : L219725-04

Site ID :

Project # : 66057007

Date Received : October 25, 2005
Description : OLS UDS VRP

Sample ID : A2-SB4 2.5FT

Collected By : Fred Small
Collection Date : 10/22/05 10:33

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Total Solids	75.8		%	2540G	10/26/05	1
Lead	29.	0.25	mg/kg	6010B	10/26/05	1

Terrie Fudge, ESC Representative

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)

Laboratory Certification Numbers:
AIHA - 100789, AL - 40660, CA - I-2327, CT- PH-0197, FL - E87487, GA - 923, IN - C-TN-01
KY - 90010, KYUST - 0016, NC - ENV375,DW21704, ND - R-140, SC - 84004, TN - 2006, VA - 00109, WV - 233
AZ -0612, MN - 047-999-395, NY - 11742, NJ - 81002, WI - 998093910

Note:
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REPORT OF ANALYSIS

Ms. Mary E. Wells
Terracon - Las Cruces
1630 Hickory Loop Ste H
Las Cruces, NM 88005

October 31, 2005

ESC Sample # : L219725-05

Date Received : October 25, 2005
Description : OLS UDS VRP

Site ID :

Sample ID : A2-SB5 2.5FT

Project # : 66057007

Collected By : Fred Small
Collection Date : 10/22/05 10:48

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Total Solids	78.0		%	2540G	10/26/05	1
Lead	69.	0.25	mg/kg	6010B	10/26/05	1

Terrie Fudge, ESC Representative

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)

Laboratory Certification Numbers:
AIHA - 100789, AL - 40660, CA - I-2327, CT- PH-0197, FL - E87487, GA - 923, IN - C-TN-01
KY - 90010, KYUST - 0016, NC - ENV375,DW21704, ND - R-140, SC - 84004, TN - 2006, VA - 00109, WV - 233
AZ -0612, MN - 047-999-395, NY - 11742, NJ - 81002, WI - 998093910

Note:
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REPORT OF ANALYSIS

Ms. Mary E. Wells
Terracon - Las Cruces
1630 Hickory Loop Ste H
Las Cruces, NM 88005

October 31, 2005

ESC Sample # : L219725-06

Site ID :

Project # : 66057007

Date Received : October 25, 2005
Description : OLS UDS VRP

Sample ID : A2-SB5 5FT

Collected By : Fred Small
Collection Date : 10/22/05 10:48

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Total Solids	81.5		%	2540G	10/26/05	1
Lead	3.4	0.25	mg/kg	6010B	10/26/05	1

Terrie Fudge, ESC Representative

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)

Laboratory Certification Numbers:
AIHA - 100789, AL - 40660, CA - I-2327, CT- PH-0197, FL - E87487, GA - 923, IN - C-TN-01
KY - 90010, KYUST - 0016, NC - ENV375,DW21704, ND - R-140, SC - 84004, TN - 2006, VA - 00109, WV - 233
AZ -0612, MN - 047-999-395, NY - 11742, NJ - 81002, WI - 998093910

Note:
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REPORT OF ANALYSIS

Ms. Mary E. Wells
Terracon - Las Cruces
1630 Hickory Loop Ste H
Las Cruces, NM 88005

October 31, 2005

ESC Sample # : L219725-07

Site ID :

Project # : 66057007

Date Received : October 25, 2005
Description : OLS UDS VRP

Sample ID : A2-SB6 2.5FT

Collected By : Fred Small
Collection Date : 10/22/05 10:57

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Total Solids	82.3		%	2540G	10/26/05	1
Lead	7.1	0.25	mg/kg	6010B	10/26/05	1

Terrie Fudge, ESC Representative

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)

Laboratory Certification Numbers:
AIHA - 100789, AL - 40660, CA - I-2327, CT- PH-0197, FL - E87487, GA - 923, IN - C-TN-01
KY - 90010, KYUST - 0016, NC - ENV375,DW21704, ND - R-140, SC - 84004, TN - 2006, VA - 00109, WV - 233
AZ -0612, MN - 047-999-395, NY - 11742, NJ - 81002, WI - 998093910

Note:
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Reported: 10/31/05 13:39 Printed: 10/31/05 15:05

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Est. 1970

REPORT OF ANALYSIS

Ms. Mary E. Wells
Terracon - Las Cruces
1630 Hickory Loop Ste H
Las Cruces, NM 88005

October 31, 2005

ESC Sample # : L219725-08

Date Received : October 25, 2005
Description : OLS UDS VRP

Site ID :

Sample ID : A2-SB6 3.5FT

Project # : 66057007

Collected By : Fred Small
Collection Date : 10/22/05 11:03

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Total Solids	78.9		%	2540G	10/26/05	1
Lead	39.	0.25	mg/kg	6010B	10/26/05	1

Terrie Fudge, ESC Representative

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)

Laboratory Certification Numbers:
AIHA - 100789, AL - 40660, CA - I-2327, CT- PH-0197, FL - E87487, GA - 923, IN - C-TN-01
KY - 90010, KYUST - 0016, NC - ENV375,DW21704, ND - R-140, SC - 84004, TN - 2006, VA - 00109, WV - 233
AZ -0612, MN - 047-999-395, NY - 11742, NJ - 81002, WI - 998093910

Note:
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Reported: 10/31/05 13:39 Printed: 10/31/05 15:05

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REPORT OF ANALYSIS

Ms. Mary E. Wells
Terracon - Las Cruces
1630 Hickory Loop Ste H
Las Cruces, NM 88005

October 31, 2005

ESC Sample # : L219725-09

Date Received : October 25, 2005
Description : OLS UDS VRP

Site ID :

Sample ID : A2-SB7 2.5FT

Project # : 66057007

Collected By : Fred Small
Collection Date : 10/22/05 11:10

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Total Solids	86.6		%	2540G	10/26/05	1
Lead	2.0	0.25	mg/kg	6010B	10/26/05	1

Terrie Fudge, ESC Representative

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)

Laboratory Certification Numbers:
AIHA - 100789, AL - 40660, CA - I-2327, CT- PH-0197, FL - E87487, GA - 923, IN - C-TN-01
KY - 90010, KYUST - 0016, NC - ENV375,DW21704, ND - R-140, SC - 84004, TN - 2006, VA - 00109, WV - 233
AZ -0612, MN - 047-999-395, NY - 11742, NJ - 81002, WI - 998093910

Note:
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REPORT OF ANALYSIS

Ms. Mary E. Wells
Terracon - Las Cruces
1630 Hickory Loop Ste H
Las Cruces, NM 88005

October 31, 2005

ESC Sample # : L219725-10

Site ID :

Project # : 66057007

Date Received : October 25, 2005
Description : OLS UDS VRP

Sample ID : A2-SB7 2.8FT

Collected By : Fred Small
Collection Date : 10/22/05 11:15

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Total Solids	76.1		%	2540G	10/26/05	1
Lead	530	0.25	mg/kg	6010B	10/26/05	1

Terrie Fudge, ESC Representative

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)

Laboratory Certification Numbers:
AIHA - 100789, AL - 40660, CA - I-2327, CT- PH-0197, FL - E87487, GA - 923, IN - C-TN-01
KY - 90010, KYUST - 0016, NC - ENV375,DW21704, ND - R-140, SC - 84004, TN - 2006, VA - 00109, WV - 233
AZ -0612, MN - 047-999-395, NY - 11742, NJ - 81002, WI - 998093910

Note:
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REPORT OF ANALYSIS

Ms. Mary E. Wells
Terracon - Las Cruces
1630 Hickory Loop Ste H
Las Cruces, NM 88005

October 31, 2005

ESC Sample # : L219725-11

Site ID :

Project # : 66057007

Date Received : October 25, 2005
Description : OLS UDS VRP

Sample ID : A2-SB8 2.5FT

Collected By : Fred Small
Collection Date : 10/22/05 11:20

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Total Solids	86.6		%	2540G	10/26/05	1
Lead	1.9	0.25	mg/kg	6010B	10/26/05	1

Terrie Fudge, ESC Representative

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)

Laboratory Certification Numbers:
AIHA - 100789, AL - 40660, CA - I-2327, CT- PH-0197, FL - E87487, GA - 923, IN - C-TN-01
KY - 90010, KYUST - 0016, NC - ENV375,DW21704, ND - R-140, SC - 84004, TN - 2006, VA - 00109, WV - 233
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REPORT OF ANALYSIS

Ms. Mary E. Wells
Terracon - Las Cruces
1630 Hickory Loop Ste H
Las Cruces, NM 88005

October 31, 2005

ESC Sample # : L219725-12

Date Received : October 25, 2005
Description : OLS UDS VRP

Site ID :

Sample ID : A2-SB8 3FT

Project # : 66057007

Collected By : Fred Small
Collection Date : 10/22/05 11:25

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Total Solids	85.8		%	2540G	10/26/05	1
Lead	16.	0.25	mg/kg	6010B	10/26/05	1

Terrie Fudge, ESC Representative

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)

Laboratory Certification Numbers:
AIHA - 100789, AL - 40660, CA - I-2327, CT- PH-0197, FL - E87487, GA - 923, IN - C-TN-01
KY - 90010, KYUST - 0016, NC - ENV375,DW21704, ND - R-140, SC - 84004, TN - 2006, VA - 00109, WV - 233
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Note:
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REPORT OF ANALYSIS

Ms. Mary E. Wells
Terracon - Las Cruces
1630 Hickory Loop Ste H
Las Cruces, NM 88005

October 31, 2005

ESC Sample # : L219725-13

Site ID :

Project # : 66057007

Date Received : October 25, 2005
Description : OLS UDS VRP

Sample ID : A2-SB11 2.5FT

Collected By : Fred Small
Collection Date : 10/22/05 11:35

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Total Solids	82.1		%	2540G	10/26/05	1
Lead	160	0.25	mg/kg	6010B	10/26/05	1

Terrie Fudge, ESC Representative

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)

Laboratory Certification Numbers:
AIHA - 100789, AL - 40660, CA - I-2327, CT- PH-0197, FL - E87487, GA - 923, IN - C-TN-01
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REPORT OF ANALYSIS

Ms. Mary E. Wells
Terracon - Las Cruces
1630 Hickory Loop Ste H
Las Cruces, NM 88005

October 31, 2005

ESC Sample # : L219725-14

Date Received : October 25, 2005
Description : OLS UDS VRP

Site ID :

Sample ID : A2-SB11 4FT

Project # : 66057007

Collected By : Fred Small
Collection Date : 10/22/05 11:42

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Total Solids	84.3		%	2540G	10/26/05	1
Lead	240	0.25	mg/kg	6010B	10/26/05	1

Terrie Fudge, ESC Representative

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)

Laboratory Certification Numbers:
AIHA - 100789, AL - 40660, CA - I-2327, CT- PH-0197, FL - E87487, GA - 923, IN - C-TN-01
KY - 90010, KYUST - 0016, NC - ENV375,DW21704, ND - R-140, SC - 84004, TN - 2006, VA - 00109, WV - 233
AZ -0612, MN - 047-999-395, NY - 11742, NJ - 81002, WI - 998093910

Note:
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REPORT OF ANALYSIS

Ms. Mary E. Wells
Terracon - Las Cruces
1630 Hickory Loop Ste H
Las Cruces, NM 88005

October 31, 2005

ESC Sample # : L219725-15

Date Received : October 25, 2005
Description : OLS UDS VRP

Site ID :

Sample ID : A2-SB12 1FT

Project # : 66057007

Collected By : Fred Small
Collection Date : 10/22/05 11:50

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Total Solids	85.5		%	2540G	10/26/05	1
Lead	1200	0.25	mg/kg	6010B	10/26/05	1

Terrie Fudge, ESC Representative

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)

Laboratory Certification Numbers:
AIHA - 100789, AL - 40660, CA - I-2327, CT- PH-0197, FL - E87487, GA - 923, IN - C-TN-01
KY - 90010, KYUST - 0016, NC - ENV375,DW21704, ND - R-140, SC - 84004, TN - 2006, VA - 00109, WV - 233
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REPORT OF ANALYSIS

Ms. Mary E. Wells
Terracon - Las Cruces
1630 Hickory Loop Ste H
Las Cruces, NM 88005

October 31, 2005

ESC Sample # : L219725-16

Date Received : October 25, 2005
Description : OLS UDS VRP

Site ID :

Sample ID : A2-SB13 2.5FT

Project # : 66057007

Collected By : Fred Small
Collection Date : 10/22/05 11:55

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Total Solids	86.6		%	2540G	10/26/05	1
Lead	2.2	0.25	mg/kg	6010B	10/26/05	1

Terrie Fudge, ESC Representative

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)

Laboratory Certification Numbers:
AIHA - 100789, AL - 40660, CA - I-2327, CT- PH-0197, FL - E87487, GA - 923, IN - C-TN-01
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REPORT OF ANALYSIS

Ms. Mary E. Wells
Terracon - Las Cruces
1630 Hickory Loop Ste H
Las Cruces, NM 88005

October 31, 2005

ESC Sample # : L219725-17

Date Received : October 25, 2005
Description : OLS UDS VRP

Site ID :

Sample ID : A2-SB14 2.5FT

Project # : 66057007

Collected By : Fred Small
Collection Date : 10/22/05 12:01

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Total Solids	91.2		%	2540G	10/26/05	1
Lead	3.2	0.25	mg/kg	6010B	10/26/05	1

Terrie Fudge, ESC Representative

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)

Laboratory Certification Numbers:
AIHA - 100789, AL - 40660, CA - I-2327, CT- PH-0197, FL - E87487, GA - 923, IN - C-TN-01
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AZ -0612, MN - 047-999-395, NY - 11742, NJ - 81002, WI - 998093910

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REPORT OF ANALYSIS

Ms. Mary E. Wells
Terracon - Las Cruces
1630 Hickory Loop Ste H
Las Cruces, NM 88005

October 31, 2005

ESC Sample # : L219725-18

Site ID :

Project # : 66057007

Date Received : October 25, 2005
Description : OLS UDS VRP

Sample ID : A2-SB14 4FT

Collected By : Fred Small
Collection Date : 10/22/05 12:05

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Total Solids	91.3		%	2540G	10/26/05	1
Lead	2.5	0.25	mg/kg	6010B	10/26/05	1

Terrie Fudge, ESC Representative

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)

Laboratory Certification Numbers:
AIHA - 100789, AL - 40660, CA - I-2327, CT- PH-0197, FL - E87487, GA - 923, IN - C-TN-01
KY - 90010, KYUST - 0016, NC - ENV375,DW21704, ND - R-140, SC - 84004, TN - 2006, VA - 00109, WV - 233
AZ -0612, MN - 047-999-395, NY - 11742, NJ - 81002, WI - 998093910

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REPORT OF ANALYSIS

Ms. Mary E. Wells
Terracon - Las Cruces
1630 Hickory Loop Ste H
Las Cruces, NM 88005

October 31, 2005

ESC Sample # : L219725-19

Site ID :

Project # : 66057007

Date Received : October 25, 2005
Description : OLS UDS VRP

Sample ID : TP-7 2.5FT

Collected By : Fred Small
Collection Date : 10/23/05 09:33

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Total Solids	97.7		%	2540G	10/26/05	1
TPH (GC/FID) Low Fraction	22.	5.0	mg/kg	GRO	10/29/05	50
Surrogate Recovery (70-130)						
a,a,a-Trifluorotoluene	96.		% Rec.	GRO	10/29/05	50
TPH (GC/FID) High Fraction	11000	400	mg/kg	3546/DRO	10/31/05	100
Surrogate Recovery (50-150)						
o-Terphenyl	0.0		% Rec.	3546/DRO	10/31/05	100

Terrie Fudge, ESC Representative

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)

Laboratory Certification Numbers:
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KY - 90010, KYUST - 0016, NC - ENV375,DW21704, ND - R-140, SC - 84004, TN - 2006, VA - 00109, WV - 233
AZ -0612, MN - 047-999-395, NY - 11742, NJ - 81002, WI - 998093910

Note:
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REPORT OF ANALYSIS

Ms. Mary E. Wells
Terracon - Las Cruces
1630 Hickory Loop Ste H
Las Cruces, NM 88005

October 31, 2005

ESC Sample # : L219725-20

Date Received : October 25, 2005
Description : OLS UDS VRP

Site ID :

Sample ID : TP-8 2.5FT

Project # : 66057007

Collected By : Fred Small
Collection Date : 10/23/05 09:54

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Total Solids	87.0		%	2540G	10/26/05	1
TPH (GC/FID) Low Fraction	BDL	0.50	mg/kg	GRO	10/29/05	5
Surrogate Recovery (70-130)						
a,a,a-Trifluorotoluene	95.		% Rec.	GRO	10/29/05	5
TPH (GC/FID) High Fraction	200	4.0	mg/kg	3546/DRO	10/31/05	1
Surrogate Recovery (50-150)						
o-Terphenyl	86.		% Rec.	3546/DRO	10/31/05	1

Terrie Fudge, ESC Representative

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)

Laboratory Certification Numbers:
AIHA - 100789, AL - 40660, CA - I-2327, CT- PH-0197, FL - E87487, GA - 923, IN - C-TN-01
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REPORT OF ANALYSIS

Ms. Mary E. Wells
Terracon - Las Cruces
1630 Hickory Loop Ste H
Las Cruces, NM 88005

October 31, 2005

ESC Sample # : L219725-21

Date Received : October 25, 2005
Description : OLS UDS VRP

Site ID :

Sample ID : TP-8 5FT

Project # : 66057007

Collected By : Fred Small
Collection Date : 10/23/05 10:05

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Total Solids	80.5		%	2540G	10/26/05	1
TPH (GC/FID) Low Fraction	BDL	0.50	mg/kg	GRO	10/29/05	5
Surrogate Recovery (70-130)						
a,a,a-Trifluorotoluene	96.		% Rec.	GRO	10/29/05	5
TPH (GC/FID) High Fraction	BDL	4.0	mg/kg	3546/DRO	10/31/05	1
Surrogate Recovery (50-150)						
o-Terphenyl	79.		% Rec.	3546/DRO	10/31/05	1

Terrie Fudge, ESC Representative

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)

Laboratory Certification Numbers:
AIHA - 100789, AL - 40660, CA - I-2327, CT- PH-0197, FL - E87487, GA - 923, IN - C-TN-01
KY - 90010, KYUST - 0016, NC - ENV375,DW21704, ND - R-140, SC - 84004, TN - 2006, VA - 00109, WV - 233
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REPORT OF ANALYSIS

Ms. Mary E. Wells
Terracon - Las Cruces
1630 Hickory Loop Ste H
Las Cruces, NM 88005

October 31, 2005

ESC Sample # : L219725-22

Site ID :

Project # : 66057007

Date Received : October 25, 2005
Description : OLS UDS VRP

Sample ID : TP-9 2.5FT

Collected By : Fred Small
Collection Date : 10/23/05 10:23

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Total Solids	81.2		%	2540G	10/26/05	1
TPH (GC/FID) Low Fraction	BDL	0.50	mg/kg	GRO	10/29/05	5
Surrogate Recovery (70-130)						
a,a,a-Trifluorotoluene	97.		% Rec.	GRO	10/29/05	5
TPH (GC/FID) High Fraction	170	4.0	mg/kg	3546/DRO	10/31/05	1
Surrogate Recovery (50-150)						
o-Terphenyl	110		% Rec.	3546/DRO	10/31/05	1

Terrie Fudge, ESC Representative

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)

Laboratory Certification Numbers:
AIHA - 100789, AL - 40660, CA - I-2327, CT- PH-0197, FL - E87487, GA - 923, IN - C-TN-01
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AZ -0612, MN - 047-999-395, NY - 11742, NJ - 81002, WI - 998093910

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REPORT OF ANALYSIS

Ms. Mary E. Wells
Terracon - Las Cruces
1630 Hickory Loop Ste H
Las Cruces, NM 88005

October 31, 2005

ESC Sample # : L219725-23

Site ID :

Project # : 66057007

Date Received : October 25, 2005
Description : OLS UDS VRP

Sample ID : TP-9 5FT

Collected By : Fred Small
Collection Date : 10/23/05 10:30

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Total Solids	81.5		%	2540G	10/26/05	1
TPH (GC/FID) Low Fraction	BDL	0.50	mg/kg	GRO	10/29/05	5
Surrogate Recovery (70-130)						
a,a,a-Trifluorotoluene	97.		% Rec.	GRO	10/29/05	5
TPH (GC/FID) High Fraction	BDL	4.0	mg/kg	3546/DRO	10/31/05	1
Surrogate Recovery (50-150)						
o-Terphenyl	89.		% Rec.	3546/DRO	10/31/05	1

Terrie Fudge, ESC Representative

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)

Laboratory Certification Numbers:
AIHA - 100789, AL - 40660, CA - I-2327, CT- PH-0197, FL - E87487, GA - 923, IN - C-TN-01
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Note:
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Attachment A
List of Analytes with QC Qualifiers

Sample #	Analyte	Qualifier
L219725-19	o-Terphenyl	J7

Attachment B
Explanation of QC Qualifier Codes

Qualifier	Meaning
J7	Surrogate recovery limits cannot be evaluated; surrogates were diluted out

Qualifier Report Information

ESC utilizes sample and result qualifiers as set forth by the EPA Contract Laboratory Program and as required by most certifying bodies including NELAC. In addition to the EPA qualifiers adopted by ESC, we have implemented ESC qualifiers to provide more information pertaining to our analytical results. Each qualifier is designated in the qualifier explanation as either EPA or ESC. Data qualifiers are intended to provide the ESC client with more detailed information concerning the potential bias of reported data. Because of the wide range of constituents and variety of matrices incorporated by most EPA methods,it is common for some compounds to fall outside of established ranges. These exceptions are evaluated and all reported data is valid and useable unless qualified as 'R' (Rejected).

Definitions

Accuracy - The relationship of the observed value of a known sample to the true value of a known sample. Represented by percent recovery and relevant to samples such as: control samples, matrix spike recoveries, surrogate recoveries, etc.

Precision - The agreement between a set of samples or between duplicate samples. Relates to how close together the results are and is represented by Relative Percent Differrence.

Surrogate - Organic compounds that are similar in chemical composition, extraction, and chromotography to analytes of interest. The surrogates are used to determine the probable response of the group of analytes that are chemically related to the surrogate compound. Surrogates are added to the sample and carried through all stages of preparation and analyses.

	Control Limits				(AQ)	(SS)
2-Fluorophenol	31-119	Nitrobenzene-d5	43-118	Dibromfluoromethane	68-128	64-125
Phenol-d5	12-134	2-Fluorobiphenyl	45-128	Toluene-d8	76-115	69-118
2,4,6-Tribromophenol	51-141	Terphenyl-d14	43-137	4-Bromofluorobenzene	79-127	61-134

TIC - Tentatively Identified Compound: Compounds detected in samples that are not target compounds, internal standards, system monitoring compounds, or surrogates.

Summary of Remarks For Samples Printed
10/31/05 at 15:05:14

TSR Signing Reports: 064
R3 - Rush: Two Day

Sample: L219725-01 Account: TERRLCNM Received: 10/25/05 10:30 Due Date: 10/27/05 00:00 RPT Date: 10/31/05 13:39

Sample: L219725-02 Account: TERRLCNM Received: 10/25/05 10:30 Due Date: 10/27/05 00:00 RPT Date: 10/31/05 13:39

Sample: L219725-03 Account: TERRLCNM Received: 10/25/05 10:30 Due Date: 10/27/05 00:00 RPT Date: 10/31/05 13:39

Sample: L219725-04 Account: TERRLCNM Received: 10/25/05 10:30 Due Date: 10/27/05 00:00 RPT Date: 10/31/05 13:39

Sample: L219725-05 Account: TERRLCNM Received: 10/25/05 10:30 Due Date: 10/27/05 00:00 RPT Date: 10/31/05 13:39

Sample: L219725-06 Account: TERRLCNM Received: 10/25/05 10:30 Due Date: 10/27/05 00:00 RPT Date: 10/31/05 13:39

Sample: L219725-07 Account: TERRLCNM Received: 10/25/05 10:30 Due Date: 10/27/05 00:00 RPT Date: 10/31/05 13:39

Sample: L219725-08 Account: TERRLCNM Received: 10/25/05 10:30 Due Date: 10/27/05 00:00 RPT Date: 10/31/05 13:39

Sample: L219725-09 Account: TERRLCNM Received: 10/25/05 10:30 Due Date: 10/27/05 00:00 RPT Date: 10/31/05 13:39

Sample: L219725-10 Account: TERRLCNM Received: 10/25/05 10:30 Due Date: 10/27/05 00:00 RPT Date: 10/31/05 13:39

Sample: L219725-11 Account: TERRLCNM Received: 10/25/05 10:30 Due Date: 10/27/05 00:00 RPT Date: 10/31/05 13:39

Sample: L219725-12 Account: TERRLCNM Received: 10/25/05 10:30 Due Date: 10/27/05 00:00 RPT Date: 10/31/05 13:39

Sample: L219725-13 Account: TERRLCNM Received: 10/25/05 10:30 Due Date: 10/27/05 00:00 RPT Date: 10/31/05 13:39

Sample: L219725-14 Account: TERRLCNM Received: 10/25/05 10:30 Due Date: 10/27/05 00:00 RPT Date: 10/31/05 13:39

Sample: L219725-15 Account: TERRLCNM Received: 10/25/05 10:30 Due Date: 10/27/05 00:00 RPT Date: 10/31/05 13:39

Sample: L219725-16 Account: TERRLCNM Received: 10/25/05 10:30 Due Date: 10/27/05 00:00 RPT Date: 10/31/05 13:39

Sample: L219725-17 Account: TERRLCNM Received: 10/25/05 10:30 Due Date: 10/27/05 00:00 RPT Date: 10/31/05 13:39

Sample: L219725-18 Account: TERRLCNM Received: 10/25/05 10:30 Due Date: 10/27/05 00:00 RPT Date: 10/31/05 13:39

Sample: L219725-19 Account: TERRLCNM Received: 10/25/05 10:30 Due Date: 10/31/05 00:00 RPT Date: 10/31/05 13:39
added GRO/DRO per TF-jlm 10/28/05
Sample: L219725-20 Account: TERRLCNM Received: 10/25/05 10:30 Due Date: 10/31/05 00:00 RPT Date: 10/31/05 13:39
added GRO/DRO per TF-jlm 10/28/05
Sample: L219725-21 Account: TERRLCNM Received: 10/25/05 10:30 Due Date: 10/31/05 00:00 RPT Date: 10/31/05 13:39
added GRO/DRO per TF-jlm 10/28/05
Sample: L219725-22 Account: TERRLCNM Received: 10/25/05 10:30 Due Date: 10/31/05 00:00 RPT Date: 10/31/05 13:39
added GRO/DRO per TF-jlm 10/28/05
Sample: L219725-23 Account: TERRLCNM Received: 10/25/05 10:30 Due Date: 10/31/05 00:00 RPT Date: 10/31/05 13:39
added GRO/DRO per TF-jlm 10/28/05

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Est. 1970

REPORT OF ANALYSIS

Ms. Mary E. Wells
Terracon - Las Cruces
1630 Hickory Loop Ste H
Las Cruces, NM 88005

October 28, 2005

ESC Sample # : L219723-01

Site ID :

Project # : 66057007

Date Received : October 25, 2005
Description : OLS UDC VRP

Sample ID : MW-1 30FT

Collected By : Fred Small
Collection Date : 10/22/05 12:37

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Benzene	BDL	0.0010	mg/l	601/602	10/26/05	1
Polynuclear Aromatic Hydrocarbons						
Anthracene	BDL	0.00010	mg/l	8310	10/25/05	1
Acenaphthene	BDL	0.00010	mg/l	8310	10/25/05	1
Acenaphthylene	BDL	0.00010	mg/l	8310	10/25/05	1
Benzo(a)anthracene	BDL	0.00010	mg/l	8310	10/25/05	1
Benzo(a)pyrene	BDL	0.00010	mg/l	8310	10/25/05	1
Benzo(b)fluoranthene	BDL	0.00010	mg/l	8310	10/25/05	1
Benzo(g,h,i)perylene	BDL	0.00010	mg/l	8310	10/25/05	1
Benzo(k)fluoranthene	BDL	0.00010	mg/l	8310	10/25/05	1
Chrysene	BDL	0.00010	mg/l	8310	10/25/05	1
Dibenz(a,h)anthracene	BDL	0.00010	mg/l	8310	10/25/05	1
Fluoranthene	BDL	0.00010	mg/l	8310	10/25/05	1
Fluorene	BDL	0.00010	mg/l	8310	10/25/05	1
Indeno(1,2,3-cd)pyrene	BDL	0.00010	mg/l	8310	10/25/05	1
1-Methylnaphthalene	BDL	0.00010	mg/l	8310	10/25/05	1
2-Methylnaphthalene	0.00011	0.00010	mg/l	8310	10/25/05	1
Naphthalene	0.00013	0.00010	mg/l	8310	10/25/05	1
Phenanthrene	BDL	0.00010	mg/l	8310	10/25/05	1
Pyrene	BDL	0.00010	mg/l	8310	10/25/05	1
Surrogate						
p-Terphenyl-d14	83.0		% Rec.	8310	10/25/05	1

Terrie Fudge, ESC Representative

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)

Laboratory Certification Numbers:
AIHA - 100789, AL - 40660, CA - I-2327, CT- PH-0197, FL - E87487, GA - 923, IN - C-TN-01
KY - 90010, KYUST - 0016, NC - ENV375,DW21704, ND - R-140, SC - 84004, TN - 2006, VA - 00109, WV - 233
AZ -0612, MN - 047-999-395, NY - 11742, NJ - 81002, WI - 998093910

Note:
The reported analytical results relate only to the sample submitted.

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Reported: 10/27/05 09:40 Printed: 10/28/05 16:34

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REPORT OF ANALYSIS

Ms. Mary E. Wells
Terracon - Las Cruces
1630 Hickory Loop Ste H
Las Cruces, NM 88005

October 28, 2005

ESC Sample # : L219723-02

Site ID :

Project # : 66057007

Date Received : October 25, 2005
Description : OLS UDC VRP

Sample ID : MW-3 33FT

Collected By : Fred Small
Collection Date : 10/22/05 13:18

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Benzene	0.013	0.0010	mg/l	601/602	10/26/05	1
Polynuclear Aromatic Hydrocarbons						
Anthracene	BDL	0.00010	mg/l	8310	10/25/05	1
Acenaphthene	BDL	0.00010	mg/l	8310	10/25/05	1
Acenaphthylene	BDL	0.00010	mg/l	8310	10/25/05	1
Benzo(a)anthracene	BDL	0.00010	mg/l	8310	10/25/05	1
Benzo(a)pyrene	BDL	0.00010	mg/l	8310	10/25/05	1
Benzo(b)fluoranthene	BDL	0.00010	mg/l	8310	10/25/05	1
Benzo(g,h,i)perylene	BDL	0.00010	mg/l	8310	10/25/05	1
Benzo(k)fluoranthene	BDL	0.00010	mg/l	8310	10/25/05	1
Chrysene	BDL	0.00010	mg/l	8310	10/25/05	1
Dibenz(a,h)anthracene	BDL	0.00010	mg/l	8310	10/25/05	1
Fluoranthene	BDL	0.00010	mg/l	8310	10/25/05	1
Fluorene	BDL	0.00010	mg/l	8310	10/25/05	1
Indeno(1,2,3-cd)pyrene	BDL	0.00010	mg/l	8310	10/25/05	1
1-Methylnaphthalene	0.017	0.00010	mg/l	8310	10/25/05	1
2-Methylnaphthalene	0.021	0.00010	mg/l	8310	10/25/05	1
Naphthalene	0.0051	0.00010	mg/l	8310	10/25/05	1
Phenanthrene	BDL	0.00010	mg/l	8310	10/25/05	1
Pyrene	BDL	0.00010	mg/l	8310	10/25/05	1
Surrogate						
p-Terphenyl-d14	75.5		% Rec.	8310	10/25/05	1

Terrie Fudge, ESC Representative

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)

Laboratory Certification Numbers:
AIHA - 100789, AL - 40660, CA - I-2327, CT- PH-0197, FL - E87487, GA - 923, IN - C-TN-01
KY - 90010, KYUST - 0016, NC - ENV375,DW21704, ND - R-140, SC - 84004, TN - 2006, VA - 00109, WV - 233
AZ -0612, MN - 047-999-395, NY - 11742, NJ - 81002, WI - 998093910

Note:
The reported analytical results relate only to the sample submitted.

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REPORT OF ANALYSIS

Ms. Mary E. Wells
Terracon - Las Cruces
1630 Hickory Loop Ste H
Las Cruces, NM 88005

October 28, 2005

ESC Sample # : L219723-03

Site ID :

Project # : 66057007

Date Received : October 25, 2005
Description : OLS UDC VRP

Sample ID : MW-4 34FT

Collected By : Fred Small
Collection Date : 10/22/05 13:41

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Benzene	BDL	0.0010	mg/l	601/602	10/26/05	1
Polynuclear Aromatic Hydrocarbons						
Anthracene	BDL	0.00010	mg/l	8310	10/25/05	1
Acenaphthene	BDL	0.00010	mg/l	8310	10/25/05	1
Acenaphthylene	BDL	0.00010	mg/l	8310	10/25/05	1
Benzo(a)anthracene	BDL	0.00010	mg/l	8310	10/25/05	1
Benzo(a)pyrene	BDL	0.00010	mg/l	8310	10/25/05	1
Benzo(b)fluoranthene	BDL	0.00010	mg/l	8310	10/25/05	1
Benzo(g,h,i)perylene	BDL	0.00010	mg/l	8310	10/25/05	1
Benzo(k)fluoranthene	BDL	0.00010	mg/l	8310	10/25/05	1
Chrysene	BDL	0.00010	mg/l	8310	10/25/05	1
Dibenz(a,h)anthracene	BDL	0.00010	mg/l	8310	10/25/05	1
Fluoranthene	BDL	0.00010	mg/l	8310	10/25/05	1
Fluorene	BDL	0.00010	mg/l	8310	10/25/05	1
Indeno(1,2,3-cd)pyrene	BDL	0.00010	mg/l	8310	10/25/05	1
1-Methylnaphthalene	BDL	0.00010	mg/l	8310	10/25/05	1
2-Methylnaphthalene	0.00014	0.00010	mg/l	8310	10/25/05	1
Naphthalene	0.00015	0.00010	mg/l	8310	10/25/05	1
Phenanthrene	BDL	0.00010	mg/l	8310	10/25/05	1
Pyrene	BDL	0.00010	mg/l	8310	10/25/05	1
Surrogate						
p-Terphenyl-d14	81.8		% Rec.	8310	10/25/05	1

Terrie Fudge, ESC Representative

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)

Laboratory Certification Numbers:
AIHA - 100789, AL - 40660, CA - I-2327, CT- PH-0197, FL - E87487, GA - 923, IN - C-TN-01
KY - 90010, KYUST - 0016, NC - ENV375,DW21704, ND - R-140, SC - 84004, TN - 2006, VA - 00109, WV - 233
AZ -0612, MN - 047-999-395, NY - 11742, NJ - 81002, WI - 998093910

Note:
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REPORT OF ANALYSIS

Ms. Mary E. Wells
Terracon - Las Cruces
1630 Hickory Loop Ste H
Las Cruces, NM 88005

October 28, 2005

ESC Sample # : L219723-04

Site ID :

Project # : 66057007

Date Received : October 25, 2005
Description : OLS UDC VRP

Sample ID : MW-5 36FT

Collected By : Fred Small
Collection Date : 10/22/05 14:00

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Benzene	BDL	0.0010	mg/l	601/602	10/26/05	1
Polynuclear Aromatic Hydrocarbons						
Anthracene	BDL	0.00010	mg/l	8310	10/25/05	1
Acenaphthene	BDL	0.00010	mg/l	8310	10/25/05	1
Acenaphthylene	BDL	0.00010	mg/l	8310	10/25/05	1
Benzo(a)anthracene	BDL	0.00010	mg/l	8310	10/25/05	1
Benzo(a)pyrene	BDL	0.00010	mg/l	8310	10/25/05	1
Benzo(b)fluoranthene	BDL	0.00010	mg/l	8310	10/25/05	1
Benzo(g,h,i)perylene	BDL	0.00010	mg/l	8310	10/25/05	1
Benzo(k)fluoranthene	BDL	0.00010	mg/l	8310	10/25/05	1
Chrysene	BDL	0.00010	mg/l	8310	10/25/05	1
Dibenz(a,h)anthracene	BDL	0.00010	mg/l	8310	10/25/05	1
Fluoranthene	BDL	0.00010	mg/l	8310	10/25/05	1
Fluorene	BDL	0.00010	mg/l	8310	10/25/05	1
Indeno(1,2,3-cd)pyrene	BDL	0.00010	mg/l	8310	10/25/05	1
1-Methylnaphthalene	BDL	0.00010	mg/l	8310	10/25/05	1
2-Methylnaphthalene	BDL	0.00010	mg/l	8310	10/25/05	1
Naphthalene	BDL	0.00010	mg/l	8310	10/25/05	1
Phenanthrene	BDL	0.00010	mg/l	8310	10/25/05	1
Pyrene	BDL	0.00010	mg/l	8310	10/25/05	1
Surrogate						
p-Terphenyl-d14	76.9		% Rec.	8310	10/25/05	1

Terrie Fudge, ESC Representative

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)

Laboratory Certification Numbers:
AIHA - 100789, AL - 40660, CA - I-2327, CT- PH-0197, FL - E87487, GA - 923, IN - C-TN-01
KY - 90010, KYUST - 0016, NC - ENV375,DW21704, ND - R-140, SC - 84004, TN - 2006, VA - 00109, WV - 233
AZ -0612, MN - 047-999-395, NY - 11742, NJ - 81002, WI - 998093910

Note:
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REPORT OF ANALYSIS

Ms. Mary E. Wells
Terracon - Las Cruces
1630 Hickory Loop Ste H
Las Cruces, NM 88005

October 28, 2005

ESC Sample # : L219723-05

Site ID :

Project # : 66057007

Date Received : October 25, 2005
Description : OLS UDC VRP

Sample ID : MW-9 35FT

Collected By : Fred Small
Collection Date : 10/22/05 14:43

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Benzene	BDL	0.0010	mg/l	601/602	10/26/05	1
Polynuclear Aromatic Hydrocarbons						
Anthracene	BDL	0.00010	mg/l	8310	10/25/05	1
Acenaphthene	BDL	0.00010	mg/l	8310	10/25/05	1
Acenaphthylene	BDL	0.00010	mg/l	8310	10/25/05	1
Benzo(a)anthracene	BDL	0.00010	mg/l	8310	10/25/05	1
Benzo(a)pyrene	BDL	0.00010	mg/l	8310	10/25/05	1
Benzo(b)fluoranthene	BDL	0.00010	mg/l	8310	10/25/05	1
Benzo(g,h,i)perylene	BDL	0.00010	mg/l	8310	10/25/05	1
Benzo(k)fluoranthene	BDL	0.00010	mg/l	8310	10/25/05	1
Chrysene	BDL	0.00010	mg/l	8310	10/25/05	1
Dibenz(a,h)anthracene	BDL	0.00010	mg/l	8310	10/25/05	1
Fluoranthene	BDL	0.00010	mg/l	8310	10/25/05	1
Fluorene	BDL	0.00010	mg/l	8310	10/25/05	1
Indeno(1,2,3-cd)pyrene	BDL	0.00010	mg/l	8310	10/25/05	1
1-Methylnaphthalene	BDL	0.00010	mg/l	8310	10/25/05	1
2-Methylnaphthalene	0.00012	0.00010	mg/l	8310	10/25/05	1
Naphthalene	0.00017	0.00010	mg/l	8310	10/25/05	1
Phenanthrene	BDL	0.00010	mg/l	8310	10/25/05	1
Pyrene	BDL	0.00010	mg/l	8310	10/25/05	1
Surrogate						
p-Terphenyl-d14	79.1		% Rec.	8310	10/25/05	1

Terrie Fudge, ESC Representative

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)

Laboratory Certification Numbers:
AIHA - 100789, AL - 40660, CA - I-2327, CT- PH-0197, FL - E87487, GA - 923, IN - C-TN-01
KY - 90010, KYUST - 0016, NC - ENV375,DW21704, ND - R-140, SC - 84004, TN - 2006, VA - 00109, WV - 233
AZ -0612, MN - 047-999-395, NY - 11742, NJ - 81002, WI - 998093910

Note:
The reported analytical results relate only to the sample submitted.

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Reported: 10/27/05 09:40 Printed: 10/28/05 16:34

Attachment A
List of Analytes with QC Qualifiers

Sample #	Analyte	Qualifier
L219723-01	Acenaphthene	J3
	Fluorene	J3
L219723-02	Acenaphthene	J3
	Fluorene	J3
L219723-03	Acenaphthene	J3
	Fluorene	J3
L219723-04	Acenaphthene	J3
	Fluorene	J3
L219723-05	Acenaphthene	J3
	Fluorene	J3

Attachment B
Explanation of QC Qualifier Codes

Qualifier	Meaning
J3	The associated batch QC was outside the established quality control range for precision.

Qualifier Report Information

ESC utilizes sample and result qualifiers as set forth by the EPA Contract Laboratory Program and as required by most certifying bodies including NELAC. In addition to the EPA qualifiers adopted by ESC, we have implemented ESC qualifiers to provide more information pertaining to our analytical results. Each qualifier is designated in the qualifier explanation as either EPA or ESC. Data qualifiers are intended to provide the ESC client with more detailed information concerning the potential bias of reported data. Because of the wide range of constituents and variety of matrices incorporated by most EPA methods,it is common for some compounds to fall outside of established ranges. These exceptions are evaluated and all reported data is valid and useable unless qualified as 'R' (Rejected).

Definitions

Accuracy - The relationship of the observed value of a known sample to the true value of a known sample. Represented by percent recovery and relevant to samples such as: control samples, matrix spike recoveries, surrogate recoveries, etc.

Precision - The agreement between a set of samples or between duplicate samples. Relates to how close together the results are and is represented by Relative Percent Differrence.

Surrogate - Organic compounds that are similar in chemical composition, extraction, and chromotography to analytes of interest. The surrogates are used to determine the probable response of the group of analytes that are chemically related to the surrogate compound. Surrogates are added to the sample and carried through all stages of preparation and analyses.

	Control Limits					(AQ)	(SS)
2-Fluorophenol	31-119	Nitrobenzene-d5	43-118	Dibromfluoromethane		68-128	64-125
Phenol-d5	12-134	2-Fluorobiphenyl	45-128	Toluene-d8		76-115	69-118
2,4,6-Tribromophenol	51-141	Terphenyl-d14	43-137	4-Bromofluorobenzene		79-127	61-134

TIC - Tentatively Identified Compound: Compounds detected in samples that are not target compounds, internal standards, system monitoring compounds, or surrogates.

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REPORT OF ANALYSIS

Ms. Molly E. Wells
Terracon - Las Cruces
1630 Hickory Loop Ste H
Las Cruces, NM 88005

October 20, 2005

ESC Sample # : L218948-01

Site ID :

Project # : 6657007

Date Received : October 18, 2005
Description :

Sample ID : MW-8 34.49 FT

Collected By : Fred Small
Collection Date : 10/16/05 16:47

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Benzene	BDL	0.00050	mg/l	8021B	10/19/05	1
Toluene	BDL	0.0050	mg/l	8021B	10/19/05	1
Ethylbenzene	BDL	0.00050	mg/l	8021B	10/19/05	1
Total Xylene	BDL	0.0015	mg/l	8021B	10/19/05	1
Surrogate Recovery (77-118)						
a,a,a-Trifluorotoluene	99.		% Rec.	8021B	10/19/05	1
Polynuclear Aromatic Hydrocarbons						
Anthracene	BDL	0.00010	mg/l	8310	10/19/05	1
Acenaphthene	BDL	0.00010	mg/l	8310	10/19/05	1
Acenaphthylene	BDL	0.00010	mg/l	8310	10/19/05	1
Benzo(a)anthracene	BDL	0.00010	mg/l	8310	10/19/05	1
Benzo(a)pyrene	BDL	0.00010	mg/l	8310	10/19/05	1
Benzo(b)fluoranthene	BDL	0.00010	mg/l	8310	10/19/05	1
Benzo(g,h,i)perylene	BDL	0.00010	mg/l	8310	10/19/05	1
Benzo(k)fluoranthene	BDL	0.00010	mg/l	8310	10/19/05	1
Chrysene	BDL	0.00010	mg/l	8310	10/19/05	1
Dibenz(a,h)anthracene	BDL	0.00010	mg/l	8310	10/19/05	1
Fluoranthene	BDL	0.00010	mg/l	8310	10/19/05	1
Fluorene	BDL	0.00010	mg/l	8310	10/19/05	1
Indeno(1,2,3-cd)pyrene	BDL	0.00010	mg/l	8310	10/19/05	1
1-Methylnaphthalene	BDL	0.00010	mg/l	8310	10/19/05	1
2-Methylnaphthalene	0.00012	0.00010	mg/l	8310	10/19/05	1
Naphthalene	0.00020	0.00010	mg/l	8310	10/19/05	1
Phenanthrene	BDL	0.00010	mg/l	8310	10/19/05	1
Pyrene	BDL	0.00010	mg/l	8310	10/19/05	1
Surrogate						
p-Terphenyl-d14	77.5		% Rec.	8310	10/19/05	1

Terrie Fudge, ESC Representative

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)

Laboratory Certification Numbers:
AIHA - 100789, AL - 40660, CA - I-2327, CT- PH-0197, FL - E87487, GA - 923, IN - C-TN-01
KY - 90010, KYUST - 0016, NC - ENV375,DW21704, ND - R-140, SC - 84004, TN - 2006, VA - 00109, WV - 233
AZ -0612, MN - 047-999-395, NY - 11742, NJ - 81002, WI - 998093910

Note:
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REPORT OF ANALYSIS

Ms. Molly E. Wells
Terracon - Las Cruces
1630 Hickory Loop Ste H
Las Cruces, NM 88005

October 20, 2005

ESC Sample # : L218948-02

Date Received : October 18, 2005
Description :

Site ID :

Sample ID : MW-7 35.04 FT

Project # : 6657007

Collected By : Fred Small
Collection Date : 10/16/05 17:10

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Benzene	BDL	0.00050	mg/l	8021B	10/19/05	1
Toluene	BDL	0.0050	mg/l	8021B	10/19/05	1
Ethylbenzene	BDL	0.00050	mg/l	8021B	10/19/05	1
Total Xylene	BDL	0.0015	mg/l	8021B	10/19/05	1
Surrogate Recovery (77-118)						
a,a,a-Trifluorotoluene	98.		% Rec.	8021B	10/19/05	1
Polynuclear Aromatic Hydrocarbons						
Anthracene	BDL	0.00010	mg/l	8310	10/19/05	1
Acenaphthene	BDL	0.00010	mg/l	8310	10/19/05	1
Acenaphthylene	BDL	0.00010	mg/l	8310	10/19/05	1
Benzo(a)anthracene	BDL	0.00010	mg/l	8310	10/19/05	1
Benzo(a)pyrene	BDL	0.00010	mg/l	8310	10/19/05	1
Benzo(b)fluoranthene	BDL	0.00010	mg/l	8310	10/19/05	1
Benzo(g,h,i)perylene	BDL	0.00010	mg/l	8310	10/19/05	1
Benzo(k)fluoranthene	BDL	0.00010	mg/l	8310	10/19/05	1
Chrysene	BDL	0.00010	mg/l	8310	10/19/05	1
Dibenz(a,h)anthracene	BDL	0.00010	mg/l	8310	10/19/05	1
Fluoranthene	BDL	0.00010	mg/l	8310	10/19/05	1
Fluorene	BDL	0.00010	mg/l	8310	10/19/05	1
Indeno(1,2,3-cd)pyrene	BDL	0.00010	mg/l	8310	10/19/05	1
1-Methylnaphthalene	BDL	0.00010	mg/l	8310	10/19/05	1
2-Methylnaphthalene	0.00013	0.00010	mg/l	8310	10/19/05	1
Naphthalene	0.00019	0.00010	mg/l	8310	10/19/05	1
Phenanthrene	BDL	0.00010	mg/l	8310	10/19/05	1
Pyrene	BDL	0.00010	mg/l	8310	10/19/05	1
Surrogate						
p-Terphenyl-d14	77.1		% Rec.	8310	10/19/05	1

Terrie Fudge, ESC Representative

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)

Laboratory Certification Numbers:
AIHA - 100789, AL - 40660, CA - I-2327, CT- PH-0197, FL - E87487, GA - 923, IN - C-TN-01
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REPORT OF ANALYSIS

Ms. Molly E. Wells
Terracon - Las Cruces
1630 Hickory Loop Ste H
Las Cruces, NM 88005

October 20, 2005

ESC Sample # : L218948-03

Date Received : October 18, 2005
Description :

Site ID :

Sample ID : MW-6 37.59 FT

Project # : 6657007

Collected By : Fred Small
Collection Date : 10/16/05 15:50

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Benzene	BDL	0.00050	mg/l	8021B	10/19/05	1
Toluene	BDL	0.0050	mg/l	8021B	10/19/05	1
Ethylbenzene	BDL	0.00050	mg/l	8021B	10/19/05	1
Total Xylene	BDL	0.0015	mg/l	8021B	10/19/05	1
Surrogate Recovery (77-118)						
a,a,a-Trifluorotoluene	98.		% Rec.	8021B	10/19/05	1
Polynuclear Aromatic Hydrocarbons						
Anthracene	BDL	0.00010	mg/l	8310	10/19/05	1
Acenaphthene	BDL	0.00010	mg/l	8310	10/19/05	1
Acenaphthylene	BDL	0.00010	mg/l	8310	10/19/05	1
Benzo(a)anthracene	BDL	0.00010	mg/l	8310	10/19/05	1
Benzo(a)pyrene	BDL	0.00010	mg/l	8310	10/19/05	1
Benzo(b)fluoranthene	BDL	0.00010	mg/l	8310	10/19/05	1
Benzo(g,h,i)perylene	BDL	0.00010	mg/l	8310	10/19/05	1
Benzo(k)fluoranthene	BDL	0.00010	mg/l	8310	10/19/05	1
Chrysene	BDL	0.00010	mg/l	8310	10/19/05	1
Dibenz(a,h)anthracene	BDL	0.00010	mg/l	8310	10/19/05	1
Fluoranthene	BDL	0.00010	mg/l	8310	10/19/05	1
Fluorene	BDL	0.00010	mg/l	8310	10/19/05	1
Indeno(1,2,3-cd)pyrene	BDL	0.00010	mg/l	8310	10/19/05	1
1-Methylnaphthalene	BDL	0.00010	mg/l	8310	10/19/05	1
2-Methylnaphthalene	0.00013	0.00010	mg/l	8310	10/19/05	1
Naphthalene	0.00017	0.00010	mg/l	8310	10/19/05	1
Phenanthrene	BDL	0.00010	mg/l	8310	10/19/05	1
Pyrene	BDL	0.00010	mg/l	8310	10/19/05	1
Surrogate						
p-Terphenyl-d14	77.2		% Rec.	8310	10/19/05	1

Terrie Fudge, ESC Representative

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)

Laboratory Certification Numbers:
AIHA - 100789, AL - 40660, CA - I-2327, CT- PH-0197, FL - E87487, GA - 923, IN - C-TN-01
KY - 90010, KYUST - 0016, NC - ENV375,DW21704, ND - R-140, SC - 84004, TN - 2006, VA - 00109, WV - 233
AZ -0612, MN - 047-999-395, NY - 11742, NJ - 81002, WI - 998093910

Note:
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Summary of Remarks For Samples Printed
10/20/05 at 11:43:58

TSR Signing Reports: 064

Sample: L218948-01 Account: TERRLCNM Received: 10/18/05 10:30 Due Date: 10/25/05 00:00 RPT Date: 10/20/05 10:05

Sample: L218948-02 Account: TERRLCNM Received: 10/18/05 10:30 Due Date: 10/25/05 00:00 RPT Date: 10/20/05 10:05

Sample: L218948-03 Account: TERRLCNM Received: 10/18/05 10:30 Due Date: 10/25/05 00:00 RPT Date: 10/20/05 10:05

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REPORT OF ANALYSIS

Ms. Molly E. Wells
Terracon - Las Cruces
1630 Hickory Loop Ste H
Las Cruces, NM 88005

October 20, 2005

ESC Sample # : L218941-01

Date Received : October 18, 2005
Description : Soil

Site ID :

Sample ID : A1-SB1 2.5 FT

Project # : 6657007

Collected By : Fred Small
Collection Date : 10/15/05 11:30

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Lead	240	0.25	mg/kg	6010B	10/19/05	1

Terrie Fudge, ESC Representative

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)

Laboratory Certification Numbers:
AIHA - 100789, AL - 40660, CA - I-2327, CT- PH-0197, FL - E87487, GA - 923, IN - C-TN-01
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Note:
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REPORT OF ANALYSIS

Ms. Molly E. Wells
Terracon - Las Cruces
1630 Hickory Loop Ste H
Las Cruces, NM 88005

October 20, 2005

ESC Sample # : L218941-02

Date Received : October 18, 2005
Description : Soil

Site ID :

Sample ID : A1-SB2 1.7 FT

Project # : 6657007

Collected By : Fred Small
Collection Date : 10/15/05 11:40

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Lead	200	0.25	mg/kg	6010B	10/19/05	1

Terrie Fudge, ESC Representative

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)

Laboratory Certification Numbers:
AIHA - 100789, AL - 40660, CA - I-2327, CT- PH-0197, FL - E87487, GA - 923, IN - C-TN-01
KY - 90010, KYUST - 0016, NC - ENV375,DW21704, ND - R-140, SC - 84004, TN - 2006, VA - 00109, WV - 233
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REPORT OF ANALYSIS

Ms. Molly E. Wells
Terracon - Las Cruces
1630 Hickory Loop Ste H
Las Cruces, NM 88005

October 20, 2005

ESC Sample # : L218941-03

Site ID :

Project # : 6657007

Date Received : October 18, 2005
Description : Soil

Sample ID : A1-SB3 2.5 FT

Collected By : Fred Small
Collection Date : 10/15/05 11:47

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Lead	130	0.25	mg/kg	6010B	10/19/05	1

Terrie Fudge, ESC Representative

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)

Laboratory Certification Numbers:
AIHA - 100789, AL - 40660, CA - I-2327, CT- PH-0197, FL - E87487, GA - 923, IN - C-TN-01
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REPORT OF ANALYSIS

Ms. Molly E. Wells
Terracon - Las Cruces
1630 Hickory Loop Ste H
Las Cruces, NM 88005

October 20, 2005

ESC Sample # : L218941-04

Date Received : October 18, 2005
Description : Soil

Site ID :

Sample ID : A1-SB3 5 FT

Project # : 6657007

Collected By : Fred Small
Collection Date : 10/15/05 11:55

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Lead	5.0	0.25	mg/kg	6010B	10/19/05	1

Terrie Fudge, ESC Representative

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)

Laboratory Certification Numbers:
AIHA - 100789, AL - 40660, CA - I-2327, CT- PH-0197, FL - E87487, GA - 923, IN - C-TN-01
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REPORT OF ANALYSIS

Ms. Molly E. Wells
Terracon - Las Cruces
1630 Hickory Loop Ste H
Las Cruces, NM 88005

October 20, 2005

ESC Sample # : L218941-05

Date Received : October 18, 2005
Description : Soil

Site ID :

Sample ID : A1-SB4 2.5 FT

Project # : 6657007

Collected By : Fred Small
Collection Date : 10/15/05 14:30

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Lead	160	0.25	mg/kg	6010B	10/19/05	1

Terrie Fudge, ESC Representative

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)

Laboratory Certification Numbers:
AIHA - 100789, AL - 40660, CA - I-2327, CT- PH-0197, FL - E87487, GA - 923, IN - C-TN-01
KY - 90010, KYUST - 0016, NC - ENV375,DW21704, ND - R-140, SC - 84004, TN - 2006, VA - 00109, WV - 233
AZ -0612, MN - 047-999-395, NY - 11742, NJ - 81002, WI - 998093910

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REPORT OF ANALYSIS

Ms. Molly E. Wells
Terracon - Las Cruces
1630 Hickory Loop Ste H
Las Cruces, NM 88005

October 20, 2005

ESC Sample # : L218941-06

Date Received : October 18, 2005
Description : Soil

Site ID :

Sample ID : A1-SB4 5 FT

Project # : 6657007

Collected By : Fred Small
Collection Date : 10/15/05 14:40

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Lead	4.5	0.25	mg/kg	6010B	10/19/05	1

Terrie Fudge, ESC Representative

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)

Laboratory Certification Numbers:
AIHA - 100789, AL - 40660, CA - I-2327, CT- PH-0197, FL - E87487, GA - 923, IN - C-TN-01
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AZ -0612, MN - 047-999-395, NY - 11742, NJ - 81002, WI - 998093910

Note:
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REPORT OF ANALYSIS

Ms. Molly E. Wells
Terracon - Las Cruces
1630 Hickory Loop Ste H
Las Cruces, NM 88005

October 20, 2005

ESC Sample # : L218941-07

Date Received : October 18, 2005
Description : Soil

Site ID :

Sample ID : A1-SB5 2.5 FT

Project # : 6657007

Collected By : Fred Small
Collection Date : 10/15/05 14:50

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Lead	110	0.25	mg/kg	6010B	10/19/05	1

Terrie Fudge, ESC Representative

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)

Laboratory Certification Numbers:
AIHA - 100789, AL - 40660, CA - I-2327, CT- PH-0197, FL - E87487, GA - 923, IN - C-TN-01
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REPORT OF ANALYSIS

Ms. Molly E. Wells
Terracon - Las Cruces
1630 Hickory Loop Ste H
Las Cruces, NM 88005

October 20, 2005

ESC Sample # : L218941-08

Date Received : October 18, 2005
Description : Soil

Site ID :

Sample ID : A1-SB5 5 FT

Project # : 6657007

Collected By : Fred Small
Collection Date : 10/15/05 14:58

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Lead	5.9	0.25	mg/kg	6010B	10/19/05	1

Terrie Fudge, ESC Representative

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)

Laboratory Certification Numbers:
AIHA - 100789, AL - 40660, CA - I-2327, CT- PH-0197, FL - E87487, GA - 923, IN - C-TN-01
KY - 90010, KYUST - 0016, NC - ENV375,DW21704, ND - R-140, SC - 84004, TN - 2006, VA - 00109, WV - 233
AZ -0612, MN - 047-999-395, NY - 11742, NJ - 81002, WI - 998093910

Note:
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REPORT OF ANALYSIS

Ms. Molly E. Wells
Terracon - Las Cruces
1630 Hickory Loop Ste H
Las Cruces, NM 88005

October 20, 2005

ESC Sample # : L218941-09

Date Received : October 18, 2005
Description : Soil

Site ID :

Sample ID : A1-SB6 2.5 FT

Project # : 6657007

Collected By : Fred Small
Collection Date : 10/15/05 15:06

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Lead	170	0.25	mg/kg	6010B	10/19/05	1

Terrie Fudge, ESC Representative

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)

Laboratory Certification Numbers:
AIHA - 100789, AL - 40660, CA - I-2327, CT- PH-0197, FL - E87487, GA - 923, IN - C-TN-01
KY - 90010, KYUST - 0016, NC - ENV375,DW21704, ND - R-140, SC - 84004, TN - 2006, VA - 00109, WV - 233
AZ -0612, MN - 047-999-395, NY - 11742, NJ - 81002, WI - 998093910

Note:
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REPORT OF ANALYSIS

Ms. Molly E. Wells
Terracon - Las Cruces
1630 Hickory Loop Ste H
Las Cruces, NM 88005

October 20, 2005

ESC Sample # : L218941-10

Date Received : October 18, 2005
Description : Soil

Site ID :

Sample ID : A1-SB7 2.5 FT

Project # : 6657007

Collected By : Fred Small
Collection Date : 10/15/05 15:18

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Lead	240	0.25	mg/kg	6010B	10/19/05	1

Terrie Fudge, ESC Representative

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)

Laboratory Certification Numbers:
AIHA - 100789, AL - 40660, CA - I-2327, CT- PH-0197, FL - E87487, GA - 923, IN - C-TN-01
KY - 90010, KYUST - 0016, NC - ENV375,DW21704, ND - R-140, SC - 84004, TN - 2006, VA - 00109, WV - 233
AZ -0612, MN - 047-999-395, NY - 11742, NJ - 81002, WI - 998093910

Note:
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REPORT OF ANALYSIS

Ms. Molly E. Wells
Terracon - Las Cruces
1630 Hickory Loop Ste H
Las Cruces, NM 88005

October 20, 2005

ESC Sample # : L218941-11

Site ID :

Project # : 6657007

Date Received : October 18, 2005
Description : Soil

Sample ID : A1-SB8 2.5 FT

Collected By :
Collection Date : 10/15/05 15:20

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Lead	170	0.25	mg/kg	6010B	10/19/05	1

Terrie Fudge, ESC Representative

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)

Laboratory Certification Numbers:
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KY - 90010, KYUST - 0016, NC - ENV375,DW21704, ND - R-140, SC - 84004, TN - 2006, VA - 00109, WV - 233
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REPORT OF ANALYSIS

Ms. Molly E. Wells
Terracon - Las Cruces
1630 Hickory Loop Ste H
Las Cruces, NM 88005

October 20, 2005

ESC Sample # : L218941-12

Date Received : October 18, 2005
Description : Soil

Site ID :

Sample ID : A1-SB 5 FT

Project # : 6657007

Collected By : Fred Small
Collection Date : 10/15/05 15:33

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Lead	5.5	0.25	mg/kg	6010B	10/19/05	1

Terrie Fudge, ESC Representative

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)

Laboratory Certification Numbers:
AIHA - 100789, AL - 40660, CA - I-2327, CT- PH-0197, FL - E87487, GA - 923, IN - C-TN-01
KY - 90010, KYUST - 0016, NC - ENV375,DW21704, ND - R-140, SC - 84004, TN - 2006, VA - 00109, WV - 233
AZ -0612, MN - 047-999-395, NY - 11742, NJ - 81002, WI - 998093910

Note:
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REPORT OF ANALYSIS

Ms. Molly E. Wells
Terracon - Las Cruces
1630 Hickory Loop Ste H
Las Cruces, NM 88005

October 20, 2005

ESC Sample # : L218941-13

Date Received : October 18, 2005
Description : Soil

Site ID :

Sample ID : A1-SB9 2.5 FT

Project # : 6657007

Collected By : Fred Small
Collection Date : 10/15/05 15:38

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Lead	29.	0.25	mg/kg	6010B	10/19/05	1

Terrie Fudge, ESC Representative

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)

Laboratory Certification Numbers:
AIHA - 100789, AL - 40660, CA - I-2327, CT- PH-0197, FL - E87487, GA - 923, IN - C-TN-01
KY - 90010, KYUST - 0016, NC - ENV375,DW21704, ND - R-140, SC - 84004, TN - 2006, VA - 00109, WV - 233
AZ -0612, MN - 047-999-395, NY - 11742, NJ - 81002, WI - 998093910

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REPORT OF ANALYSIS

Ms. Molly E. Wells
Terracon - Las Cruces
1630 Hickory Loop Ste H
Las Cruces, NM 88005

October 20, 2005

ESC Sample # : L218941-14

Date Received : October 18, 2005
Description : Soil

Site ID :

Sample ID : A1-SB9 5 FT

Project # : 6657007

Collected By : Fred Small
Collection Date : 10/15/05 15:43

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Lead	4.3	0.25	mg/kg	6010B	10/19/05	1

Terrie Fudge, ESC Representative

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)

Laboratory Certification Numbers:
AIHA - 100789, AL - 40660, CA - I-2327, CT- PH-0197, FL - E87487, GA - 923, IN - C-TN-01
KY - 90010, KYUST - 0016, NC - ENV375,DW21704, ND - R-140, SC - 84004, TN - 2006, VA - 00109, WV - 233
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REPORT OF ANALYSIS

Ms. Molly E. Wells
Terracon - Las Cruces
1630 Hickory Loop Ste H
Las Cruces, NM 88005

October 20, 2005

ESC Sample # : L218941-15

Date Received : October 18, 2005
Description : Soil

Site ID :

Sample ID : A1-SB10 2.5 FT

Project # : 6657007

Collected By :
Collection Date : 10/16/05 07:52

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Lead	7.5	0.25	mg/kg	6010B	10/19/05	1

Terrie Fudge, ESC Representative

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)

Laboratory Certification Numbers:
AIHA - 100789, AL - 40660, CA - I-2327, CT- PH-0197, FL - E87487, GA - 923, IN - C-TN-01
KY - 90010, KYUST - 0016, NC - ENV375,DW21704, ND - R-140, SC - 84004, TN - 2006, VA - 00109, WV - 233
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REPORT OF ANALYSIS

Ms. Molly E. Wells
Terracon - Las Cruces
1630 Hickory Loop Ste H
Las Cruces, NM 88005

October 20, 2005

ESC Sample # : L218941-16

Date Received : October 18, 2005
Description : Soil

Site ID :

Sample ID : A1-SB10 5 FT

Project # : 6657007

Collected By : Fred Small
Collection Date : 10/16/05 08:01

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Lead	6.5	0.25	mg/kg	6010B	10/19/05	1

Terrie Fudge, ESC Representative

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)

Laboratory Certification Numbers:
AIHA - 100789, AL - 40660, CA - I-2327, CT- PH-0197, FL - E87487, GA - 923, IN - C-TN-01
KY - 90010, KYUST - 0016, NC - ENV375,DW21704, ND - R-140, SC - 84004, TN - 2006, VA - 00109, WV - 233
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REPORT OF ANALYSIS

Ms. Molly E. Wells
Terracon - Las Cruces
1630 Hickory Loop Ste H
Las Cruces, NM 88005

October 20, 2005

ESC Sample # : L218941-17

Date Received : October 18, 2005
Description : Soil

Site ID :

Sample ID : A1-SB11 2.5 FT

Project # : 6657007

Collected By : Fred Small
Collection Date : 10/16/05 08:08

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Lead	2100	0.25	mg/kg	6010B	10/19/05	1

Terrie Fudge, ESC Representative

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)

Laboratory Certification Numbers:
AIHA - 100789, AL - 40660, CA - I-2327, CT- PH-0197, FL - E87487, GA - 923, IN - C-TN-01
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REPORT OF ANALYSIS

Ms. Molly E. Wells
Terracon - Las Cruces
1630 Hickory Loop Ste H
Las Cruces, NM 88005

October 20, 2005

ESC Sample # : L218941-18

Date Received : October 18, 2005
Description : Soil

Site ID :

Sample ID : A1-SB11 5 FT

Project # : 6657007

Collected By : Fred Small
Collection Date : 10/16/05 08:13

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Lead	4.4	0.25	mg/kg	6010B	10/19/05	1

Terrie Fudge, ESC Representative

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)

Laboratory Certification Numbers:
AIHA - 100789, AL - 40660, CA - I-2327, CT- PH-0197, FL - E87487, GA - 923, IN - C-TN-01
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REPORT OF ANALYSIS

Ms. Molly E. Wells
Terracon - Las Cruces
1630 Hickory Loop Ste H
Las Cruces, NM 88005

October 20, 2005

ESC Sample # : L218941-19

Site ID :

Project # : 6657007

Date Received : October 18, 2005
Description : Soil

Sample ID : A1-SB12 2.5 FT

Collected By : Fred Small
Collection Date : 10/16/05 08:18

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Lead	1600	0.25	mg/kg	6010B	10/19/05	1

Terrie Fudge, ESC Representative

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)

Laboratory Certification Numbers:
AIHA - 100789, AL - 40660, CA - I-2327, CT- PH-0197, FL - E87487, GA - 923, IN - C-TN-01
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AZ -0612, MN - 047-999-395, NY - 11742, NJ - 81002, WI - 998093910

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REPORT OF ANALYSIS

Ms. Molly E. Wells
Terracon - Las Cruces
1630 Hickory Loop Ste H
Las Cruces, NM 88005

October 20, 2005

ESC Sample # : L218941-20

Date Received : October 18, 2005
Description : Soil

Site ID :

Sample ID : A1-SB15 5 FT

Project # : 6657007

Collected By : Fred Small
Collection Date : 10/16/05 09:02

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Lead	120	0.25	mg/kg	6010B	10/19/05	1

Terrie Fudge, ESC Representative

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)

Laboratory Certification Numbers:
AIHA - 100789, AL - 40660, CA - I-2327, CT- PH-0197, FL - E87487, GA - 923, IN - C-TN-01
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REPORT OF ANALYSIS

Ms. Molly E. Wells
Terracon - Las Cruces
1630 Hickory Loop Ste H
Las Cruces, NM 88005

October 20, 2005

ESC Sample # : L218941-21

Date Received : October 18, 2005
Description : Soil

Site ID :

Sample ID : A1-SB12 5 FT

Project # : 6657007

Collected By : Fred Small
Collection Date : 10/16/05 08:24

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Lead	4.6	0.25	mg/kg	6010B	10/19/05	1

Terrie Fudge, ESC Representative

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)

Laboratory Certification Numbers:
AIHA - 100789, AL - 40660, CA - I-2327, CT- PH-0197, FL - E87487, GA - 923, IN - C-TN-01
KY - 90010, KYUST - 0016, NC - ENV375,DW21704, ND - R-140, SC - 84004, TN - 2006, VA - 00109, WV - 233
AZ -0612, MN - 047-999-395, NY - 11742, NJ - 81002, WI - 998093910

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REPORT OF ANALYSIS

Ms. Molly E. Wells
Terracon - Las Cruces
1630 Hickory Loop Ste H
Las Cruces, NM 88005

October 20, 2005

ESC Sample # : L218941-22

Date Received : October 18, 2005
Description : Soil

Site ID :

Sample ID : A1-SB13 2.5 FT

Project # : 6657007

Collected By : Fred Small
Collection Date : 10/16/05 08:31

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Lead	320	0.25	mg/kg	6010B	10/19/05	1

Terrie Fudge, ESC Representative

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)

Laboratory Certification Numbers:
AIHA - 100789, AL - 40660, CA - I-2327, CT- PH-0197, FL - E87487, GA - 923, IN - C-TN-01
KY - 90010, KYUST - 0016, NC - ENV375,DW21704, ND - R-140, SC - 84004, TN - 2006, VA - 00109, WV - 233
AZ -0612, MN - 047-999-395, NY - 11742, NJ - 81002, WI - 998093910

Note:
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REPORT OF ANALYSIS

Ms. Molly E. Wells
Terracon - Las Cruces
1630 Hickory Loop Ste H
Las Cruces, NM 88005

October 20, 2005

ESC Sample # : L218941-23

Date Received : October 18, 2005
Description : Soil

Site ID :

Sample ID : A1-SB14 2.5 FT

Project # : 6657007

Collected By : Fred Small
Collection Date : 10/16/05 08:40

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Lead	99.	0.25	mg/kg	6010B	10/19/05	1

Terrie Fudge, ESC Representative

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)

Laboratory Certification Numbers:
AIHA - 100789, AL - 40660, CA - I-2327, CT- PH-0197, FL - E87487, GA - 923, IN - C-TN-01
KY - 90010, KYUST - 0016, NC - ENV375,DW21704, ND - R-140, SC - 84004, TN - 2006, VA - 00109, WV - 233
AZ -0612, MN - 047-999-395, NY - 11742, NJ - 81002, WI - 998093910

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REPORT OF ANALYSIS

Ms. Molly E. Wells
Terracon - Las Cruces
1630 Hickory Loop Ste H
Las Cruces, NM 88005

October 20, 2005

ESC Sample # : L218941-24

Date Received : October 18, 2005
Description : Soil

Site ID :

Sample ID : A1-SB14 5 FT

Project # : 6657007

Collected By : Fred Small
Collection Date : 10/16/05 08:50

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Lead	3.1	0.25	mg/kg	6010B	10/19/05	1

Terrie Fudge, ESC Representative

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)

Laboratory Certification Numbers:
AIHA - 100789, AL - 40660, CA - I-2327, CT- PH-0197, FL - E87487, GA - 923, IN - C-TN-01
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AZ -0612, MN - 047-999-395, NY - 11742, NJ - 81002, WI - 998093910

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REPORT OF ANALYSIS

Ms. Molly E. Wells
Terracon - Las Cruces
1630 Hickory Loop Ste H
Las Cruces, NM 88005

October 20, 2005

ESC Sample # : L218941-25

Date Received : October 18, 2005
Description : Soil

Site ID :

Sample ID : A1-SB16 2.5 FT

Project # : 6657007

Collected By : Fred Small
Collection Date : 10/16/05 09:16

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Lead	240	0.25	mg/kg	6010B	10/19/05	1

Terrie Fudge, ESC Representative

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)

Laboratory Certification Numbers:
AIHA - 100789, AL - 40660, CA - I-2327, CT- PH-0197, FL - E87487, GA - 923, IN - C-TN-01
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AZ -0612, MN - 047-999-395, NY - 11742, NJ - 81002, WI - 998093910

Note:
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REPORT OF ANALYSIS

Ms. Molly E. Wells
Terracon - Las Cruces
1630 Hickory Loop Ste H
Las Cruces, NM 88005

October 20, 2005

ESC Sample # : L218941-26

Date Received : October 18, 2005
Description : Soil

Site ID :

Sample ID : A1-SB16 5 FT

Project # : 6657007

Collected By : Fred Small
Collection Date : 10/16/05 09:30

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Lead	4.3	0.25	mg/kg	6010B	10/19/05	1

Terrie Fudge, ESC Representative

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)

Laboratory Certification Numbers:
AIHA - 100789, AL - 40660, CA - I-2327, CT- PH-0197, FL - E87487, GA - 923, IN - C-TN-01
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AZ -0612, MN - 047-999-395, NY - 11742, NJ - 81002, WI - 998093910

Note:
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REPORT OF ANALYSIS

Ms. Molly E. Wells
Terracon - Las Cruces
1630 Hickory Loop Ste H
Las Cruces, NM 88005

October 20, 2005

ESC Sample # : L218941-27

Date Received : October 18, 2005
Description : Soil

Site ID :

Sample ID : A1-SB17 2.5 FT

Project # : 6657007

Collected By : Fred Small
Collection Date : 10/16/05 09:35

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Lead	1400	0.25	mg/kg	6010B	10/19/05	1

Terrie Fudge, ESC Representative

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)

Laboratory Certification Numbers:
AIHA - 100789, AL - 40660, CA - I-2327, CT- PH-0197, FL - E87487, GA - 923, IN - C-TN-01
KY - 90010, KYUST - 0016, NC - ENV375,DW21704, ND - R-140, SC - 84004, TN - 2006, VA - 00109, WV - 233
AZ -0612, MN - 047-999-395, NY - 11742, NJ - 81002, WI - 998093910

Note:
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REPORT OF ANALYSIS

Ms. Molly E. Wells
Terracon - Las Cruces
1630 Hickory Loop Ste H
Las Cruces, NM 88005

October 20, 2005

ESC Sample # : L218941-28

Site ID :

Project # : 6657007

Date Received : October 18, 2005
Description : Soil

Sample ID : A1-SB17 5 FT

Collected By : Fred Small
Collection Date : 10/16/05 09:45

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Lead	4.0	0.25	mg/kg	6010B	10/19/05	1

Terrie Fudge, ESC Representative

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)

Laboratory Certification Numbers:
AIHA - 100789, AL - 40660, CA - I-2327, CT- PH-0197, FL - E87487, GA - 923, IN - C-TN-01
KY - 90010, KYUST - 0016, NC - ENV375,DW21704, ND - R-140, SC - 84004, TN - 2006, VA - 00109, WV - 233
AZ -0612, MN - 047-999-395, NY - 11742, NJ - 81002, WI - 998093910

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REPORT OF ANALYSIS

Ms. Molly E. Wells
Terracon - Las Cruces
1630 Hickory Loop Ste H
Las Cruces, NM 88005

October 20, 2005

ESC Sample # : L218941-29

Date Received : October 18, 2005
Description : Soil

Site ID :

Sample ID : A1-SB18 2.5 FT

Project # : 6657007

Collected By : Fred Small
Collection Date : 10/16/05 09:52

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Lead	770	0.25	mg/kg	6010B	10/19/05	1

Terrie Fudge, ESC Representative

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)

Laboratory Certification Numbers:
AIHA - 100789, AL - 40660, CA - I-2327, CT- PH-0197, FL - E87487, GA - 923, IN - C-TN-01
KY - 90010, KYUST - 0016, NC - ENV375,DW21704, ND - R-140, SC - 84004, TN - 2006, VA - 00109, WV - 233
AZ -0612, MN - 047-999-395, NY - 11742, NJ - 81002, WI - 998093910

Note:
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REPORT OF ANALYSIS

Ms. Molly E. Wells
Terracon - Las Cruces
1630 Hickory Loop Ste H
Las Cruces, NM 88005

October 20, 2005

ESC Sample # : L218941-30

Date Received : October 18, 2005
Description : Soil

Site ID :

Sample ID : A1-SB19 2.5 FT

Project # : 6657007

Collected By : Fred Small
Collection Date : 10/16/05 10:00

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Lead	900	0.25	mg/kg	6010B	10/19/05	1

Terrie Fudge, ESC Representative

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)

Laboratory Certification Numbers:
AIHA - 100789, AL - 40660, CA - I-2327, CT- PH-0197, FL - E87487, GA - 923, IN - C-TN-01
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REPORT OF ANALYSIS

Ms. Molly E. Wells
Terracon - Las Cruces
1630 Hickory Loop Ste H
Las Cruces, NM 88005

October 20, 2005

ESC Sample # : L218941-31

Date Received : October 18, 2005
Description : Soil

Site ID :

Sample ID : A1-SB19 5 FT

Project # : 6657007

Collected By :
Collection Date : 10/16/05 10:08

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Lead	5.0	0.25	mg/kg	6010B	10/19/05	1

Terrie Fudge, ESC Representative

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)

Laboratory Certification Numbers:
AIHA - 100789, AL - 40660, CA - I-2327, CT- PH-0197, FL - E87487, GA - 923, IN - C-TN-01
KY - 90010, KYUST - 0016, NC - ENV375,DW21704, ND - R-140, SC - 84004, TN - 2006, VA - 00109, WV - 233
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REPORT OF ANALYSIS

Ms. Molly E. Wells
Terracon - Las Cruces
1630 Hickory Loop Ste H
Las Cruces, NM 88005

October 20, 2005

ESC Sample # : L218941-32

Date Received : October 18, 2005
Description : Soil

Site ID :

Sample ID : A1-SB20 2.5 FT

Project # : 6657007

Collected By : Fred Small
Collection Date : 10/16/05 10:15

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Lead	540	0.25	mg/kg	6010B	10/19/05	1

Terrie Fudge, ESC Representative

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)

Laboratory Certification Numbers:
AIHA - 100789, AL - 40660, CA - I-2327, CT- PH-0197, FL - E87487, GA - 923, IN - C-TN-01
KY - 90010, KYUST - 0016, NC - ENV375,DW21704, ND - R-140, SC - 84004, TN - 2006, VA - 00109, WV - 233
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REPORT OF ANALYSIS

Ms. Molly E. Wells
Terracon - Las Cruces
1630 Hickory Loop Ste H
Las Cruces, NM 88005

October 20, 2005

ESC Sample # : L218941-33

Site ID :

Project # : 6657007

Date Received : October 18, 2005
Description : Soil

Sample ID : A1-SB21 2.5 FT

Collected By : Fred Small
Collection Date : 10/16/05 10:23

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Lead	56.	0.25	mg/kg	6010B	10/19/05	1

Terrie Fudge, ESC Representative

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)

Laboratory Certification Numbers:
AIHA - 100789, AL - 40660, CA - I-2327, CT- PH-0197, FL - E87487, GA - 923, IN - C-TN-01
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REPORT OF ANALYSIS

Ms. Molly E. Wells
Terracon - Las Cruces
1630 Hickory Loop Ste H
Las Cruces, NM 88005

October 20, 2005

ESC Sample # : L218941-34

Site ID :

Project # : 6657007

Date Received : October 18, 2005
Description : Soil

Sample ID : A1-SB21 5 FT

Collected By : Fred Small
Collection Date : 10/16/05 10:30

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Lead	4.7	0.25	mg/kg	6010B	10/19/05	1

Terrie Fudge, ESC Representative

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)

Laboratory Certification Numbers:
AIHA - 100789, AL - 40660, CA - I-2327, CT- PH-0197, FL - E87487, GA - 923, IN - C-TN-01
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REPORT OF ANALYSIS

Ms. Molly E. Wells
Terracon - Las Cruces
1630 Hickory Loop Ste H
Las Cruces, NM 88005

October 20, 2005

ESC Sample # : L218941-35

Site ID :

Project # : 6657007

Date Received : October 18, 2005
Description : Soil

Sample ID : A1-SB22 2.5 FT

Collected By : Fred Small
Collection Date : 10/16/05 11:10

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Lead	28.	0.25	mg/kg	6010B	10/19/05	1

Terrie Fudge, ESC Representative

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)

Laboratory Certification Numbers:
AIHA - 100789, AL - 40660, CA - I-2327, CT- PH-0197, FL - E87487, GA - 923, IN - C-TN-01
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REPORT OF ANALYSIS

Ms. Molly E. Wells
Terracon - Las Cruces
1630 Hickory Loop Ste H
Las Cruces, NM 88005

October 20, 2005

ESC Sample # : L218941-36

Date Received : October 18, 2005
Description : Soil

Site ID :

Sample ID : A1-SB22 5 FT

Project # : 6657007

Collected By : Fred Small
Collection Date : 10/16/05 11:19

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Lead	6.2	0.25	mg/kg	6010B	10/19/05	1

Terrie Fudge, ESC Representative

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)

Laboratory Certification Numbers:
AIHA - 100789, AL - 40660, CA - I-2327, CT- PH-0197, FL - E87487, GA - 923, IN - C-TN-01
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REPORT OF ANALYSIS

Ms. Molly E. Wells
Terracon - Las Cruces
1630 Hickory Loop Ste H
Las Cruces, NM 88005

October 20, 2005

ESC Sample # : L218941-37

Date Received : October 18, 2005
Description : Soil

Site ID :

Sample ID : A1-SB23 2.5 FT

Project # : 6657007

Collected By : Fred Small
Collection Date : 10/16/05 11:25

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Lead	600	0.25	mg/kg	6010B	10/19/05	1

Terrie Fudge, ESC Representative

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)

Laboratory Certification Numbers:
AIHA - 100789, AL - 40660, CA - I-2327, CT- PH-0197, FL - E87487, GA - 923, IN - C-TN-01
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REPORT OF ANALYSIS

Ms. Molly E. Wells
Terracon - Las Cruces
1630 Hickory Loop Ste H
Las Cruces, NM 88005

October 20, 2005

ESC Sample # : L218941-38

Date Received : October 18, 2005
Description : Soil

Site ID :

Sample ID : A1-SB23 5 FT

Project # : 6657007

Collected By : Fred Small
Collection Date : 10/16/05 11:35

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Lead	5.8	0.25	mg/kg	6010B	10/19/05	1

Terrie Fudge, ESC Representative

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)

Laboratory Certification Numbers:
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REPORT OF ANALYSIS

Ms. Molly E. Wells
Terracon - Las Cruces
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October 20, 2005

ESC Sample # : L218941-39

Date Received : October 18, 2005
Description : Soil

Site ID :

Sample ID : A1-SB24 2.5 FT

Project # : 6657007

Collected By : Fred Small
Collection Date : 10/16/05 11:41

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Lead	370	0.25	mg/kg	6010B	10/20/05	1

Terrie Fudge, ESC Representative

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)

Laboratory Certification Numbers:
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REPORT OF ANALYSIS

Ms. Molly E. Wells
Terracon - Las Cruces
1630 Hickory Loop Ste H
Las Cruces, NM 88005

October 20, 2005

ESC Sample # : L218941-40

Date Received : October 18, 2005
Description : Soil

Site ID :

Sample ID : A1-SB25 2.5 FT

Project # : 6657007

Collected By : Fred Small
Collection Date : 10/16/05 11:48

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Lead	1600	0.25	mg/kg	6010B	10/20/05	1

Terrie Fudge, ESC Representative

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)

Laboratory Certification Numbers:
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REPORT OF ANALYSIS

Ms. Molly E. Wells
Terracon - Las Cruces
1630 Hickory Loop Ste H
Las Cruces, NM 88005

October 20, 2005

ESC Sample # : L218941-41

Date Received : October 18, 2005
Description : Soil

Site ID :

Sample ID : A1-SB25 5 FT

Project # : 6657007

Collected By : Fred Small
Collection Date : 10/16/05 11:56

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Lead	4.0	0.25	mg/kg	6010B	10/20/05	1

Terrie Fudge, ESC Representative

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)

Laboratory Certification Numbers:
AIHA - 100789, AL - 40660, CA - I-2327, CT- PH-0197, FL - E87487, GA - 923, IN - C-TN-01
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REPORT OF ANALYSIS

Ms. Molly E. Wells
Terracon - Las Cruces
1630 Hickory Loop Ste H
Las Cruces, NM 88005

October 20, 2005

ESC Sample # : L218941-42

Date Received : October 18, 2005
Description : Soil

Site ID :

Sample ID : A1-SB26 1.4 FT

Project # : 6657007

Collected By : Fred Small
Collection Date : 10/16/05 12:01

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Lead	1300	0.25	mg/kg	6010B	10/20/05	1

Terrie Fudge, ESC Representative

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)

Laboratory Certification Numbers:
AIHA - 100789, AL - 40660, CA - I-2327, CT- PH-0197, FL - E87487, GA - 923, IN - C-TN-01
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AZ -0612, MN - 047-999-395, NY - 11742, NJ - 81002, WI - 998093910

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REPORT OF ANALYSIS

Ms. Molly E. Wells
Terracon - Las Cruces
1630 Hickory Loop Ste H
Las Cruces, NM 88005

October 20, 2005

ESC Sample # : L218941-43

Date Received : October 18, 2005
Description : Soil

Site ID :

Sample ID : A1-SB27 1.4 FT

Project # : 6657007

Collected By : Fred Small
Collection Date : 10/16/05 12:06

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Lead	390	0.25	mg/kg	6010B	10/20/05	1

Terrie Fudge, ESC Representative

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)

Laboratory Certification Numbers:
AIHA - 100789, AL - 40660, CA - I-2327, CT- PH-0197, FL - E87487, GA - 923, IN - C-TN-01
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REPORT OF ANALYSIS

Ms. Molly E. Wells
Terracon - Las Cruces
1630 Hickory Loop Ste H
Las Cruces, NM 88005

October 20, 2005

ESC Sample # : L218941-44

Date Received : October 18, 2005
Description : Soil

Site ID :

Sample ID : A1-SB28 2.5 FT

Project # : 6657007

Collected By : Fred Small
Collection Date : 10/16/05 12:11

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Lead	180	0.25	mg/kg	6010B	10/20/05	1

Terrie Fudge, ESC Representative

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)

Laboratory Certification Numbers:
AIHA - 100789, AL - 40660, CA - I-2327, CT- PH-0197, FL - E87487, GA - 923, IN - C-TN-01
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AZ -0612, MN - 047-999-395, NY - 11742, NJ - 81002, WI - 998093910

Note:
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REPORT OF ANALYSIS

Ms. Molly E. Wells
Terracon - Las Cruces
1630 Hickory Loop Ste H
Las Cruces, NM 88005

October 20, 2005

ESC Sample # : L218941-45

Date Received : October 18, 2005
Description : Soil

Site ID :

Sample ID : A1-SB28 5 FT

Project # : 6657007

Collected By : Fred Small
Collection Date : 10/16/05 12:22

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Lead	3.9	0.25	mg/kg	6010B	10/20/05	1

Terrie Fudge, ESC Representative

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)

Laboratory Certification Numbers:
AIHA - 100789, AL - 40660, CA - I-2327, CT- PH-0197, FL - E87487, GA - 923, IN - C-TN-01
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REPORT OF ANALYSIS

Ms. Molly E. Wells
Terracon - Las Cruces
1630 Hickory Loop Ste H
Las Cruces, NM 88005

October 20, 2005

ESC Sample # : L218941-46

Date Received : October 18, 2005
Description : Soil

Site ID :

Sample ID : A1-SB29 1.5 FT

Project # : 6657007

Collected By : Fred Small
Collection Date : 10/16/05 12:28

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Lead	900	0.25	mg/kg	6010B	10/20/05	1

Terrie Fudge, ESC Representative

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)

Laboratory Certification Numbers:
AIHA - 100789, AL - 40660, CA - I-2327, CT- PH-0197, FL - E87487, GA - 923, IN - C-TN-01
KY - 90010, KYUST - 0016, NC - ENV375,DW21704, ND - R-140, SC - 84004, TN - 2006, VA - 00109, WV - 233
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REPORT OF ANALYSIS

Ms. Molly E. Wells
Terracon - Las Cruces
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Las Cruces, NM 88005

October 20, 2005

ESC Sample # : L218941-47

Date Received : October 18, 2005
Description : Soil

Site ID :

Sample ID : A1-SB30 1.9 FT

Project # : 6657007

Collected By : Fred Small
Collection Date : 10/16/05 12:35

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Lead	290	0.25	mg/kg	6010B	10/20/05	1

Terrie Fudge, ESC Representative

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)

Laboratory Certification Numbers:
AIHA - 100789, AL - 40660, CA - I-2327, CT- PH-0197, FL - E87487, GA - 923, IN - C-TN-01
KY - 90010, KYUST - 0016, NC - ENV375,DW21704, ND - R-140, SC - 84004, TN - 2006, VA - 00109, WV - 233
AZ -0612, MN - 047-999-395, NY - 11742, NJ - 81002, WI - 998093910

Note:
The reported analytical results relate only to the sample submitted.

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Reported: 10/20/05 14:19 Printed: 10/20/05 14:25

ENVIRONMENTAL
SCIENCE CORP.

12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Ms. Molly E. Wells
Terracon - Las Cruces
1630 Hickory Loop Ste H
Las Cruces, NM 88005

October 20, 2005

ESC Sample # : L218941-48

Date Received : October 18, 2005
Description : Soil

Site ID :

Sample ID : A1-SB31 2.5 FT

Project # : 6657007

Collected By : Fred Small
Collection Date : 10/16/05 12:45

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Lead	3700	0.25	mg/kg	6010B	10/20/05	1

Terrie Fudge, ESC Representative

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)

Laboratory Certification Numbers:
AIHA - 100789, AL - 40660, CA - I-2327, CT- PH-0197, FL - E87487, GA - 923, IN - C-TN-01
KY - 90010, KYUST - 0016, NC - ENV375,DW21704, ND - R-140, SC - 84004, TN - 2006, VA - 00109, WV - 233
AZ -0612, MN - 047-999-395, NY - 11742, NJ - 81002, WI - 998093910

Note:
The reported analytical results relate only to the sample submitted.

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Reported: 10/20/05 14:19 Printed: 10/20/05 14:25

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Est. 1970

REPORT OF ANALYSIS

Ms. Molly E. Wells
Terracon - Las Cruces
1630 Hickory Loop Ste H
Las Cruces, NM 88005

October 20, 2005

ESC Sample # : L218941-49

Date Received : October 18, 2005
Description : Soil

Site ID :

Sample ID : A1-SB31 5 FT

Project # : 6657007

Collected By : Fred Small
Collection Date : 10/16/05 12:53

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Lead	5.9	0.25	mg/kg	6010B	10/20/05	1

Terrie Fudge, ESC Representative

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)

Laboratory Certification Numbers:
AIHA - 100789, AL - 40660, CA - I-2327, CT- PH-0197, FL - E87487, GA - 923, IN - C-TN-01
KY - 90010, KYUST - 0016, NC - ENV375,DW21704, ND - R-140, SC - 84004, TN - 2006, VA - 00109, WV - 233
AZ -0612, MN - 047-999-395, NY - 11742, NJ - 81002, WI - 998093910

Note:
The reported analytical results relate only to the sample submitted.

.
Reported: 10/20/05 14:19 Printed: 10/20/05 14:25

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Est. 1970

REPORT OF ANALYSIS

Ms. Molly E. Wells
Terracon - Las Cruces
1630 Hickory Loop Ste H
Las Cruces, NM 88005

October 20, 2005

ESC Sample # : L218941-50

Date Received : October 18, 2005
Description : Soil

Site ID :

Sample ID : A1-SB32 1.6 FT

Project # : 6657007

Collected By : Fred Small
Collection Date : 10/16/05 12:58

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Lead	200	0.25	mg/kg	6010B	10/20/05	1

Terrie Fudge, ESC Representative

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)

Laboratory Certification Numbers:
AIHA - 100789, AL - 40660, CA - I-2327, CT- PH-0197, FL - E87487, GA - 923, IN - C-TN-01
KY - 90010, KYUST - 0016, NC - ENV375,DW21704, ND - R-140, SC - 84004, TN - 2006, VA - 00109, WV - 233
AZ -0612, MN - 047-999-395, NY - 11742, NJ - 81002, WI - 998093910

Note:
The reported analytical results relate only to the sample submitted.

.
Reported: 10/20/05 14:19 Printed: 10/20/05 14:25

ENVIRONMENTAL
SCIENCE CORP.

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1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Ms. Molly E. Wells
Terracon - Las Cruces
1630 Hickory Loop Ste H
Las Cruces, NM 88005

October 20, 2005

ESC Sample # : L218941-51

Date Received : October 18, 2005
Description : Soil

Site ID :

Sample ID : A1-SB33 2 FT

Project # : 6657007

Collected By : Fred Small
Collection Date : 10/16/05 13:05

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Lead	16.	0.25	mg/kg	6010B	10/20/05	1

Terrie Fudge, ESC Representative

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)

Laboratory Certification Numbers:
AIHA - 100789, AL - 40660, CA - I-2327, CT- PH-0197, FL - E87487, GA - 923, IN - C-TN-01
KY - 90010, KYUST - 0016, NC - ENV375,DW21704, ND - R-140, SC - 84004, TN - 2006, VA - 00109, WV - 233
AZ -0612, MN - 047-999-395, NY - 11742, NJ - 81002, WI - 998093910

Note:
The reported analytical results relate only to the sample submitted.

.
Reported: 10/20/05 14:19 Printed: 10/20/05 14:25

Attachment A
List of Analytes with QC Qualifiers

Sample #	Analyte	Qualifier
L218941-01	Lead	V

Attachment B
Explanation of QC Qualifier Codes

Qualifier	Meaning
V	(ESC) - Additional QC Info: The sample concentration is too high to evaluate accurate spike recoveries.

Qualifier Report Information

ESC utilizes sample and result qualifiers as set forth by the EPA Contract Laboratory Program and as required by most certifying bodies including NELAC. In addition to the EPA qualifiers adopted by ESC, we have implemented ESC qualifiers to provide more information pertaining to our analytical results. Each qualifier is designated in the qualifier explanation as either EPA or ESC. Data qualifiers are intended to provide the ESC client with more detailed information concerning the potential bias of reported data. Because of the wide range of constituents and variety of matrices incorporated by most EPA methods,it is common for some compounds to fall outside of established ranges. These exceptions are evaluated and all reported data is valid and useable unless qualified as 'R' (Rejected).

Definitions

Accuracy - The relationship of the observed value of a known sample to the true value of a known sample. Represented by percent recovery and relevant to samples such as: control samples, matrix spike recoveries, surrogate recoveries, etc.

Precision - The agreement between a set of samples or between duplicate samples. Relates to how close together the results are and is represented by Relative Percent Differrence.

Surrogate - Organic compounds that are similar in chemical composition, extraction, and chromotography to analytes of interest. The surrogates are used to determine the probable response of the group of analytes that are chemically related to the surrogate compound. Surrogates are added to the sample and carried through all stages of preparation and analyses.

	Control Limits				(AQ)	(SS)
2-Fluorophenol	31-119	Nitrobenzene-d5	43-118	Dibromfluoromethane	68-128	64-125
Phenol-d5	12-134	2-Fluorobiphenyl	45-128	Toluene-d8	76-115	69-118
2,4,6-Tribromophenol	51-141	Terphenyl-d14	43-137	4-Bromofluorobenzene	79-127	61-134

TIC - Tentatively Identified Compound: Compounds detected in samples that are not target compounds, internal standards, system monitoring compounds, or surrogates.

Summary of Remarks For Samples Printed
10/20/05 at 14:25:47

TSR Signing Reports: 064

Sample: L218941-01 Account: TERRLCNM Received: 10/18/05 10:30 Due Date: 10/25/05 00:00 RPT Date: 10/20/05 14:19
Sample: L218941-02 Account: TERRLCNM Received: 10/18/05 10:30 Due Date: 10/25/05 00:00 RPT Date: 10/20/05 14:19
Sample: L218941-03 Account: TERRLCNM Received: 10/18/05 10:30 Due Date: 10/25/05 00:00 RPT Date: 10/20/05 14:19
Sample: L218941-04 Account: TERRLCNM Received: 10/18/05 10:30 Due Date: 10/25/05 00:00 RPT Date: 10/20/05 14:19
Sample: L218941-05 Account: TERRLCNM Received: 10/18/05 10:30 Due Date: 10/25/05 00:00 RPT Date: 10/20/05 14:19
Sample: L218941-06 Account: TERRLCNM Received: 10/18/05 10:30 Due Date: 10/25/05 00:00 RPT Date: 10/20/05 14:19
Sample: L218941-07 Account: TERRLCNM Received: 10/18/05 10:30 Due Date: 10/25/05 00:00 RPT Date: 10/20/05 14:19
Sample: L218941-08 Account: TERRLCNM Received: 10/18/05 10:30 Due Date: 10/25/05 00:00 RPT Date: 10/20/05 14:19
Sample: L218941-09 Account: TERRLCNM Received: 10/18/05 10:30 Due Date: 10/25/05 00:00 RPT Date: 10/20/05 14:19
Sample: L218941-10 Account: TERRLCNM Received: 10/18/05 10:30 Due Date: 10/25/05 00:00 RPT Date: 10/20/05 14:19
Sample: L218941-11 Account: TERRLCNM Received: 10/18/05 10:30 Due Date: 10/25/05 00:00 RPT Date: 10/20/05 14:19
Sample: L218941-12 Account: TERRLCNM Received: 10/18/05 10:30 Due Date: 10/25/05 00:00 RPT Date: 10/20/05 14:19
Sample: L218941-13 Account: TERRLCNM Received: 10/18/05 10:30 Due Date: 10/25/05 00:00 RPT Date: 10/20/05 14:19
Sample: L218941-14 Account: TERRLCNM Received: 10/18/05 10:30 Due Date: 10/25/05 00:00 RPT Date: 10/20/05 14:19
Sample: L218941-15 Account: TERRLCNM Received: 10/18/05 10:30 Due Date: 10/25/05 00:00 RPT Date: 10/20/05 14:19
Sample: L218941-16 Account: TERRLCNM Received: 10/18/05 10:30 Due Date: 10/25/05 00:00 RPT Date: 10/20/05 14:19
Sample: L218941-17 Account: TERRLCNM Received: 10/18/05 10:30 Due Date: 10/25/05 00:00 RPT Date: 10/20/05 14:19
Sample: L218941-18 Account: TERRLCNM Received: 10/18/05 10:30 Due Date: 10/25/05 00:00 RPT Date: 10/20/05 14:19
Sample: L218941-19 Account: TERRLCNM Received: 10/18/05 10:30 Due Date: 10/25/05 00:00 RPT Date: 10/20/05 14:19
Sample: L218941-20 Account: TERRLCNM Received: 10/18/05 10:30 Due Date: 10/25/05 00:00 RPT Date: 10/20/05 14:19
Sample: L218941-21 Account: TERRLCNM Received: 10/18/05 10:30 Due Date: 10/25/05 00:00 RPT Date: 10/20/05 14:19
Sample: L218941-22 Account: TERRLCNM Received: 10/18/05 10:30 Due Date: 10/25/05 00:00 RPT Date: 10/20/05 14:19
Sample: L218941-23 Account: TERRLCNM Received: 10/18/05 10:30 Due Date: 10/25/05 00:00 RPT Date: 10/20/05 14:19
Sample: L218941-24 Account: TERRLCNM Received: 10/18/05 10:30 Due Date: 10/25/05 00:00 RPT Date: 10/20/05 14:19
Sample: L218941-25 Account: TERRLCNM Received: 10/18/05 10:30 Due Date: 10/25/05 00:00 RPT Date: 10/20/05 14:19
Sample: L218941-26 Account: TERRLCNM Received: 10/18/05 10:30 Due Date: 10/25/05 00:00 RPT Date: 10/20/05 14:19
Sample: L218941-27 Account: TERRLCNM Received: 10/18/05 10:30 Due Date: 10/25/05 00:00 RPT Date: 10/20/05 14:19
Sample: L218941-28 Account: TERRLCNM Received: 10/18/05 10:30 Due Date: 10/25/05 00:00 RPT Date: 10/20/05 14:19
Sample: L218941-29 Account: TERRLCNM Received: 10/18/05 10:30 Due Date: 10/25/05 00:00 RPT Date: 10/20/05 14:19
Sample: L218941-30 Account: TERRLCNM Received: 10/18/05 10:30 Due Date: 10/25/05 00:00 RPT Date: 10/20/05 14:19
Sample: L218941-31 Account: TERRLCNM Received: 10/18/05 10:30 Due Date: 10/25/05 00:00 RPT Date: 10/20/05 14:19
Sample: L218941-32 Account: TERRLCNM Received: 10/18/05 10:30 Due Date: 10/25/05 00:00 RPT Date: 10/20/05 14:19
Sample: L218941-33 Account: TERRLCNM Received: 10/18/05 10:30 Due Date: 10/25/05 00:00 RPT Date: 10/20/05 14:19
Sample: L218941-34 Account: TERRLCNM Received: 10/18/05 10:30 Due Date: 10/25/05 00:00 RPT Date: 10/20/05 14:19
Sample: L218941-35 Account: TERRLCNM Received: 10/18/05 10:30 Due Date: 10/25/05 00:00 RPT Date: 10/20/05 14:19
Sample: L218941-36 Account: TERRLCNM Received: 10/18/05 10:30 Due Date: 10/25/05 00:00 RPT Date: 10/20/05 14:19
Sample: L218941-37 Account: TERRLCNM Received: 10/18/05 10:30 Due Date: 10/25/05 00:00 RPT Date: 10/20/05 14:19
Sample: L218941-38 Account: TERRLCNM Received: 10/18/05 10:30 Due Date: 10/25/05 00:00 RPT Date: 10/20/05 14:19
Sample: L218941-39 Account: TERRLCNM Received: 10/18/05 10:30 Due Date: 10/25/05 00:00 RPT Date: 10/20/05 14:19
Sample: L218941-40 Account: TERRLCNM Received: 10/18/05 10:30 Due Date: 10/25/05 00:00 RPT Date: 10/20/05 14:19
Sample: L218941-41 Account: TERRLCNM Received: 10/18/05 10:30 Due Date: 10/25/05 00:00 RPT Date: 10/20/05 14:19

Sample: L218941-42 Account: TERRLCNM Received: 10/18/05 10:30 Due Date: 10/25/05 00:00 RPT Date: 10/20/05 14:19

Sample: L218941-43 Account: TERRLCNM Received: 10/18/05 10:30 Due Date: 10/25/05 00:00 RPT Date: 10/20/05 14:19

Sample: L218941-44 Account: TERRLCNM Received: 10/18/05 10:30 Due Date: 10/25/05 00:00 RPT Date: 10/20/05 14:19

Sample: L218941-45 Account: TERRLCNM Received: 10/18/05 10:30 Due Date: 10/25/05 00:00 RPT Date: 10/20/05 14:19

Sample: L218941-46 Account: TERRLCNM Received: 10/18/05 10:30 Due Date: 10/25/05 00:00 RPT Date: 10/20/05 14:19

Sample: L218941-47 Account: TERRLCNM Received: 10/18/05 10:30 Due Date: 10/25/05 00:00 RPT Date: 10/20/05 14:19

Sample: L218941-48 Account: TERRLCNM Received: 10/18/05 10:30 Due Date: 10/25/05 00:00 RPT Date: 10/20/05 14:19

Sample: L218941-49 Account: TERRLCNM Received: 10/18/05 10:30 Due Date: 10/25/05 00:00 RPT Date: 10/20/05 14:19

Sample: L218941-50 Account: TERRLCNM Received: 10/18/05 10:30 Due Date: 10/25/05 00:00 RPT Date: 10/20/05 14:19

Sample: L218941-51 Account: TERRLCNM Received: 10/18/05 10:30 Due Date: 10/25/05 00:00 RPT Date: 10/20/05 14:19

HALL
ENVIRONMENTAL
ANALYSIS
LABORATORY

COVER LETTER

October 25, 2005

Mary Wells
Terracon
1630 Hickory Loop Ste. H
Las Cruces, NM 88005
TEL: (505) 527-1700
FAX (505) 527-1092

RE: OLS UDC VRP

Order No.: 0509329

Dear Mary Wells:

Hall Environmental Analysis Laboratory received 7 samples on 9/30/2005 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent.

Reporting limits are determined by EPA methodology. No determination of compounds below these (denoted by the ND or < sign) has been made.

Please don't hesitate to contact HEAL for any additional information or clarifications.

Sincerely,

Andy Freeman, Business Manager
Nancy McDuffie, Laboratory Manager

Hall Environmental Analysis Laboratory

Date: *25-Oct-05*

CLIENT: Terracon
Lab Order: 0509329
Project: OLS UDC VRP
Lab ID: 0509329-01

Client Sample ID: SB-5 2.5'
Collection Date: 9/30/2005 10:00:00 AM
Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8310: PAHS						Analyst: **JMP**
Naphthalene	ND	2.5		mg/Kg	50	10/20/2005 10:36:42 PM
1-Methylnaphthalene	ND	2.5		mg/Kg	50	10/20/2005 10:36:42 PM
2-Methylnaphthalene	ND	2.5		mg/Kg	50	10/20/2005 10:36:42 PM
Acenaphthylene	ND	2.5		mg/Kg	50	10/20/2005 10:36:42 PM
Acenaphthene	ND	2.5		mg/Kg	50	10/20/2005 10:36:42 PM
Fluorene	ND	1.5		mg/Kg	50	10/20/2005 10:36:42 PM
Phenanthrene	1.1	0.30		mg/Kg	50	10/20/2005 10:36:42 PM
Anthracene	ND	0.30		mg/Kg	50	10/20/2005 10:36:42 PM
Fluoranthene	0.95	0.30		mg/Kg	50	10/20/2005 10:36:42 PM
Pyrene	1.2	0.25		mg/Kg	50	10/20/2005 10:36:42 PM
Benz(a)anthracene	0.40	0.040		mg/Kg	50	10/20/2005 10:36:42 PM
Chrysene	0.24	0.20		mg/Kg	50	10/20/2005 10:36:42 PM
Benzo(b)fluoranthene	0.33	0.10		mg/Kg	50	10/20/2005 10:36:42 PM
Benzo(k)fluoranthene	0.18	0.025		mg/Kg	50	10/20/2005 10:36:42 PM
Benzo(a)pyrene	0.25	0.040		mg/Kg	50	10/20/2005 10:36:42 PM
Dibenz(a,h)anthracene	ND	0.055		mg/Kg	50	10/20/2005 10:36:42 PM
Benzo(g,h,i)perylene	ND	0.10		mg/Kg	50	10/20/2005 10:36:42 PM
Indeno(1,2,3-cd)pyrene	ND	0.13		mg/Kg	50	10/20/2005 10:36:42 PM
Surr: Benzo(e)pyrene	20.0	52.8-123	S	%REC	50	10/20/2005 10:36:42 PM

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range

Hall Environmental Analysis Laboratory

Date: *25-Oct-05*

CLIENT: Terracon
Client Sample ID: SB-5 5'
Lab Order: 0509329
Collection Date: 9/30/2005 10:05:00 AM
Project: OLS UDC VRP
Lab ID: 0509329-02
Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8310: PAHS						Analyst: JMP
Naphthalene	ND	0.050		mg/Kg	1	10/24/2005 12:52:37 PM
1-Methylnaphthalene	ND	0.050		mg/Kg	1	10/24/2005 12:52:37 PM
2-Methylnaphthalene	ND	0.050		mg/Kg	1	10/24/2005 12:52:37 PM
Acenaphthylene	ND	0.050		mg/Kg	1	10/24/2005 12:52:37 PM
Acenaphthene	ND	0.050		mg/Kg	1	10/24/2005 12:52:37 PM
Fluorene	ND	0.030		mg/Kg	1	10/24/2005 12:52:37 PM
Phenanthrene	0.0072	0.0060		mg/Kg	1	10/24/2005 12:52:37 PM
Anthracene	ND	0.0060		mg/Kg	1	10/24/2005 12:52:37 PM
Fluoranthene	ND	0.0060		mg/Kg	1	10/24/2005 12:52:37 PM
Pyrene	0.0062	0.0050		mg/Kg	1	10/24/2005 12:52:37 PM
Benz(a)anthracene	0.024	0.00080		mg/Kg	1	10/24/2005 12:52:37 PM
Chrysene	ND	0.0040		mg/Kg	1	10/24/2005 12:52:37 PM
Benzo(b)fluoranthene	0.0021	0.0020		mg/Kg	1	10/24/2005 12:52:37 PM
Benzo(k)fluoranthene	0.0013	0.00050		mg/Kg	1	10/24/2005 12:52:37 PM
Benzo(a)pyrene	0.0018	0.00080		mg/Kg	1	10/24/2005 12:52:37 PM
Dibenz(a,h)anthracene	ND	0.0011		mg/Kg	1	10/24/2005 12:52:37 PM
Benzo(g,h,i)perylene	0.0022	0.0020		mg/Kg	1	10/24/2005 12:52:37 PM
Indeno(1,2,3-cd)pyrene	ND	0.0025		mg/Kg	1	10/24/2005 12:52:37 PM
Surr: Benzo(e)pyrene	69.7	52.8-123		%REC	1	10/24/2005 12:52:37 PM

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range

Hall Environmental Analysis Laboratory

Date: *25-Oct-05*

CLIENT: Terracon
Client Sample ID: SB-5 10'
Lab Order: 0509329
Collection Date: 9/30/2005 10:10:00 AM
Project: OLS UDC VRP
Lab ID: 0509329-03
Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8310: PAHS						Analyst: JMP
Naphthalene	ND	0.050		mg/Kg	1	10/21/2005 12:12:41 AM
1-Methylnaphthalene	ND	0.050		mg/Kg	1	10/21/2005 12:12:41 AM
2-Methylnaphthalene	ND	0.050		mg/Kg	1	10/21/2005 12:12:41 AM
Acenaphthylene	ND	0.050		mg/Kg	1	10/21/2005 12:12:41 AM
Acenaphthene	ND	0.050		mg/Kg	1	10/21/2005 12:12:41 AM
Fluorene	ND	0.030		mg/Kg	1	10/21/2005 12:12:41 AM
Phenanthrene	0.0088	0.0060		mg/Kg	1	10/21/2005 12:12:41 AM
Anthracene	ND	0.0060		mg/Kg	1	10/21/2005 12:12:41 AM
Fluoranthene	ND	0.0060		mg/Kg	1	10/21/2005 12:12:41 AM
Pyrene	ND	0.0050		mg/Kg	1	10/21/2005 12:12:41 AM
Benz(a)anthracene	0.0020	0.00080		mg/Kg	1	10/21/2005 12:12:41 AM
Chrysene	ND	0.0040		mg/Kg	1	10/21/2005 12:12:41 AM
Benzo(b)fluoranthene	ND	0.0020		mg/Kg	1	10/21/2005 12:12:41 AM
Benzo(k)fluoranthene	0.00070	0.00050		mg/Kg	1	10/21/2005 12:12:41 AM
Benzo(a)pyrene	0.0010	0.00080		mg/Kg	1	10/21/2005 12:12:41 AM
Dibenz(a,h)anthracene	ND	0.0011		mg/Kg	1	10/21/2005 12:12:41 AM
Benzo(g,h,i)perylene	ND	0.0020		mg/Kg	1	10/21/2005 12:12:41 AM
Indeno(1,2,3-cd)pyrene	ND	0.0025		mg/Kg	1	10/21/2005 12:12:41 AM
Surr: Benzo(e)pyrene	61.7	52.8-123		%REC	1	10/21/2005 12:12:41 AM

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range

Hall Environmental Analysis Laboratory

Date: *25-Oct-05*

CLIENT: Terracon
Client Sample ID: SB-5 15'
Lab Order: 0509329
Collection Date: 9/30/2005 10:15:00 AM
Project: OLS UDC VRP
Lab ID: 0509329-04
Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8310: PAHS						Analyst: **JMP**
Naphthalene	ND	0.050		mg/Kg	1	10/21/2005 5:00:44 AM
1-Methylnaphthalene	ND	0.050		mg/Kg	1	10/21/2005 5:00:44 AM
2-Methylnaphthalene	ND	0.050		mg/Kg	1	10/21/2005 5:00:44 AM
Acenaphthylene	ND	0.050		mg/Kg	1	10/21/2005 5:00:44 AM
Acenaphthene	ND	0.050		mg/Kg	1	10/21/2005 5:00:44 AM
Fluorene	ND	0.030		mg/Kg	1	10/21/2005 5:00:44 AM
Phenanthrene	ND	0.0060		mg/Kg	1	10/21/2005 5:00:44 AM
Anthracene	ND	0.0060		mg/Kg	1	10/21/2005 5:00:44 AM
Fluoranthene	ND	0.0060		mg/Kg	1	10/21/2005 5:00:44 AM
Pyrene	ND	0.0050		mg/Kg	1	10/21/2005 5:00:44 AM
Benz(a)anthracene	ND	0.00080		mg/Kg	1	10/21/2005 5:00:44 AM
Chrysene	ND	0.0040		mg/Kg	1	10/21/2005 5:00:44 AM
Benzo(b)fluoranthene	ND	0.0020		mg/Kg	1	10/21/2005 5:00:44 AM
Benzo(k)fluoranthene	ND	0.00050		mg/Kg	1	10/21/2005 5:00:44 AM
Benzo(a)pyrene	ND	0.00080		mg/Kg	1	10/21/2005 5:00:44 AM
Dibenz(a,h)anthracene	ND	0.0011		mg/Kg	1	10/21/2005 5:00:44 AM
Benzo(g,h,i)perylene	ND	0.0020		mg/Kg	1	10/21/2005 5:00:44 AM
Indeno(1,2,3-cd)pyrene	ND	0.0025		mg/Kg	1	10/21/2005 5:00:44 AM
Surr: Benzo(e)pyrene	80.3	52.8-123		%REC	1	10/21/2005 5:00:44 AM

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range

Hall Environmental Analysis Laboratory

Date: *25-Oct-05*

CLIENT: Terracon
Client Sample ID: SB-5 20'
Lab Order: 0509329
Collection Date: 9/30/2005 10:20:00 AM
Project: OLS UDC VRP
Lab ID: 0509329-05
Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8310: PAHS						Analyst: JMP
Naphthalene	ND	0.050		mg/Kg	1	10/21/2005 5:48:43 AM
1-Methylnaphthalene	ND	0.050		mg/Kg	1	10/21/2005 5:48:43 AM
2-Methylnaphthalene	ND	0.050		mg/Kg	1	10/21/2005 5:48:43 AM
Acenaphthylene	ND	0.050		mg/Kg	1	10/21/2005 5:48:43 AM
Acenaphthene	ND	0.050		mg/Kg	1	10/21/2005 5:48:43 AM
Fluorene	ND	0.030		mg/Kg	1	10/21/2005 5:48:43 AM
Phenanthrene	ND	0.0060		mg/Kg	1	10/21/2005 5:48:43 AM
Anthracene	ND	0.0060		mg/Kg	1	10/21/2005 5:48:43 AM
Fluoranthene	ND	0.0060		mg/Kg	1	10/21/2005 5:48:43 AM
Pyrene	ND	0.0050		mg/Kg	1	10/21/2005 5:48:43 AM
Benz(a)anthracene	ND	0.00080		mg/Kg	1	10/21/2005 5:48:43 AM
Chrysene	ND	0.0040		mg/Kg	1	10/21/2005 5:48:43 AM
Benzo(b)fluoranthene	ND	0.0020		mg/Kg	1	10/21/2005 5:48:43 AM
Benzo(k)fluoranthene	ND	0.00050		mg/Kg	1	10/21/2005 5:48:43 AM
Benzo(a)pyrene	ND	0.00080		mg/Kg	1	10/21/2005 5:48:43 AM
Dibenz(a,h)anthracene	ND	0.0011		mg/Kg	1	10/21/2005 5:48:43 AM
Benzo(g,h,i)perylene	ND	0.0020		mg/Kg	1	10/21/2005 5:48:43 AM
Indeno(1,2,3-cd)pyrene	ND	0.0025		mg/Kg	1	10/21/2005 5:48:43 AM
Surr: Benzo(e)pyrene	76.9	52.8-123		%REC	1	10/21/2005 5:48:43 AM

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range

Hall Environmental Analysis Laboratory

Date: *25-Oct-05*

CLIENT: Terracon
Work Order: 0509329
Project: OLS UDC VRP

QC SUMMARY REPORT
Method Blank

Sample ID **MB-8885** Batch ID: **8885** Test Code: **SW8310** Units: **mg/Kg** Analysis Date **10/20/2005 11:22:14 A** Prep Date **10/5/2005**
Client ID: Run ID: **HUGO_051018A** SeqNo: **413397**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Naphthalene	ND	0.05									
1-Methylnaphthalene	ND	0.05									
2-Methylnaphthalene	ND	0.05									
Acenaphthylene	ND	0.05									
Acenaphthene	ND	0.05									
Fluorene	ND	0.03									
Phenanthrene	ND	0.006									
Anthracene	ND	0.006									
Fluoranthene	ND	0.006									
Pyrene	ND	0.005									
Benz(a)anthracene	ND	0.0008									
Chrysene	ND	0.004									
Benzo(b)fluoranthene	ND	0.002									
Benzo(k)fluoranthene	ND	0.0005									
Benzo(a)pyrene	ND	0.0008									
Dibenz(a,h)anthracene	ND	0.0011									
Benzo(g,h,i)perylene	ND	0.002									
Indeno(1,2,3-cd)pyrene	ND	0.0025									
Surr: Benzo(e)pyrene	0.1795	0	0.25	0	71.8	52.8	123	0			

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

CLIENT: Terracon
Work Order: 0509329
Project: OLS UDC VRP

QC SUMMARY REPORT
Method Blank

Sample ID MB-8960 Batch ID: 8960 Test Code: SW8310 Units: mg/Kg Analysis Date 10/21/2005 1:48:41 AM Prep Date 10/13/2005
Client ID: Run ID: HUGO_051018A SeqNo: 413846

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Naphthalene	ND	0.05									
1-Methylnaphthalene	ND	0.05									
2-Methylnaphthalene	ND	0.05									
Acenaphthylene	ND	0.05									
Acenaphthene	ND	0.05									
Fluorene	ND	0.03									
Phenanthrene	ND	0.006									
Anthracene	ND	0.006									
Fluoranthene	ND	0.006									
Pyrene	ND	0.005									
Benz(a)anthracene	ND	0.0008									
Chrysene	ND	0.004									
Benzo(b)fluoranthene	ND	0.002									
Benzo(k)fluoranthene	0.00025	0.0005									J
Benzo(a)pyrene	ND	0.0008									
Dibenz(a,h)anthracene	ND	0.0011									
Benzo(g,h,i)perylene	ND	0.002									
Indeno(1,2,3-cd)pyrene	ND	0.0025									
Surr: Benzo(e)pyrene	0.211	0	0.25	0	84.4	52.8	123	0			

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Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

Hall Environmental Analysis Laboratory

Date: *25-Oct-05*

CLIENT: Terracon
Work Order: 0509329
Project: OLS UDC VRP

QC SUMMARY REPORT

Sample Matrix Spike

Sample ID **0509329-05AMS** Batch ID: **8960** Test Code: **SW8310** Units: **mg/Kg** Analysis Date **10/21/2005 6:36:43 AM** Prep Date **10/13/2005**

Client ID: **SB-5 20'** Run ID: **HUGO_051018A** SeqNo: **413897**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Naphthalene	0.6848	0.05	1	0	68.5	40.91	80.61	0			
1-Methylnaphthalene	0.7005	0.05	1	0	70.1	43.35	80.47	0			
2-Methylnaphthalene	0.7013	0.05	1	0	70.1	40.89	82.27	0			
Acenaphthylene	0.6818	0.05	1	0	68.2	38.34	93.5	0			
Acenaphthene	0.7185	0.05	1	0	71.9	45.38	82.36	0			
Fluorene	0.074	0.03	0.1	0	74.0	44.73	92.83	0			
Phenanthrene	0.042	0.006	0.0503	0	83.5	58.86	102.18	0			
Anthracene	0.0385	0.006	0.0503	0	76.5	60.58	101.56	0			
Fluoranthene	0.0825	0.006	0.1003	0	82.3	67.97	108.45	0			
Pyrene	0.08075	0.005	0.1	0	80.8	45.25	122.86	0			
Benz(a)anthracene	0.0085	0.0008	0.01	0	85.0	66.8	120.42	0			
Chrysene	0.0415	0.004	0.0503	0	82.5	32.02	143.04	0			
Benzo(b)fluoranthene	0.009	0.002	0.0125	0	72.0	69.8	103.09	0			
Benzo(k)fluoranthene	0.00575	0.0005	0.00625	0	92.0	68.5	111.95	0			
Benzo(a)pyrene	0.0055	0.0008	0.00628	0.00025	83.6	66.69	101.39	0			
Dibenz(a,h)anthracene	0.0095	0.0011	0.0125	0	76.0	76.64	106.03	0			S
Benzo(g,h,i)perylene	0.0105	0.002	0.0125	0	84.0	39.01	138.33	0			
Indeno(1,2,3-cd)pyrene	0.0221	0.0025	0.0251	0	88.0	14.7	185.88	0			
Surr: Benzo(e)pyrene	0.182	0	0.25	0	72.8	52.8	123	0			

Qualifiers: ND - Not Detected at the Reporting Limit; S - Spike Recovery outside accepted recovery limits; B - Analyte detected in the associated Method Blank; J - Analyte detected below quantitation limits; R - RPD outside accepted recovery limits

J

CLIENT: Terracon
Work Order: 0509329
Project: OLS UDC VRP

QC SUMMARY REPORT
Sample Matrix Spike Duplicate

Sample ID **0509329-05AMSD** Batch ID: **8960** Test Code: **SW8310** Units: **mg/Kg** Analysis Date **10/21/2005 7:24:42 AM** Prep Date **10/13/2005**
Client ID: **SB-5 20'** Run ID: **HUGO_051018A** SeqNo: **413898**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Naphthalene	0.6793	0.05	1	0	67.9	40.91	80.61	0.6848	0.806	20	
1-Methylnaphthalene	0.6728	0.05	1	0	67.3	43.35	80.47	0.7005	4.04	20	
2-Methylnaphthalene	0.6713	0.05	1	0	67.1	40.89	82.27	0.7013	4.37	20	
Acenaphthylene	0.6346	0.05	1	0	63.5	38.34	93.5	0.6818	7.17	20	
Acenaphthene	0.6665	0.05	1	0	66.7	45.38	82.36	0.7185	7.51	20	
Fluorene	0.0655	0.03	0.1	0	65.5	44.73	92.83	0.074	12.2	20	
Phenanthrene	0.03675	0.006	0.0503	0	73.1	58.86	102.18	0.042	13.3	20	
Anthracene	0.0335	0.006	0.0503	0	66.6	60.58	101.56	0.0385	13.9	20	
Fluoranthene	0.06825	0.006	0.1003	0	68.0	67.97	108.45	0.0825	18.9	20	
Pyrene	0.0695	0.005	0.1	0	69.5	45.25	122.86	0.08075	15.0	20	
Benz(a)anthracene	0.007	0.0008	0.01	0	70.0	66.8	120.42	0.0085	19.4	20	
Chrysene	0.035	0.004	0.0503	0	69.6	32.02	143.04	0.0415	17.0	20	
Benzo(b)fluoranthene	0.00875	0.002	0.0125	0	70.0	69.8	103.09	0.009	2.82	20	
Benzo(k)fluoranthene	0.00425	0.0005	0.00625	0	68.0	68.5	111.95	0.00575	30.0	20	SR
Benzo(a)pyrene	0.00425	0.0008	0.00628	0.00025	63.7	66.69	101.39	0.0055	25.6	20	SR
Dibenz(a,h)anthracene	0.0075	0.0011	0.0125	0	60.0	76.64	106.03	0.0095	23.5	20	SR
Benzo(g,h,i)perylene	0.0085	0.002	0.0125	0	68.0	39.01	138.33	0.0105	21.1	20	R
Indeno(1,2,3-cd)pyrene	0.0193	0.0025	0.0251	0	76.9	14.7	185.88	0.0221	13.5	20	
Surr: Benzo(e)pyrene	0.1565	0	0.25	0	62.6	52.8	123	0.182	15.1	20	

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Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

CLIENT: Terracon
Work Order: 0509329
Project: OLS UDC VRP

QC SUMMARY REPORT

Laboratory Control Spike - generic

Sample ID **LCS-8885** Batch ID: **8885** Test Code: **SW8310** Units: **mg/Kg** Analysis Date **10/20/2005 12:10:14 P** Prep Date **10/5/2005**

Client ID: Run ID: **HUGO_051018A** SeqNo: **413398**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Naphthalene	0.7143	0.05	1	0	71.4	49.1	92.3	0			
1-Methylnaphthalene	0.744	0.05	1	0	74.4	49.7	93.6	0			
2-Methylnaphthalene	0.7563	0.05	1	0	75.6	50.1	91.7	0			
Acenaphthylene	0.7657	0.05	1	0	76.6	54	93	0			
Acenaphthene	0.7473	0.05	1	0	74.7	49.5	93.6	0			
Fluorene	0.07775	0.03	0.1	0	77.8	46.8	93.4	0			
Phenanthrene	0.0395	0.006	0.0503	0	78.5	48.7	104	0			
Anthracene	0.03975	0.006	0.0503	0	79.0	47.5	102	0			
Fluoranthene	0.08	0.006	0.1003	0	79.8	46.3	108	0			
Pyrene	0.07975	0.005	0.1	0	79.8	43.8	109	0			
Benz(a)anthracene	0.008	0.0008	0.01	0	80.0	40.3	115	0			
Chrysene	0.03975	0.004	0.0503	0	79.0	42.6	107	0			
Benzo(b)fluoranthene	0.00975	0.002	0.0125	0	78.0	48.6	107	0			
Benzo(k)fluoranthene	0.005	0.0005	0.00625	0	80.0	23.3	136	0			
Benzo(a)pyrene	0.00475	0.0008	0.00628	0	75.6	33.4	117	0			
Dibenz(a,h)anthracene	0.00975	0.0011	0.0125	0	78.0	27.3	139	0			
Benzo(g,h,i)perylene	0.0105	0.002	0.0125	0	84.0	38.2	117	0			
Indeno(1,2,3-cd)pyrene	0.01993	0.0025	0.0251	0	79.4	39.9	125	0			

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

/

CLIENT: Terracon
Work Order: 0509329
Project: OLS UDC VRP

QC SUMMARY REPORT
Laboratory Control Spike Duplicate

Sample ID **LCSD-8885** Batch ID: **8885** Test Code: **SW8310** Units: **mg/Kg** Analysis Date **10/20/2005 12:58:14 P** Prep Date **10/5/2005**
Client ID: Run ID: **HUGO_051018A** SeqNo: **413399**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Naphthalene	0.724	0.05	1	0	72.4	49.1	92.3	0.7143	1.36	20	
1-Methylnaphthalene	0.733	0.05	1	0	73.3	49.7	93.6	0.744	1.49	20	
2-Methylnaphthalene	0.735	0.05	1	0	73.5	50.1	91.7	0.7563	2.85	20	
Acenaphthylene	0.7474	0.05	1	0	74.7	54	93	0.7657	2.42	20	
Acenaphthene	0.738	0.05	1	0	73.8	49.5	93.6	0.7473	1.25	20	
Fluorene	0.0755	0.03	0.1	0	75.5	46.8	93.4	0.07775	2.94	20	
Phenanthrene	0.04125	0.006	0.0503	0	82.0	48.7	104	0.0395	4.33	20	
Anthracene	0.0395	0.006	0.0503	0	78.5	47.5	102	0.03975	0.631	20	
Fluoranthene	0.082	0.006	0.1003	0	81.8	46.3	108	0.08	2.47	20	
Pyrene	0.0805	0.005	0.1	0	80.5	43.8	109	0.07975	0.936	20	
Benz(a)anthracene	0.00825	0.0008	0.01	0	82.5	40.3	115	0.008	3.08	20	
Chrysene	0.04225	0.004	0.0503	0	84.0	42.6	107	0.03975	6.10	20	
Benzo(b)fluoranthene	0.011	0.002	0.0125	0	88.0	48.6	107	0.00975	12.0	20	
Benzo(k)fluoranthene	0.00525	0.0005	0.00625	0	84.0	23.3	136	0.005	4.88	20	
Benzo(a)pyrene	0.00525	0.0008	0.00628	0	83.6	33.4	117	0.00475	10.0	20	
Dibenz(a,h)anthracene	0.01075	0.0011	0.0125	0	86.0	27.3	139	0.00975	9.76	20	
Benzo(g,h,i)perylene	0.0105	0.002	0.0125	0	84.0	38.2	117	0.0105	0	20	
Indeno(1,2,3-cd)pyrene	0.0212	0.0025	0.0251	0	84.5	39.9	125	0.01993	6.20	20	

Qualifiers: ND - Not Detected at the Reporting Limit; S - Spike Recovery outside accepted recovery limits; B - Analyte detected in the associated Method Blank
J - Analyte detected below quantitation limits; R - RPD outside accepted recovery limits

CLIENT: Terracon
Work Order: 0509329
Project: OLS UDC VRP

QC SUMMARY REPORT
Laboratory Control Spike - generic

Sample ID LCS-8960 Batch ID: 8960 Test Code: SW8310 Units: mg/Kg Analysis Date 10/21/2005 2:36:44 AM Prep Date 10/13/2005
Client ID: Run ID: HUGO_051018A SeqNo: 413847

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Naphthalene	0.7598	0.05	1	0	76.0	49.1	92.3	0			
1-Methylnaphthalene	0.7918	0.05	1	0	79.2	49.7	93.6	0			
2-Methylnaphthalene	0.78	0.05	1	0	78.0	50.1	91.7	0			
Acenaphthylene	0.7601	0.05	1	0	76.0	54	93	0			
Acenaphthene	0.823	0.05	1	0	82.3	49.5	93.6	0			
Fluorene	0.0825	0.03	0.1	0	82.5	46.8	93.4	0			
Phenanthrene	0.04625	0.006	0.0503	0	91.9	48.7	104	0			
Anthracene	0.043	0.006	0.0503	0	85.5	47.5	102	0			
Fluoranthene	0.09225	0.006	0.1003	0	92.0	46.3	108	0			
Pyrene	0.08925	0.005	0.1	0	89.3	43.8	109	0			
Benz(a)anthracene	0.00875	0.0008	0.01	0	87.5	40.3	115	0			
Chrysene	0.04475	0.004	0.0503	0	89.0	42.6	107	0			
Benzo(b)fluoranthene	0.012	0.002	0.0125	0	96.0	48.6	107	0			
Benzo(k)fluoranthene	0.0055	0.0005	0.00625	0.00025	84.0	23.3	136	0			
Benzo(a)pyrene	0.0055	0.0008	0.00628	0	87.6	33.4	117	0			
Dibenz(a,h)anthracene	0.01075	0.0011	0.0125	0	86.0	27.3	139	0			
Benzo(g,h,i)perylene	0.012	0.002	0.0125	0	96.0	38.2	117	0			
Indeno(1,2,3-cd)pyrene	0.02368	0.0025	0.0251	0	94.3	39.9	125	0			

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Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

CLIENT: Terracon
Work Order: 0509329
Project: OLS UDC VRP

QC SUMMARY REPORT
Laboratory Control Spike Duplicate

Sample ID **LCSD-8960** Batch ID: **8960** Test Code: **SW8310** Units: **mg/Kg** Analysis Date **10/21/2005 3:24:44 AM** Prep Date **10/13/2005**
Client ID: Run ID: **HUGO_051018A** SeqNo: **413893**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Naphthalene	0.6455	0.05	1	0	64.6	49.1	92.3	0.7598	16.3	20	
1-Methylnaphthalene	0.67	0.05	1	0	67.0	49.7	93.6	0.7918	16.7	20	
2-Methylnaphthalene	0.661	0.05	1	0	66.1	50.1	91.7	0.78	16.5	20	
Acenaphthylene	0.6718	0.05	1	0	67.2	54	93	0.7601	12.3	20	
Acenaphthene	0.7193	0.05	1	0	71.9	49.5	93.6	0.823	13.5	20	
Fluorene	0.075	0.03	0.1	0	75.0	46.8	93.4	0.0825	9.52	20	
Phenanthrene	0.0445	0.006	0.0503	0	88.5	48.7	104	0.04625	3.86	20	
Anthracene	0.03975	0.006	0.0503	0	79.0	47.5	102	0.043	7.85	20	
Fluoranthene	0.0825	0.006	0.1003	0	82.3	46.3	108	0.09225	11.2	20	
Pyrene	0.08625	0.005	0.1	0	86.3	43.8	109	0.08925	3.42	20	
Benz(a)anthracene	0.00825	0.0008	0.01	0	82.5	40.3	115	0.00875	5.88	20	
Chrysene	0.043	0.004	0.0503	0	85.5	42.6	107	0.04475	3.99	20	
Benzo(b)fluoranthene	0.0095	0.002	0.0125	0	76.0	48.6	107	0.012	23.3	20	R
Benzo(k)fluoranthene	0.00525	0.0005	0.00625	0.00025	80.0	23.3	136	0.0055	4.65	20	
Benzo(a)pyrene	0.00525	0.0008	0.00628	0	83.6	33.4	117	0.0055	4.65	20	
Dibenz(a,h)anthracene	0.01	0.0011	0.0125	0	80.0	27.3	139	0.01075	7.23	20	
Benzo(g,h,i)perylene	0.0105	0.002	0.0125	0	84.0	38.2	117	0.012	13.3	20	
Indeno(1,2,3-cd)pyrene	0.02408	0.0025	0.0251	0	95.9	39.9	125	0.02368	1.68	20	

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

CLIENT: Terracon
Work Order: 0509329
Project: OLS UDC VRP

QC SUMMARY REPORT
Laboratory Control Spike - generic

Sample ID LCS-8960 Batch ID: 8960 Test Code: SW8310 Units: mg/Kg Analysis Date 10/24/2005 4:03:43 PM Prep Date 10/13/2005
Client ID: Run ID: HUGO_051024A SeqNo: 414231

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Naphthalene	0.692	0.05	1	0	69.2	49.1	92.3	0			
1-Methylnaphthalene	0.7283	0.05	1	0	72.8	49.7	93.6	0			
2-Methylnaphthalene	0.725	0.05	1	0	72.5	50.1	91.7	0			
Acenaphthylene	0.7725	0.05	1	0	77.3	54	93	0			
Acenaphthene	0.7675	0.05	1	0	76.8	49.5	93.6	0			
Fluorene	0.08025	0.03	0.1	0	80.3	46.8	93.4	0			
Phenanthrene	0.04375	0.006	0.0503	0	87.0	48.7	104	0			
Anthracene	0.04225	0.006	0.0503	0	84.0	47.5	102	0			
Fluoranthene	0.087	0.006	0.1003	0	86.7	46.3	108	0			
Pyrene	0.08225	0.005	0.1	0	82.3	43.8	109	0			
Benz(a)anthracene	0.00825	0.0008	0.01	0	82.5	40.3	115	0			
Chrysene	0.04175	0.004	0.0503	0	83.0	42.6	107	0			
Benzo(b)fluoranthene	0.01025	0.002	0.0125	0	82.0	48.6	107	0			
Benzo(k)fluoranthene	0.0055	0.0005	0.00625	0.00025	84.0	23.3	136	0			
Benzo(a)pyrene	0.00525	0.0008	0.00628	0	83.6	33.4	117	0			
Dibenz(a,h)anthracene	0.01125	0.0011	0.0125	0	90.0	27.3	139	0			
Benzo(g,h,i)perylene	0.0075	0.002	0.0125	0	60.0	38.2	117	0			
Indeno(1,2,3-cd)pyrene	0.01598	0.0025	0.0251	0	63.6	39.9	125	0			

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

Hall Environmental Analysis Laboratory

Sample Receipt Checklist

Client Name TER-LC | Date and Time Received: 9/30/2005

Work Order Number 0509329 | Received by AT

Checklist completed by _____ 9/30/05
Signature | Date

Matrix | Carrier name Client drop-off

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐	
Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	Not Present ☐	Not Shipped ☑
Custody seals intact on sample bottles?	Yes ☐	No ☑	N/A ☐	
Chain of custody present?	Yes ☑	No ☐		
Chain of custody signed when relinquished and received?	Yes ☑	No ☐		
Chain of custody agrees with sample labels?	Yes ☑	No ☐		
Samples in proper container/bottle?	Yes ☑	No ☐		
Sample containers intact?	Yes ☑	No ☐		
Sufficient sample volume for indicated test?	Yes ☑	No ☐		
All samples received within holding time?	Yes ☑	No ☐		
Water - VOA vials have zero headspace?	No VOA vials submitted ☑	Yes ☐	No ☐	
Water - pH acceptable upon receipt?	Yes ☐	No ☐	N/A ☑	

Container/Temp Blank temperature? 6° *4° C ± 2 Acceptable* If given sufficient time to cool.

COMMENTS:

Client contacted _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding _____

Comments: _____

Corrective Action _____

CHAIN-OF-CUSTODY RECORD

QA / QC Package:
Std ☐ Level 4 ☐
Other: _____

HALL ENVIRONMENTAL ANALYSIS LABORATORY
4901 Hawkins NE, Suite D
Albuquerque, New Mexico 87109
Tel. 505.345.3975 Fax 505.345.4107
www.hallenvironmental.com

Client: Terracon
Project Name: OLS UPC VRP
Address: 1630 Hickory Loop Suite H Las Cruces NM 88005
Project #: 66057007
Project Manager: M. Wells
Phone #: 505.527.1700 505.797.4288
Sampler: M. Wells
Fax #: 505.797-4288
Sample Temperature: 6°

Date	Time	Matrix	Sample I.D. No.	Number/Volume	Preservative: $HgCl_2$	Preservative: HNO_3	Preservative: ICE	HEAL No.
9/30/05	10:00	Soil	SB-5 2.5'	1-4oz				0509329-1
	10:05		SB-5 5'					-2
	10:10		SB-5 10'					-3
	10:15		SB-5 15'					-4
	10:20		SB-5 20'					-5
	10:25		SB-5 25'					-6
	10:30		SB-5 30'					-7

ANALYSIS REQUEST

BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gasoline Only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	EDC (Method 8021)	8310 (PNA or PAH)	RCRA 8 Metals	Anions (F, Cl, NO_3, NO_2, PO_4, SO_4)	8081 Pesticides / PCB's (8082)	8260B (VOA)	8270 (Semi-VOA)					Air Bubbles or Headspace (Y or N)
						X										
						Hold										
						X										
						Hold										
						Hold										
						Hold										
						Hold										

Date	Time	Relinquished By: (Signature)	Received By: (Signature)
9-30-05	12:15p		
Date:	Time:	Relinquished By: (Signature)	Received By: (Signature) 9/30/05 12:15

Remarks:

HALL
ENVIRONMENTAL
ANALYSIS
LABORATORY

COVER LETTER

October 25, 2005

Mary E. Wells
Terracon
1630 Hickory Loop Ste. H
Las Cruces, NM 88005
TEL: (505) 527-1700
FAX (505) 527-1092

RE: OLS UDC VRP

Order No.: 0510012

Dear Mary E. Wells:

Hall Environmental Analysis Laboratory received 6 samples on 10/4/2005 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent.

Reporting limits are determined by EPA methodology. No determination of compounds below these (denoted by the ND or < sign) has been made.

Please don't hesitate to contact HEAL for any additional information or clarifications.

Sincerely,

Andy Freeman, Business Manager
Nancy McDuffie, Laboratory Manager

Hall Environmental Analysis Laboratory

Date: *25-Oct-05*

CLIENT: Terracon
Lab Order: 0510012
Project: OLS UDC VRP
Lab ID: 0510012-01

Client Sample ID: 7007TP-1@5'
Collection Date: 10/4/2005 12:10:00 PM
Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: **SCC**
Diesel Range Organics (DRO)	100	10		mg/Kg	1	10/5/2005 3:55:21 PM
Motor Oil Range Organics (MRO)	250	50		mg/Kg	1	10/5/2005 3:55:21 PM
Surr: DNOP	113	60-124		%REC	1	10/5/2005 3:55:21 PM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	10/5/2005 2:46:55 PM
Surr: BFB	102	83.1-124		%REC	1	10/5/2005 2:46:55 PM
EPA METHOD 8310: PAHS						Analyst: **JMP**
Naphthalene	ND	0.50		mg/Kg	10	10/21/2005 1:00:41 AM
1-Methylnaphthalene	ND	0.50		mg/Kg	10	10/21/2005 1:00:41 AM
2-Methylnaphthalene	ND	0.50		mg/Kg	10	10/21/2005 1:00:41 AM
Acenaphthylene	ND	0.50		mg/Kg	10	10/21/2005 1:00:41 AM
Acenaphthene	ND	0.50		mg/Kg	10	10/21/2005 1:00:41 AM
Fluorene	ND	0.30		mg/Kg	10	10/21/2005 1:00:41 AM
Phenanthrene	0.75	0.060		mg/Kg	10	10/21/2005 1:00:41 AM
Anthracene	0.078	0.060		mg/Kg	10	10/21/2005 1:00:41 AM
Fluoranthene	0.58	0.060		mg/Kg	10	10/21/2005 1:00:41 AM
Pyrene	0.67	0.050		mg/Kg	10	10/21/2005 1:00:41 AM
Benz(a)anthracene	0.20	0.0080		mg/Kg	10	10/21/2005 1:00:41 AM
Chrysene	0.34	0.040		mg/Kg	10	10/21/2005 1:00:41 AM
Benzo(b)fluoranthene	0.24	0.020		mg/Kg	10	10/21/2005 1:00:41 AM
Benzo(k)fluoranthene	0.098	0.0050		mg/Kg	10	10/21/2005 1:00:41 AM
Benzo(a)pyrene	0.15	0.0080		mg/Kg	10	10/21/2005 1:00:41 AM
Dibenz(a,h)anthracene	0.033	0.011		mg/Kg	10	10/21/2005 1:00:41 AM
Benzo(g,h,i)perylene	0.21	0.020		mg/Kg	10	10/21/2005 1:00:41 AM
Indeno(1,2,3-cd)pyrene	ND	0.025		mg/Kg	10	10/21/2005 1:00:41 AM
Surr: Benzo(e)pyrene	105	52.8-123		%REC	10	10/21/2005 1:00:41 AM

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range

Hall Environmental Analysis Laboratory

Date: *25-Oct-05*

CLIENT:	Terracon	**Client Sample ID:**	7007TP-2@5'
Lab Order:	0510012	**Collection Date:**	10/4/2005 12:22:00 PM
Project:	OLS UDC VRP		
Lab ID:	0510012-02	**Matrix:**	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: **SCC**
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	10/6/2005 9:04:34 AM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	10/6/2005 9:04:34 AM
Surr: DNOP	118	60-124		%REC	1	10/6/2005 9:04:34 AM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	10/5/2005 3:18:22 PM
Surr: BFB	102	83.1-124		%REC	1	10/5/2005 3:18:22 PM
EPA METHOD 8310: PAHS						Analyst: **JMP**
Naphthalene	ND	2.5		mg/Kg	50	10/24/2005 5:39:44 PM
1-Methylnaphthalene	ND	2.5		mg/Kg	50	10/24/2005 5:39:44 PM
2-Methylnaphthalene	ND	2.5		mg/Kg	50	10/24/2005 5:39:44 PM
Acenaphthylene	ND	2.5		mg/Kg	50	10/24/2005 5:39:44 PM
Acenaphthene	ND	2.5		mg/Kg	50	10/24/2005 5:39:44 PM
Fluorene	ND	1.5		mg/Kg	50	10/24/2005 5:39:44 PM
Phenanthrene	0.35	0.30		mg/Kg	50	10/24/2005 5:39:44 PM
Anthracene	ND	0.30		mg/Kg	50	10/24/2005 5:39:44 PM
Fluoranthene	ND	0.30		mg/Kg	50	10/24/2005 5:39:44 PM
Pyrene	0.68	0.25		mg/Kg	50	10/24/2005 5:39:44 PM
Benz(a)anthracene	0.16	0.040		mg/Kg	50	10/24/2005 5:39:44 PM
Chrysene	ND	0.20		mg/Kg	50	10/24/2005 5:39:44 PM
Benzo(b)fluoranthene	0.38	0.10		mg/Kg	50	10/24/2005 5:39:44 PM
Benzo(k)fluoranthene	0.063	0.025		mg/Kg	50	10/24/2005 5:39:44 PM
Benzo(a)pyrene	0.18	0.040		mg/Kg	50	10/24/2005 5:39:44 PM
Dibenz(a,h)anthracene	0.075	0.055		mg/Kg	50	10/24/2005 5:39:44 PM
Benzo(g,h,i)perylene	0.53	0.10		mg/Kg	50	10/24/2005 5:39:44 PM
Indeno(1,2,3-cd)pyrene	ND	0.13		mg/Kg	50	10/24/2005 5:39:44 PM
Surr: Benzo(e)pyrene	10.0	52.8-123	S	%REC	50	10/24/2005 5:39:44 PM

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range

Hall Environmental Analysis Laboratory

Date: *25-Oct-05*

CLIENT: Terracon
Client Sample ID: 7007TP-3@5'
Lab Order: 0510012
Collection Date: 10/4/2005 12:50:00 PM
Project: OLS UDC VRP
Lab ID: 0510012-03
Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: **SCC**
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	10/6/2005 9:36:45 AM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	10/6/2005 9:36:45 AM
Surr: DNOP	107	60-124		%REC	1	10/6/2005 9:36:45 AM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	10/5/2005 3:50:21 PM
Surr: BFB	103	83.1-124		%REC	1	10/5/2005 3:50:21 PM
EPA METHOD 8310: PAHS						Analyst: **JMP**
Naphthalene	ND	0.050		mg/Kg	1	10/21/2005 4:12:39 PM
1-Methylnaphthalene	ND	0.050		mg/Kg	1	10/21/2005 4:12:39 PM
2-Methylnaphthalene	ND	0.050		mg/Kg	1	10/21/2005 4:12:39 PM
Acenaphthylene	ND	0.050		mg/Kg	1	10/21/2005 4:12:39 PM
Acenaphthene	ND	0.050		mg/Kg	1	10/21/2005 4:12:39 PM
Fluorene	ND	0.030		mg/Kg	1	10/21/2005 4:12:39 PM
Phenanthrene	ND	0.0060		mg/Kg	1	10/21/2005 4:12:39 PM
Anthracene	ND	0.0060		mg/Kg	1	10/21/2005 4:12:39 PM
Fluoranthene	ND	0.0060		mg/Kg	1	10/21/2005 4:12:39 PM
Pyrene	ND	0.0050		mg/Kg	1	10/21/2005 4:12:39 PM
Benz(a)anthracene	ND	0.00080		mg/Kg	1	10/21/2005 4:12:39 PM
Chrysene	ND	0.0040		mg/Kg	1	10/21/2005 4:12:39 PM
Benzo(b)fluoranthene	ND	0.0020		mg/Kg	1	10/21/2005 4:12:39 PM
Benzo(k)fluoranthene	ND	0.00050		mg/Kg	1	10/21/2005 4:12:39 PM
Benzo(a)pyrene	ND	0.00080		mg/Kg	1	10/21/2005 4:12:39 PM
Dibenz(a,h)anthracene	ND	0.0011		mg/Kg	1	10/21/2005 4:12:39 PM
Benzo(g,h,i)perylene	ND	0.0020		mg/Kg	1	10/21/2005 4:12:39 PM
Indeno(1,2,3-cd)pyrene	ND	0.0025		mg/Kg	1	10/21/2005 4:12:39 PM
Surr: Benzo(e)pyrene	78.0	52.8-123		%REC	1	10/21/2005 4:12:39 PM

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range

Hall Environmental Analysis Laboratory

Date: *25-Oct-05*

CLIENT: Terracon
Lab Order: 0510012
Project: OLS UDC VRP
Lab ID: 0510012-04

Client Sample ID: 7007TP-4@5'
Collection Date: 10/4/2005 1:09:00 PM
Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: **SCC**
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	10/6/2005 10:08:57 AM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	10/6/2005 10:08:57 AM
Surr: DNOP	110	60-124		%REC	1	10/6/2005 10:08:57 AM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	10/5/2005 4:53:36 PM
Surr: BFB	102	83.1-124		%REC	1	10/5/2005 4:53:36 PM
EPA METHOD 8310: PAHS						Analyst: **JMP**
Naphthalene	ND	0.050		mg/Kg	1	10/21/2005 5:48:38 PM
1-Methylnaphthalene	ND	0.050		mg/Kg	1	10/21/2005 5:48:38 PM
2-Methylnaphthalene	ND	0.050		mg/Kg	1	10/21/2005 5:48:38 PM
Acenaphthylene	ND	0.050		mg/Kg	1	10/21/2005 5:48:38 PM
Acenaphthene	ND	0.050		mg/Kg	1	10/21/2005 5:48:38 PM
Fluorene	ND	0.030		mg/Kg	1	10/21/2005 5:48:38 PM
Phenanthrene	ND	0.0060		mg/Kg	1	10/21/2005 5:48:38 PM
Anthracene	ND	0.0060		mg/Kg	1	10/21/2005 5:48:38 PM
Fluoranthene	ND	0.0060		mg/Kg	1	10/21/2005 5:48:38 PM
Pyrene	ND	0.0050		mg/Kg	1	10/21/2005 5:48:38 PM
Benz(a)anthracene	ND	0.00080		mg/Kg	1	10/21/2005 5:48:38 PM
Chrysene	ND	0.0040		mg/Kg	1	10/21/2005 5:48:38 PM
Benzo(b)fluoranthene	ND	0.0020		mg/Kg	1	10/21/2005 5:48:38 PM
Benzo(k)fluoranthene	ND	0.00050		mg/Kg	1	10/21/2005 5:48:38 PM
Benzo(a)pyrene	ND	0.00080		mg/Kg	1	10/21/2005 5:48:38 PM
Dibenz(a,h)anthracene	ND	0.0011		mg/Kg	1	10/21/2005 5:48:38 PM
Benzo(g,h,i)perylene	ND	0.0020		mg/Kg	1	10/21/2005 5:48:38 PM
Indeno(1,2,3-cd)pyrene	ND	0.0025		mg/Kg	1	10/21/2005 5:48:38 PM
Surr: Benzo(e)pyrene	76.0	52.8-123		%REC	1	10/21/2005 5:48:38 PM

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range

Hall Environmental Analysis Laboratory

Date: *25-Oct-05*

CLIENT:	Terracon	**Client Sample ID:**	7007TP-5@5'
Lab Order:	0510012	**Collection Date:**	10/4/2005 1:19:00 PM
Project:	OLS UDC VRP		
Lab ID:	0510012-05	**Matrix:**	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: **SCC**
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	10/6/2005 10:41:08 AM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	10/6/2005 10:41:08 AM
Surr: DNOP	107	60-124		%REC	1	10/6/2005 10:41:08 AM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	10/5/2005 12:41:34 PM
Surr: BFB	99.9	83.1-124		%REC	1	10/5/2005 12:41:34 PM
EPA METHOD 8310: PAHS						Analyst: **JMP**
Naphthalene	ND	0.050		mg/Kg	1	10/21/2005 6:36:41 PM
1-Methylnaphthalene	ND	0.050		mg/Kg	1	10/21/2005 6:36:41 PM
2-Methylnaphthalene	ND	0.050		mg/Kg	1	10/21/2005 6:36:41 PM
Acenaphthylene	ND	0.050		mg/Kg	1	10/21/2005 6:36:41 PM
Acenaphthene	ND	0.050		mg/Kg	1	10/21/2005 6:36:41 PM
Fluorene	ND	0.030		mg/Kg	1	10/21/2005 6:36:41 PM
Phenanthrene	ND	0.0060		mg/Kg	1	10/21/2005 6:36:41 PM
Anthracene	ND	0.0060		mg/Kg	1	10/21/2005 6:36:41 PM
Fluoranthene	ND	0.0060		mg/Kg	1	10/21/2005 6:36:41 PM
Pyrene	ND	0.0050		mg/Kg	1	10/21/2005 6:36:41 PM
Benz(a)anthracene	ND	0.00080		mg/Kg	1	10/21/2005 6:36:41 PM
Chrysene	ND	0.0040		mg/Kg	1	10/21/2005 6:36:41 PM
Benzo(b)fluoranthene	ND	0.0020		mg/Kg	1	10/21/2005 6:36:41 PM
Benzo(k)fluoranthene	ND	0.00050		mg/Kg	1	10/21/2005 6:36:41 PM
Benzo(a)pyrene	ND	0.00080		mg/Kg	1	10/21/2005 6:36:41 PM
Dibenz(a,h)anthracene	ND	0.0011		mg/Kg	1	10/21/2005 6:36:41 PM
Benzo(g,h,i)perylene	ND	0.0020		mg/Kg	1	10/21/2005 6:36:41 PM
Indeno(1,2,3-cd)pyrene	ND	0.0025		mg/Kg	1	10/21/2005 6:36:41 PM
Surr: Benzo(e)pyrene	67.9	52.8-123		%REC	1	10/21/2005 6:36:41 PM

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range

Hall Environmental Analysis Laboratory

Date: *25-Oct-05*

CLIENT: Terracon
Lab Order: 0510012
Project: OLS UDC VRP
Lab ID: 0510012-06

Client Sample ID: 7007TP-6@3'
Collection Date: 10/4/2005 1:39:00 PM
Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: **SCC**
Diesel Range Organics (DRO)	980	10		mg/Kg	1	10/6/2005 11:13:22 AM
Motor Oil Range Organics (MRO)	570	50		mg/Kg	1	10/6/2005 11:13:22 AM
Surr: DNOP	123	60-124		%REC	1	10/6/2005 11:13:22 AM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	13	5.0		mg/Kg	1	10/5/2005 5:25:14 PM
Surr: BFB	107	83.1-124		%REC	1	10/5/2005 5:25:14 PM
EPA METHOD 8310: PAHS						Analyst: **JMP**
Naphthalene	ND	0.25		mg/Kg	5	10/21/2005 7:24:41 PM
1-Methylnaphthalene	ND	0.25		mg/Kg	5	10/21/2005 7:24:41 PM
2-Methylnaphthalene	ND	0.25		mg/Kg	5	10/21/2005 7:24:41 PM
Acenaphthylene	ND	0.25		mg/Kg	5	10/21/2005 7:24:41 PM
Acenaphthene	ND	0.25		mg/Kg	5	10/21/2005 7:24:41 PM
Fluorene	ND	0.15		mg/Kg	5	10/21/2005 7:24:41 PM
Phenanthrene	0.083	0.030		mg/Kg	5	10/21/2005 7:24:41 PM
Anthracene	ND	0.030		mg/Kg	5	10/21/2005 7:24:41 PM
Fluoranthene	0.049	0.030		mg/Kg	5	10/21/2005 7:24:41 PM
Pyrene	0.059	0.025		mg/Kg	5	10/21/2005 7:24:41 PM
Benz(a)anthracene	ND	0.0040		mg/Kg	5	10/21/2005 7:24:41 PM
Chrysene	ND	0.020		mg/Kg	5	10/21/2005 7:24:41 PM
Benzo(b)fluoranthene	0.079	0.010		mg/Kg	5	10/21/2005 7:24:41 PM
Benzo(k)fluoranthene	0.0088	0.0025		mg/Kg	5	10/21/2005 7:24:41 PM
Benzo(a)pyrene	0.015	0.0040		mg/Kg	5	10/21/2005 7:24:41 PM
Dibenz(a,h)anthracene	ND	0.0055		mg/Kg	5	10/21/2005 7:24:41 PM
Benzo(g,h,i)perylene	ND	0.010		mg/Kg	5	10/21/2005 7:24:41 PM
Indeno(1,2,3-cd)pyrene	ND	0.013		mg/Kg	5	10/21/2005 7:24:41 PM
Surr: Benzo(e)pyrene	111	52.8-123		%REC	5	10/21/2005 7:24:41 PM

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range

Hall Environmental Analysis Laboratory

Date: *25-Oct-05*

CLIENT: Terracon
Work Order: 0510012
Project: OLS UDC VRP

QC SUMMARY REPORT
Method Blank

Sample ID **MB-8882** Batch ID: **8882** Test Code: **SW8015** Units: **mg/Kg** Analysis Date **10/5/2005 11:02:47 AM** Prep Date **10/5/2005**
Client ID: Run ID: **FID(17A) 2_051005A** SeqNo: **407752**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10									
Motor Oil Range Organics (MRO)	ND	50									
Surr: DNOP	10.12	0	10	0	101	60	124	0			

Sample ID **mb-8880** Batch ID: **8880** Test Code: **SW8015** Units: **mg/Kg** Analysis Date **10/5/2005 1:44:09 PM** Prep Date **10/4/2005**
Client ID: Run ID: **PIDFID_051005A** SeqNo: **407925**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5									
Surr: BFB	1017	0	1000	0	102	83.1	124	0			

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

CLIENT: Terracon
Work Order: 0510012
Project: OLS UDC VRP

QC SUMMARY REPORT
Method Blank

Sample ID MB-8885 Batch ID: 8885 Test Code: SW8310 Units: mg/Kg Analysis Date 10/20/2005 11:22:14 A Prep Date 10/5/2005
Client ID: Run ID: HUGO_051018A SeqNo: 413397

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Naphthalene	ND	0.05									
1-Methylnaphthalene	ND	0.05									
2-Methylnaphthalene	ND	0.05									
Acenaphthylene	ND	0.05									
Acenaphthene	ND	0.05									
Fluorene	ND	0.03									
Phenanthrene	ND	0.006									
Anthracene	ND	0.006									
Fluoranthene	ND	0.006									
Pyrene	ND	0.005									
Benz(a)anthracene	ND	0.0008									
Chrysene	ND	0.004									
Benzo(b)fluoranthene	ND	0.002									
Benzo(k)fluoranthene	ND	0.0005									
Benzo(a)pyrene	ND	0.0008									
Dibenz(a,h)anthracene	ND	0.0011									
Benzo(g,h,i)perylene	ND	0.002									
Indeno(1,2,3-cd)pyrene	ND	0.0025									
Surr: Benzo(e)pyrene	0.1795	0	0.25	0	71.8	52.8	123	0			

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Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

CLIENT: Terracon
Work Order: 0510012
Project: OLS UDC VRP

QC SUMMARY REPORT
Method Blank

Sample ID MB-8924 | Batch ID: 8924 | Test Code: SW8310 | Units: mg/Kg | Analysis Date 10/21/2005 9:00:41 AM | Prep Date 10/10/2005
Client ID: | Run ID: HUGO_051018A | SeqNo: 413900

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Naphthalene	ND	0.05									
1-Methylnaphthalene	ND	0.05									
2-Methylnaphthalene	ND	0.05									
Acenaphthylene	ND	0.05									
Acenaphthene	ND	0.05									
Fluorene	ND	0.03									
Phenanthrene	ND	0.006									
Anthracene	ND	0.006									
Fluoranthene	ND	0.006									
Pyrene	ND	0.005									
Benz(a)anthracene	ND	0.0008									
Chrysene	ND	0.004									
Benzo(b)fluoranthene	ND	0.002									
Benzo(k)fluoranthene	ND	0.0005									
Benzo(a)pyrene	ND	0.0008									
Dibenz(a,h)anthracene	ND	0.0011									
Benzo(g,h,i)perylene	ND	0.002									
Indeno(1,2,3-cd)pyrene	ND	0.0025									
Surr: Benzo(e)pyrene	0.1968	0	0.25	0	78.7	52.8	123	0			

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Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

Hall Environmental Analysis Laboratory

Date: *25-Oct-05*

CLIENT: Terracon
Work Order: 0510012
Project: OLS UDC VRP

QC SUMMARY REPORT
Sample Matrix Spike

Sample ID **0510012-05a ms** Batch ID: **8880** Test Code: **SW8015** Units: mg/Kg Analysis Date **10/5/2005 6:27:46 PM** Prep Date **10/4/2005**
Client ID: **7007TP-5@5'** Run ID: **PIDFID_051005A** SeqNo: **407933**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	23.82	5	25	0	95.3	84	120	0			
Surr: BFB	1144	0	1000	0	114	83.1	124	0			

Sample ID **0510012-05a msd** Batch ID: **8880** Test Code: **SW8015** Units: mg/Kg Analysis Date **10/5/2005 6:58:51 PM** Prep Date **10/4/2005**
Client ID: **7007TP-5@5'** Run ID: **PIDFID_051005A** SeqNo: **407934**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	22.85	5	25	0	91.4	84	120	23.82	4.16	11.6	
Surr: BFB	1075	0	1000	0	107	83.1	124	1144	6.26	0	

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

CLIENT: Terracon
Work Order: 0510012
Project: OLS UDC VRP

QC SUMMARY REPORT

Laboratory Control Spike - generic

Sample ID LCS-8882	Batch ID: 8882	Test Code: SW8015	Units: mg/Kg	Analysis Date 10/5/2005 11:35:16 AM	Prep Date 10/5/2005
Client ID:		Run ID: FID(17A) 2_051005A		SeqNo: 407888	

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	40.19	10	50	0	80.4	67.4	117	0			

Sample ID LCSD-8882	Batch ID: 8882	Test Code: SW8015	Units: mg/Kg	Analysis Date 10/5/2005 12:07:45 PM	Prep Date 10/5/2005
Client ID:		Run ID: FID(17A) 2_051005A		SeqNo: 407889	

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	39.98	10	50	0	80.0	67.4	117	40.19	0.514	17.4	

Sample ID lcs-8880	Batch ID: 8880	Test Code: SW8015	Units: mg/Kg	Analysis Date 10/5/2005 2:15:22 PM	Prep Date 10/4/2005
Client ID:		Run ID: PIDFID_051005A		SeqNo: 407926	

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	24.57	5	25	0	98.3	84	120	0			

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

CLIENT: Terracon
Work Order: 0510012
Project: OLS UDC VRP

QC SUMMARY REPORT
Laboratory Control Spike - generic

Sample ID **LCS-8885** Batch ID: **8885** Test Code: **SW8310** Units: **mg/Kg** Analysis Date **10/20/2005 12:10:14 P** Prep Date **10/5/2005**
Client ID: Run ID: **HUGO_051018A** SeqNo: **413398**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Naphthalene	0.7143	0.05	1	0	71.4	49.1	92.3	0			
1-Methylnaphthalene	0.744	0.05	1	0	74.4	49.7	93.6	0			
2-Methylnaphthalene	0.7563	0.05	1	0	75.6	50.1	91.7	0			
Acenaphthylene	0.7657	0.05	1	0	76.6	54	93	0			
Acenaphthene	0.7473	0.05	1	0	74.7	49.5	93.6	0			
Fluorene	0.07775	0.03	0.1	0	77.8	46.8	93.4	0			
Phenanthrene	0.0395	0.006	0.0503	0	78.5	48.7	104	0			
Anthracene	0.03975	0.006	0.0503	0	79.0	47.5	102	0			
Fluoranthene	0.08	0.006	0.1003	0	79.8	46.3	108	0			
Pyrene	0.07975	0.005	0.1	0	79.8	43.8	109	0			
Benz(a)anthracene	0.008	0.0008	0.01	0	80.0	40.3	115	0			
Chrysene	0.03975	0.004	0.0503	0	79.0	42.6	107	0			
Benzo(b)fluoranthene	0.00975	0.002	0.0125	0	78.0	48.6	107	0			
Benzo(k)fluoranthene	0.005	0.0005	0.00625	0	80.0	23.3	136	0			
Benzo(a)pyrene	0.00475	0.0008	0.00628	0	75.6	33.4	117	0			
Dibenz(a,h)anthracene	0.00975	0.0011	0.0125	0	78.0	27.3	139	0			
Benzo(g,h,i)perylene	0.0105	0.002	0.0125	0	84.0	38.2	117	0			
Indeno(1,2,3-cd)pyrene	0.01993	0.0025	0.0251	0	79.4	39.9	125	0			

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

CLIENT: Terracon
Work Order: 0510012
Project: OLS UDC VRP

QC SUMMARY REPORT
Laboratory Control Spike Duplicate

Sample ID **LCSD-8885** Batch ID: **8885** Test Code: **SW8310** Units: **mg/Kg** Analysis Date **10/20/2005 12:58:14 P** Prep Date **10/5/2005**

Client ID: Run ID: **HUGO_051018A** SeqNo: **413399**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Naphthalene	0.724	0.05	1	0	72.4	49.1	92.3	0.7143	1.36	20	
1-Methylnaphthalene	0.733	0.05	1	0	73.3	49.7	93.6	0.744	1.49	20	
2-Methylnaphthalene	0.735	0.05	1	0	73.5	50.1	91.7	0.7563	2.85	20	
Acenaphthylene	0.7474	0.05	1	0	74.7	54	93	0.7657	2.42	20	
Acenaphthene	0.738	0.05	1	0	73.8	49.5	93.6	0.7473	1.25	20	
Fluorene	0.0755	0.03	0.1	0	75.5	46.8	93.4	0.07775	2.94	20	
Phenanthrene	0.04125	0.006	0.0503	0	82.0	48.7	104	0.0395	4.33	20	
Anthracene	0.0395	0.006	0.0503	0	78.5	47.5	102	0.03975	0.631	20	
Fluoranthene	0.082	0.006	0.1003	0	81.8	46.3	108	0.08	2.47	20	
Pyrene	0.0805	0.005	0.1	0	80.5	43.8	109	0.07975	0.936	20	
Benz(a)anthracene	0.00825	0.0008	0.01	0	82.5	40.3	115	0.008	3.08	20	
Chrysene	0.04225	0.004	0.0503	0	84.0	42.6	107	0.03975	6.10	20	
Benzo(b)fluoranthene	0.011	0.002	0.0125	0	88.0	48.6	107	0.00975	12.0	20	
Benzo(k)fluoranthene	0.00525	0.0005	0.00625	0	84.0	23.3	136	0.005	4.88	20	
Benzo(a)pyrene	0.00525	0.0008	0.00628	0	83.6	33.4	117	0.00475	10.0	20	
Dibenz(a,h)anthracene	0.01075	0.0011	0.0125	0	86.0	27.3	139	0.00975	9.76	20	
Benzo(g,h,i)perylene	0.0105	0.002	0.0125	0	84.0	38.2	117	0.0105	0	20	
Indeno(1,2,3-cd)pyrene	0.0212	0.0025	0.0251	0	84.5	39.9	125	0.01993	6.20	20	

Qualifiers: ND - Not Detected at the Reporting Limit; S - Spike Recovery outside accepted recovery limits; B - Analyte detected in the associated Method Blank
J - Analyte detected below quantitation limits; R - RPD outside accepted recovery limits

CLIENT: Terracon
Work Order: 0510012
Project: OLS UDC VRP

QC SUMMARY REPORT
Laboratory Control Spike - generic

Sample ID **LCS-8924** Batch ID: **8924** Test Code: **SW8310** Units: **mg/Kg** Analysis Date **10/21/2005 9:48:39 AM** Prep Date **10/10/2005**
Client ID: Run ID: **HUGO_051018A** SeqNo: **413901**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Naphthalene	0.4843	0.05	1	0	48.4	49.1	92.3	0			S
1-Methylnaphthalene	0.4933	0.05	1	0	49.3	49.7	93.6	0			S
2-Methylnaphthalene	0.498	0.05	1	0	49.8	50.1	91.7	0			S
Acenaphthylene	0.4753	0.05	1	0	47.5	54	93	0			S
Acenaphthene	0.4978	0.05	1	0	49.8	49.5	93.6	0			
Fluorene	0.0515	0.03	0.1	0	51.5	46.8	93.4	0			
Phenanthrene	0.03025	0.006	0.0503	0	60.1	48.7	104	0			
Anthracene	0.028	0.006	0.0503	0	55.7	47.5	102	0			
Fluoranthene	0.06625	0.006	0.1003	0	66.1	46.3	108	0			
Pyrene	0.06675	0.005	0.1	0	66.8	43.8	109	0			
Benz(a)anthracene	0.0075	0.0008	0.01	0	75.0	40.3	115	0			
Chrysene	0.0395	0.004	0.0503	0	78.5	42.6	107	0			
Benzo(b)fluoranthene	0.00925	0.002	0.0125	0	74.0	48.6	107	0			
Benzo(k)fluoranthene	0.00475	0.0005	0.00625	0	76.0	23.3	136	0			
Benzo(a)pyrene	0.00475	0.0008	0.00628	0	75.6	33.4	117	0			
Dibenz(a,h)anthracene	0.00925	0.0011	0.0125	0	74.0	27.3	139	0			
Benzo(g,h,i)perylene	0.01	0.002	0.0125	0	80.0	38.2	117	0			
Indeno(1,2,3-cd)pyrene	0.02303	0.0025	0.0251	0	91.7	39.9	125	0			

Qualifiers: ND - Not Detected at the Reporting Limit; S - Spike Recovery outside accepted recovery limits; B - Analyte detected in the associated Method Blank
J - Analyte detected below quantitation limits; R - RPD outside accepted recovery limits

CLIENT: Terracon
Work Order: 0510012
Project: OLS UDC VRP

QC SUMMARY REPORT
Laboratory Control Spike - generic

Sample ID **LCS-8924** Batch ID: **8924** Test Code: **SW8310** Units: mg/Kg Analysis Date **10/24/2005 4:51:44 PM** Prep Date **10/10/2005**
Client ID: Run ID: **HUGO_051024A** SeqNo: **414232**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Naphthalene	0.7	0.05	1	0	70.0	49.1	92.3	0			
1-Methylnaphthalene	0.713	0.05	1	0	71.3	49.7	93.6	0			
2-Methylnaphthalene	0.717	0.05	1	0	71.7	50.1	91.7	0			
Acenaphthylene	0.7306	0.05	1	0	73.1	54	93	0			
Acenaphthene	0.7238	0.05	1	0	72.4	49.5	93.6	0			
Fluorene	0.07575	0.03	0.1	0	75.8	46.8	93.4	0			
Phenanthrene	0.03875	0.006	0.0503	0	77.0	48.7	104	0			
Anthracene	0.039	0.006	0.0503	0	77.5	47.5	102	0			
Fluoranthene	0.0785	0.006	0.1003	0	78.3	46.3	108	0			
Pyrene	0.07625	0.005	0.1	0	76.3	43.8	109	0			
Benz(a)anthracene	0.00825	0.0008	0.01	0	82.5	40.3	115	0			
Chrysene	0.0395	0.004	0.0503	0	78.5	42.6	107	0			
Benzo(b)fluoranthene	0.01	0.002	0.0125	0	80.0	48.6	107	0			
Benzo(k)fluoranthene	0.00525	0.0005	0.00625	0	84.0	23.3	136	0			
Benzo(a)pyrene	0.005	0.0008	0.00628	0	79.6	33.4	117	0			
Dibenz(a,h)anthracene	0.0105	0.0011	0.0125	0	84.0	27.3	139	0			
Benzo(g,h,i)perylene	0.00875	0.002	0.0125	0	70.0	38.2	117	0			
Indeno(1,2,3-cd)pyrene	0.02318	0.0025	0.0251	0	92.3	39.9	125	0			

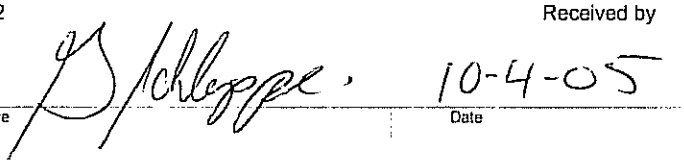
Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

Hall Environmental Analysis Laboratory

Sample Receipt Checklist

Client Name TER-LC | Date and Time Received: 10/4/2005

Work Order Number 0510012 | Received by GLS

Checklist completed by  Signature | 10-4-05 Date

Matrix | Carrier name Client drop-off

Shipping container/cooler in good condition?		Yes ☑	No ☐	Not Present ☐			
Custody seals intact on shipping container/cooler?		Yes ☐	No ☐	Not Present ☐		Not Shipped ☑	
Custody seals intact on sample bottles?		Yes ☐	No ☐	N/A ☑			
Chain of custody present?		Yes ☑	No ☐				
Chain of custody signed when relinquished and received?		Yes ☑	No ☐				
Chain of custody agrees with sample labels?		Yes ☑	No ☐				
Samples in proper container/bottle?		Yes ☑	No ☐				
Sample containers intact?		Yes ☑	No ☐				
Sufficient sample volume for indicated test?		Yes ☑	No ☐				
All samples received within holding time?		Yes ☑	No ☐				
Water - VOA vials have zero headspace?	No VOA vials submitted ☑		Yes ☐	No ☐			
Water - pH acceptable upon receipt?		Yes ☐	No ☐	N/A ☑			

Container/Temp Blank temperature? 8° *4° C ± 2 Acceptable* If given sufficient time to cool.

COMMENTS:

Client contacted _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding _____

Comments: _____

Corrective Action _____

CHAIN-OF-CUSTODY RECORD

Accreditation Applied:
NELAC ☐ USACE ☐
Other: _____

HALL ENVIRONMENTAL ANALYSIS LABORATORY
4901 Hawkins NE, Suite D
Albuquerque, New Mexico 87109
Tel. 505.345.3975 Fax 505.345.4107
www.hallenvironmental.com

Client: Terracon
Address: 1630 Hickory Loop Suite H Las Cruces NM 88005
Phone #: 505.527.1700 505.642.6196 Mobile
Fax #: 505.527.1092

Project Name: OLS UDC VRP
Project #: 60057007
Project Manager: M.E. WELLS
Sampler: Mary Wells
Sample Temperature: 8°

ANALYSIS REQUEST

Date	Time	Matrix	Sample I.D. No.	Number/Volume	Preservative: $HgCl_2$	Preservative: HNO_3	Preservative: ICE	HEAL No.
10/4/05	12:10	Soil	7007 TP-1@5'	1-4oz				0510012-1
10/4/05	12:22	Soil	7007 TP-2@5'					-2
10/4/05	12:50	Soil	7007 TP-3@5'					-3
10/4/05	13:09	Soil	7007 TP-4@5'					-4
10/4/05	13:19	Soil	7007 TP-5@5'					5
10/4/05	13:39	Soil	7007 TP-6@3'					-6

Analysis	10/4/05
BTEX + MTBE + TMB's (8021)	
BTEX + MTBE + TPH (Gasoline Only)	
TPH Method 8015B (Gas/Diesel) RUSH	X
TPH (Method 418.1)	
EDB (Method 504.1)	
EDC (Method 8021)	
8310 (PNA or PAH)	X
RCRA 8 Metals	
Anions (F, Cl, NO_3, NO_2, PO_4, SO_4)	
8081 Pesticides / PCB's (8082)	
8260B (VOA)	
8270 (Semi-VOA)	
Air Bubbles or Headspace (Y or N)	

Date	Time	Relinquished By: (Signature)	Received By: (Signature)
10/4/05	17:27		10/4/05 @ 1427
Date:	Time:	Relinquished By: (Signature)	Received By: (Signature)

Remarks:
3 DAY TAT. for GRO/DRO
per mw
10/4/05 AT

HALL
ENVIRONMENTAL
ANALYSIS
LABORATORY

COVER LETTER

October 18, 2005

Mary Wells
Terracon
1630 Hickory Loop Ste. H
Las Cruces, NM 88005
TEL: (505) 527-1700
FAX (505) 527-1092

RE: OLS VRP UDC

Order No.: 0509331

Dear Mary Wells:

Hall Environmental Analysis Laboratory received 12 samples on 9/30/2005 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent.

Reporting limits are determined by EPA methodology. No determination of compounds below these (denoted by the ND or < sign) has been made.

Please don't hesitate to contact HEAL for any additional information or clarifications.

Sincerely,

Andy Freeman, Business Manager
Nancy McDuffie, Laboratory Manager

Hall Environmental Analysis Laboratory

Date: *18-Oct-05*

CLIENT: Terracon
Lab Order: 0509331
Project: OLS VRP UDC
Lab ID: 0509331-01

Client Sample ID: NE-WS-1
Collection Date: 9/30/2005 10:35:00 AM
Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8082: PCB'S						Analyst: JMP
Aroclor 1016	ND	0.10		mg/Kg	5	10/16/2005 3:28:16 PM
Aroclor 1221	ND	1.3		mg/Kg	5	10/16/2005 3:28:16 PM
Aroclor 1232	ND	0.10		mg/Kg	5	10/16/2005 3:28:16 PM
Aroclor 1242	ND	0.10		mg/Kg	5	10/16/2005 3:28:16 PM
Aroclor 1248	ND	0.10		mg/Kg	5	10/16/2005 3:28:16 PM
Aroclor 1254	ND	0.10		mg/Kg	5	10/16/2005 3:28:16 PM
Aroclor 1260	ND	0.10		mg/Kg	5	10/16/2005 3:28:16 PM
Surr: Decachlorobiphenyl	64.0	50.1-115		%REC	5	10/16/2005 3:28:16 PM

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range

Hall Environmental Analysis Laboratory

Date: *18-Oct-05*

CLIENT: Terracon
Client Sample ID: NE-NS-2
Lab Order: 0509331
Collection Date: 9/30/2005 10:37:00 AM
Project: OLS VRP UDC
Lab ID: 0509331-02
Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8082: PCB'S						Analyst: **JMP**
Aroclor 1016	ND	0.10		mg/Kg	5	10/16/2005 4:14:32 PM
Aroclor 1221	ND	1.3		mg/Kg	5	10/16/2005 4:14:32 PM
Aroclor 1232	ND	0.10		mg/Kg	5	10/16/2005 4:14:32 PM
Aroclor 1242	ND	0.10		mg/Kg	5	10/16/2005 4:14:32 PM
Aroclor 1248	ND	0.10		mg/Kg	5	10/16/2005 4:14:32 PM
Aroclor 1254	ND	0.10		mg/Kg	5	10/16/2005 4:14:32 PM
Aroclor 1260	ND	0.10		mg/Kg	5	10/16/2005 4:14:32 PM
Surr: Decachlorobiphenyl	70.0	50.1-115		%REC	5	10/16/2005 4:14:32 PM

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range

Hall Environmental Analysis Laboratory

Date: *18-Oct-05*

CLIENT: Terracon
Client Sample ID: NE-ES-3
Lab Order: 0509331
Collection Date: 9/30/2005 10:38:00 AM
Project: OLS VRP UDC
Lab ID: 0509331-03
Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8082: PCB'S						Analyst: **JMP**
Aroclor 1016	ND	0.10		mg/Kg	5	10/16/2005 5:00:48 PM
Aroclor 1221	ND	1.3		mg/Kg	5	10/16/2005 5:00:48 PM
Aroclor 1232	ND	0.10		mg/Kg	5	10/16/2005 5:00:48 PM
Aroclor 1242	ND	0.10		mg/Kg	5	10/16/2005 5:00:48 PM
Aroclor 1248	ND	0.10		mg/Kg	5	10/16/2005 5:00:48 PM
Aroclor 1254	ND	0.10		mg/Kg	5	10/16/2005 5:00:48 PM
Aroclor 1260	ND	0.10		mg/Kg	5	10/16/2005 5:00:48 PM
Surr: Decachlorobiphenyl	96.0	50.1-115		%REC	5	10/16/2005 5:00:48 PM

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range

Hall Environmental Analysis Laboratory

Date: *18-Oct-05*

CLIENT: Terracon
Lab Order: 0509331
Project: OLS VRP UDC
Lab ID: 0509331-04

Client Sample ID: NE-SS-4
Collection Date: 9/30/2005 10:39:00 AM
Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8082: PCB'S						Analyst: **JMP**
Aroclor 1016	ND	0.10		mg/Kg	5	10/16/2005 5:46:48 PM
Aroclor 1221	ND	1.3		mg/Kg	5	10/16/2005 5:46:48 PM
Aroclor 1232	ND	0.10		mg/Kg	5	10/16/2005 5:46:48 PM
Aroclor 1242	ND	0.10		mg/Kg	5	10/16/2005 5:46:48 PM
Aroclor 1248	ND	0.10		mg/Kg	5	10/16/2005 5:46:48 PM
Aroclor 1254	ND	0.10		mg/Kg	5	10/16/2005 5:46:48 PM
Aroclor 1260	ND	0.10		mg/Kg	5	10/16/2005 5:46:48 PM
Surr: Decachlorobiphenyl	122	50.1-115	S	%REC	5	10/16/2005 5:46:48 PM

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range

Hall Environmental Analysis Laboratory

Date: *18-Oct-05*

CLIENT: Terracon
Lab Order: 0509331
Project: OLS VRP UDC
Lab ID: 0509331-05

Client Sample ID: NE-WS-1B-6
Collection Date: 9/30/2005 10:40:00 AM
Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8082: PCB'S						Analyst: **JMP**
Aroclor 1016	ND	0.10		mg/Kg	5	10/16/2005 6:33:21 PM
Aroclor 1221	ND	1.3		mg/Kg	5	10/16/2005 6:33:21 PM
Aroclor 1232	ND	0.10		mg/Kg	5	10/16/2005 6:33:21 PM
Aroclor 1242	ND	0.10		mg/Kg	5	10/16/2005 6:33:21 PM
Aroclor 1248	ND	0.10		mg/Kg	5	10/16/2005 6:33:21 PM
Aroclor 1254	ND	0.10		mg/Kg	5	10/16/2005 6:33:21 PM
Aroclor 1260	ND	0.10		mg/Kg	5	10/16/2005 6:33:21 PM
Surr: Decachlorobiphenyl	84.0	50.1-115		%REC	5	10/16/2005 6:33:21 PM

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range

Hall Environmental Analysis Laboratory

Date: *18-Oct-05*

CLIENT: Terracon
Lab Order: 0509331
Project: OLS VRP UDC
Lab ID: 0509331-06

Client Sample ID: NE-NS-2B-6
Collection Date: 9/30/2005 10:43:00 AM
Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8082: PCB'S						Analyst: **JMP**
Aroclor 1016	ND	0.10		mg/Kg	5	10/16/2005 10:23:29 PM
Aroclor 1221	ND	1.3		mg/Kg	5	10/16/2005 10:23:29 PM
Aroclor 1232	ND	0.10		mg/Kg	5	10/16/2005 10:23:29 PM
Aroclor 1242	ND	0.10		mg/Kg	5	10/16/2005 10:23:29 PM
Aroclor 1248	ND	0.10		mg/Kg	5	10/16/2005 10:23:29 PM
Aroclor 1254	ND	0.10		mg/Kg	5	10/16/2005 10:23:29 PM
Aroclor 1260	ND	0.10		mg/Kg	5	10/16/2005 10:23:29 PM
Surr: Decachlorobiphenyl	116	50.1-115	S	%REC	5	10/16/2005 10:23:29 PM

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range

Hall Environmental Analysis Laboratory

Date: *18-Oct-05*

CLIENT: Terracon
Lab Order: 0509331
Project: OLS VRP UDC
Lab ID: 0509331-07

Client Sample ID: NE-ES-3B-6
Collection Date: 9/30/2005 10:45:00 AM
Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8082: PCB'S						Analyst: **JMP**
Aroclor 1016	ND	0.10		mg/Kg	5	10/16/2005 11:09:45 PM
Aroclor 1221	ND	1.3		mg/Kg	5	10/16/2005 11:09:45 PM
Aroclor 1232	ND	0.10		mg/Kg	5	10/16/2005 11:09:45 PM
Aroclor 1242	ND	0.10		mg/Kg	5	10/16/2005 11:09:45 PM
Aroclor 1248	ND	0.10		mg/Kg	5	10/16/2005 11:09:45 PM
Aroclor 1254	ND	0.10		mg/Kg	5	10/16/2005 11:09:45 PM
Aroclor 1260	ND	0.10		mg/Kg	5	10/16/2005 11:09:45 PM
Surr: Decachlorobiphenyl	102	50.1-115		%REC	5	10/16/2005 11:09:45 PM

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range

Hall Environmental Analysis Laboratory

Date: *18-Oct-05*

CLIENT: Terracon
Client Sample ID: SE-SWC-1
Lab Order: 0509331
Collection Date: 9/30/2005 10:46:00 AM
Project: OLS VRP UDC
Lab ID: 0509331-08
Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8082: PCB'S						Analyst: JMP
Aroclor 1016	ND	0.10		mg/Kg	5	10/16/2005 11:55:28 PM
Aroclor 1221	ND	1.3		mg/Kg	5	10/16/2005 11:55:28 PM
Aroclor 1232	ND	0.10		mg/Kg	5	10/16/2005 11:55:28 PM
Aroclor 1242	ND	0.10		mg/Kg	5	10/16/2005 11:55:28 PM
Aroclor 1248	ND	0.10		mg/Kg	5	10/16/2005 11:55:28 PM
Aroclor 1254	ND	0.10		mg/Kg	5	10/16/2005 11:55:28 PM
Aroclor 1260	ND	0.10		mg/Kg	5	10/16/2005 11:55:28 PM
Surr: Decachlorobiphenyl	104	50.1-115		%REC	5	10/16/2005 11:55:28 PM

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range

Hall Environmental Analysis Laboratory

Date: *18-Oct-05*

CLIENT: Terracon
Client Sample ID: SE-SWC-1B-6
Lab Order: 0509331
Collection Date: 9/30/2005 10:48:00 AM
Project: OLS VRP UDC
Lab ID: 0509331-09
Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8082: PCB'S						Analyst: **JMP**
Aroclor 1016	ND	0.10		mg/Kg	5	10/17/2005 12:41:44 AM
Aroclor 1221	ND	1.3		mg/Kg	5	10/17/2005 12:41:44 AM
Aroclor 1232	ND	0.10		mg/Kg	5	10/17/2005 12:41:44 AM
Aroclor 1242	ND	0.10		mg/Kg	5	10/17/2005 12:41:44 AM
Aroclor 1248	ND	0.10		mg/Kg	5	10/17/2005 12:41:44 AM
Aroclor 1254	ND	0.10		mg/Kg	5	10/17/2005 12:41:44 AM
Aroclor 1260	ND	0.10		mg/Kg	5	10/17/2005 12:41:44 AM
Surr: Decachlorobiphenyl	110	50.1-115		%REC	5	10/17/2005 12:41:44 AM

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range

Hall Environmental Analysis Laboratory

Date: *18-Oct-05*

CLIENT: Terracon
Client Sample ID: SE-SEC-2
Lab Order: 0509331
Collection Date: 9/30/2005 10:50:00 AM
Project: OLS VRP UDC
Lab ID: 0509331-10
Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8082: PCB'S						Analyst: JMP
Aroclor 1016	ND	0.10		mg/Kg	5	10/17/2005 1:28:17 AM
Aroclor 1221	ND	1.3		mg/Kg	5	10/17/2005 1:28:17 AM
Aroclor 1232	ND	0.10		mg/Kg	5	10/17/2005 1:28:17 AM
Aroclor 1242	ND	0.10		mg/Kg	5	10/17/2005 1:28:17 AM
Aroclor 1248	ND	0.10		mg/Kg	5	10/17/2005 1:28:17 AM
Aroclor 1254	ND	0.10		mg/Kg	5	10/17/2005 1:28:17 AM
Aroclor 1260	ND	0.10		mg/Kg	5	10/17/2005 1:28:17 AM
Surr: Decachlorobiphenyl	116	50.1-115	S	%REC	5	10/17/2005 1:28:17 AM

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range

Hall Environmental Analysis Laboratory

Date: *18-Oct-05*

CLIENT: Terracon
Client Sample ID: SE-SEC-2B-6
Lab Order: 0509331
Collection Date: 9/30/2005 10:52:00 AM
Project: OLS VRP UDC
Lab ID: 0509331-11
Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8082: PCB'S						Analyst: **JMP**
Aroclor 1016	ND	0.10		mg/Kg	5	10/17/2005 2:12:55 AM
Aroclor 1221	ND	1.3		mg/Kg	5	10/17/2005 2:12:55 AM
Aroclor 1232	ND	0.10		mg/Kg	5	10/17/2005 2:12:55 AM
Aroclor 1242	ND	0.10		mg/Kg	5	10/17/2005 2:12:55 AM
Aroclor 1248	ND	0.10		mg/Kg	5	10/17/2005 2:12:55 AM
Aroclor 1254	ND	0.10		mg/Kg	5	10/17/2005 2:12:55 AM
Aroclor 1260	ND	0.10		mg/Kg	5	10/17/2005 2:12:55 AM
Surr: Decachlorobiphenyl	132	50.1-115	S	%REC	5	10/17/2005 2:12:55 AM

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range

Hall Environmental Analysis Laboratory

Date: *18-Oct-05*

CLIENT: Terracon
Lab Order: 0509331
Project: OLS VRP UDC
Lab ID: 0509331-12

Client Sample ID: SE-NEC-3
Collection Date: 9/30/2005 10:56:00 AM
Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8082: PCB'S						Analyst: **JMP**
Aroclor 1016	ND	0.10		mg/Kg	5	10/17/2005 2:59:08 AM
Aroclor 1221	ND	1.3		mg/Kg	5	10/17/2005 2:59:08 AM
Aroclor 1232	ND	0.10		mg/Kg	5	10/17/2005 2:59:08 AM
Aroclor 1242	ND	0.10		mg/Kg	5	10/17/2005 2:59:08 AM
Aroclor 1248	ND	0.10		mg/Kg	5	10/17/2005 2:59:08 AM
Aroclor 1254	ND	0.10		mg/Kg	5	10/17/2005 2:59:08 AM
Aroclor 1260	ND	0.10		mg/Kg	5	10/17/2005 2:59:08 AM
Surr: Decachlorobiphenyl	134	50.1-115	S	%REC	5	10/17/2005 2:59:08 AM

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range

CHAIN-OF-CUSTODY RECORD

QA / QC Package: Std ☑ Level 4 ☐
Other: ____

HALL ENVIRONMENTAL ANALYSIS LABORATORY
4901 Hawkins NE, Suite D
Albuquerque, New Mexico 87109
Tel. 505.345.3975 Fax 505.345.4107
www.hallenvironmental.com

Client: Terracon
Address:
Phone #: 505.527.1700 505.797.4287
Fax #: 505.797.4288

Project Name: OLS VRP NDC
Project #: 66057007
Project Manager: M. Wells
Sampler: M. Wells
Sample Temperature: 6°

Date	Time	Matrix	Sample I.D. No.	Number/Volume	Preservative: $HgCl_2$	Preservative: HNO_3	Preservative: ICE	HEAL No.
9/30/05	10:35	Soil	NE-WS-1	4oz jar			✓	0509331-1
	10:37		NE-NS-2					-2
	10:38		NE-ES-3					-3
	10:39		NE-SS-4					-4
	10:40		NE-WS-1B-6					-5
	10:43		NE-NS-2B-6					-6
	10:45		NE-ES-3B-6					-7
	10:46		SE-SWC-1					-8
	10:48		SE-SWC-1B-6					-9
	10:50		SE-SEC-2					-10
	10:52		SE-SEC-2B-6					-11
↓	10:56	↓	SE-NEC-3	↓			↓	-12

ANALYSIS REQUEST

BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gasoline Only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	EDC (Method 8021)	8310 (PNA or PAH)	RCRA 8 Metals	Anions ($F, Cl, NO_3, NO_2, PO_4, SO_4$)	8081 Pesticides / PCB's (8082)	8260B (VOA)	8270 (Semi-VOA)					Air Bubbles or Headspace (Y or N)
									X							
									↓							

Date	Time	Relinquished By: (Signature)	Received By: (Signature)
9-30-05	12:15p		
Date:	Time:	Relinquished By: (Signature)	Received By: (Signature)
			9/30/05 12:15

Remarks:

HALL
ENVIRONMENTAL
ANALYSIS
LABORATORY

COVER LETTER

October 17, 2005

Mary Wells
Terracon
1630 Hickory Loop Ste. H
Las Cruces, NM 88005
TEL: (505) 527-1700
FAX (505) 527-1092

RE: OLS UCD VRP

Order No.: 0509330

Dear Mary Wells:

Hall Environmental Analysis Laboratory received 4 samples on 9/30/2005 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent.

Reporting limits are determined by EPA methodology. No determination of compounds below these (denoted by the ND or < sign) has been made.

Please don't hesitate to contact HEAL for any additional information or clarifications.

Sincerely,

Andy Freeman, Business Manager
Nancy McDuffie, Laboratory Manager

4901 Hawkins NE ■ Suite D ■ Albuquerque, NM 87109
505.345.3975 ■ Fax 505.345.4107
www.hallenvironmental.com

"S" flags denote that the surrogate was not recoverable due to sample dilution or matrix interferences.

Hall Environmental Analysis Laboratory

Date: *17-Oct-05*

CLIENT:	Terracon	**Client Sample ID:**	SE-NEC-3B-6
Lab Order:	0509330	**Collection Date:**	9/30/2005 10:58:00 AM
Project:	OLS UCD VRP		
Lab ID:	0509330-01	**Matrix:**	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8082: PCB'S						Analyst: **JMP**
Aroclor 1016	ND	0.20		mg/Kg	10	10/15/2005 2:37:32 PM
Aroclor 1221	ND	2.5		mg/Kg	10	10/15/2005 2:37:32 PM
Aroclor 1232	ND	0.20		mg/Kg	10	10/15/2005 2:37:32 PM
Aroclor 1242	ND	0.20		mg/Kg	10	10/15/2005 2:37:32 PM
Aroclor 1248	ND	0.20		mg/Kg	10	10/15/2005 2:37:32 PM
Aroclor 1254	ND	0.20		mg/Kg	10	10/15/2005 2:37:32 PM
Aroclor 1260	ND	0.20		mg/Kg	10	10/15/2005 2:37:32 PM
Surr: Decachlorobiphenyl	44.0	50.1-115	S	%REC	10	10/15/2005 2:37:32 PM

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range

Hall Environmental Analysis Laboratory

Date: *17-Oct-05*

CLIENT: Terracon
Lab Order: 0509330
Project: OLS UCD VRP
Lab ID: 0509330-02

Client Sample ID: SE-NWC-4
Collection Date: 9/30/2005 11:03:00 AM
Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8082: PCB'S						Analyst: **JMP**
Aroclor 1016	ND	0.10		mg/Kg	5	10/15/2005 3:23:49 PM
Aroclor 1221	ND	1.3		mg/Kg	5	10/15/2005 3:23:49 PM
Aroclor 1232	ND	0.10		mg/Kg	5	10/15/2005 3:23:49 PM
Aroclor 1242	ND	0.10		mg/Kg	5	10/15/2005 3:23:49 PM
Aroclor 1248	ND	0.10		mg/Kg	5	10/15/2005 3:23:49 PM
Aroclor 1254	ND	0.10		mg/Kg	5	10/15/2005 3:23:49 PM
Aroclor 1260	ND	0.10		mg/Kg	5	10/15/2005 3:23:49 PM
Surr: Decachlorobiphenyl	72.0	50.1-115		%REC	5	10/15/2005 3:23:49 PM

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range

Hall Environmental Analysis Laboratory

Date: *17-Oct-05*

CLIENT: Terracon
Client Sample ID: SE-NWC-4B-6
Lab Order: 0509330
Collection Date: 9/30/2005 11:05:00 AM
Project: OLS UCD VRP
Lab ID: 0509330-03
Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8082: PCB'S						Analyst: **JMP**
Aroclor 1016	ND	0.20		mg/Kg	10	10/15/2005 4:10:04 PM
Aroclor 1221	ND	2.5		mg/Kg	10	10/15/2005 4:10:04 PM
Aroclor 1232	ND	0.20		mg/Kg	10	10/15/2005 4:10:04 PM
Aroclor 1242	ND	0.20		mg/Kg	10	10/15/2005 4:10:04 PM
Aroclor 1248	ND	0.20		mg/Kg	10	10/15/2005 4:10:04 PM
Aroclor 1254	ND	0.20		mg/Kg	10	10/15/2005 4:10:04 PM
Aroclor 1260	ND	0.20		mg/Kg	10	10/15/2005 4:10:04 PM
Surr: Decachlorobiphenyl	48.0	50.1-115	S	%REC	10	10/15/2005 4:10:04 PM

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range

Hall Environmental Analysis Laboratory

Date: *17-Oct-05*

CLIENT: Terracon
Client Sample ID: OLS Sump Free Product
Lab Order: 0509330
Collection Date: 9/30/2005 11:22:00 AM
Project: OLS UCD VRP
Lab ID: 0509330-04
Matrix: OIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
DRO BY 8015B						Analyst: **SCC**
Diesel Range Organics (DRO)	27	1.0		wt%	10	10/3/2005 12:53:49 PM
Motor Oil Range Organics (MRO)	14	5.0		wt%	10	10/3/2005 12:53:49 PM
Surr: DNOP	91.5	74-125		%REC	10	10/3/2005 12:53:49 PM
GRO BY 8015B						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	0.011		wt%	0.25	10/4/2005 9:30:27 AM
Surr: BFB	97.3	74.3-120		%REC	0.25	10/4/2005 9:30:27 AM

Qualifiers:

- ND - Not Detected at the Reporting Limit
- J - Analyte detected below quantitation limits
- B - Analyte detected in the associated Method Blank
- * - Value exceeds Maximum Contaminant Level
- S - Spike Recovery outside accepted recovery limits
- R - RPD outside accepted recovery limits
- E - Value above quantitation range

Hall Environmental Analysis Laboratory

Date: *17-Oct-05*

CLIENT: Terracon
Work Order: 0509330
Project: OLS UCD VRP

QC SUMMARY REPORT
Method Blank

Sample ID MB-8860	Batch ID: 8860	Test Code: SW8015	Units: wt%	Analysis Date 10/3/2005 10:38:04 AM	Prep Date 10/3/2005
Client ID:		Run ID: FID(17A) 2_051003A		SeqNo: 406488	

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	0.5									
Motor Oil Range Organics (MRO)	ND	5									
Surr: DNOP	0.1085	0	0.1	0	108	74	125	0			

Sample ID mb-8868	Batch ID: 8868	Test Code: SW8015	Units: wt%	Analysis Date 10/4/2005 10:01:32 AM	Prep Date 10/3/2005
Client ID:		Run ID: PIDFID_051004A		SeqNo: 407474	

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	0.05									
Surr: BFB	3967	0	4000	0	99.2	74.3	120	0			

Sample ID MB-8901	Batch ID: 8901	Test Code: SW8080A	Units: mg/Kg	Analysis Date 10/15/2005 11:32:56 A	Prep Date 10/6/2005
Client ID:		Run ID: ECD(17A)_051013A		SeqNo: 411668	

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aroclor 1016	ND	0.02									
Aroclor 1221	ND	0.25									
Aroclor 1232	ND	0.02									
Aroclor 1242	ND	0.02									
Aroclor 1248	ND	0.02									
Aroclor 1254	ND	0.02									
Aroclor 1260	ND	0.02									
Surr: Decachlorobiphenyl	0.05575	0	0.0625	0	89.2	50.1	115	0			

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

CLIENT: Terracon
Work Order: 0509330
Project: OLS UCD VRP

QC SUMMARY REPORT

Laboratory Control Spike - generic

Sample ID **LCS-8860** Batch ID: **8860** Test Code: **SW8015** Units: **wt%** Analysis Date **10/3/2005 11:11:57 AM** Prep Date **10/3/2005**
Client ID: Run ID: **FID(17A) 2_051003A** SeqNo: **406489**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	0.4253	0.05	0.5	0	85.1	78	121	0			

Sample ID **LCSD-8860** Batch ID: **8860** Test Code: **SW8015** Units: **wt%** Analysis Date **10/3/2005 11:45:54 AM** Prep Date **10/3/2005**
Client ID: Run ID: **FID(17A) 2_051003A** SeqNo: **406490**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	0.4099	0.05	0.5	0	82.0	78	121	0.4253	3.69	15	

Sample ID **GRO lcs 2.5ug** Batch ID: **8868** Test Code: **SW8015** Units: **wt%** Analysis Date **10/4/2005 7:25:51 PM** Prep Date
Client ID: Run ID: **PIDFID_051004A** SeqNo: **407475**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	102.4	0.05	100	0	102	80.3	116	0			

Sample ID **LCSD-8901** Batch ID: **8901** Test Code: **SW8080A** Units: **mg/Kg** Analysis Date **10/15/2005 1:05:32 PM** Prep Date **10/6/2005**
Client ID: Run ID: **ECD(17A)_051013A** SeqNo: **411670**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aroclor 1016	0.09785	0.02	0.125	0	78.3	39.2	132	0.03425	96.3	0	
Aroclor 1260	0.125	0.02	0.125	0	100	59.1	143	0.04465	94.7	20	R

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

Hall Environmental Analysis Laboratory

Sample Receipt Checklist

Client Name TER-LC | Date and Time Received: 9/30/2005

Work Order Number 0509330 | Received by AT

Checklist completed by _____ 9/30/05
Signature | Date

Matrix | Carrier name Client drop-off

Shipping container/cooler in good condition?		Yes ☑	No ☐	Not Present ☐			
Custody seals intact on shipping container/cooler?		Yes ☐	No ☐	Not Present ☐	Not Shipped	☑	
Custody seals intact on sample bottles?		Yes ☐	No ☑	N/A ☐			
Chain of custody present?		Yes ☑	No ☐				
Chain of custody signed when relinquished and received?		Yes ☑	No ☐				
Chain of custody agrees with sample labels?		Yes ☑	No ☐				
Samples in proper container/bottle?		Yes ☑	No ☐				
Sample containers intact?		Yes ☑	No ☐				
Sufficient sample volume for indicated test?		Yes ☑	No ☐				
All samples received within holding time?		Yes ☑	No ☐				
Water - VOA vials have zero headspace?	No VOA vials submitted ☑		Yes ☐	No ☐			
Water - pH acceptable upon receipt?		Yes ☐	No ☐	N/A ☑			

Container/Temp Blank temperature? **6°** *4° C ± 2 Acceptable* If given sufficient time to cool.

COMMENTS:

Client contacted _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding _____

Comments: _____

Corrective Action _____

CHAIN-OF-CUSTODY RECORD

QA / QC Package: Std ☑ Level 4 ☐
Other: _____

HALL ENVIRONMENTAL ANALYSIS LABORATORY
4901 Hawkins NE, Suite D
Albuquerque, New Mexico 87109
Tel. 505.345.3975 Fax 505.345.4107
www.hallenvironmental.com

Client: Terracon
Address: 1630 Hickory Loop Suite H Las Cruces NM 88005
Phone #: 505.527.1700 505.797.4288 4287
Fax #: 505.797.4288

Project Name: OLS UCD VRP
Project #: 6057007
Project Manager: M. Wells
Sampler: M. Wells
Sample Temperature: 6°

Date	Time	Matrix	Sample I.D. No.	Number/Volume	Preservative: $HgCl_2$	Preservative: HNO_3	Preservative: Ice	HEAL No.
9/30/05	10:58	Soil	SE-NEC-3B-6	1-40z				050930-1
	11:03		SE-NWC-4					-2
	11:05		SE-NWC-4B-6					-3
	11:22	Oil	OLS Sump Free Product					-4

ANALYSIS REQUEST

BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gasoline Only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	EDC (Method 8021)	8310 (PNA or PAH)	RCRA 8 Metals	Anions ($F, Cl, NO_3, NO_2, PO_4, SO_4$)	8081 Pesticides / PCB's (8082)	8260B (VOA)	8270 (Semi-VOA)					Air Bubbles or Headspace (Y or N)
									X							
									X							
									X							
		X														

Date	Time	Relinquished By: (Signature)	Received By: (Signature)
9-30-05	12:15p		
Date:	Time:	Relinquished By: (Signature)	Received By: (Signature)
			9/30/05 12:15

Remarks: Dup MW OLS Sump Free Product
Rush analysis / 1621 9/30/05

HALL
ENVIRONMENTAL
ANALYSIS
LABORATORY

COVER LETTER

October 10, 2005

Mary E. Wells
Terracon
4905 Hawkins, NE
Albuquerque, NM 87109
TEL: (505) 797-4287
FAX (505) 797-4288

RE: OLS/UDC VRP Main Machine Shop Order No.: 0509255

Dear Mary E. Wells:

Hall Environmental Analysis Laboratory received 3 samples on 9/23/2005 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent.

Reporting limits are determined by EPA methodology. No determination of compounds below these (denoted by the ND or < sign) has been made.

Please don't hesitate to contact HEAL for any additional information or clarifications.

Sincerely,

Andy Freeman, Business Manager
Nancy McDuffie, Laboratory Manager

CLIENT:	Terracon
Project:	OLS/UDC VRP Main Machine Shop
Lab Order:	0509255

CASE NARRATIVE

"S" flags denote that the surrogate was not recoverable due to sample dilution or matrix interferences.

Hall Environmental Analysis Laboratory

Date: *10-Oct-05*

CLIENT:	Terracon	**Client Sample ID:**	Sample #1
Lab Order:	0509255	**Tag Number:**	
Project:	OLS/UDC VRP Main Machine Shop	**Collection Date:**	9/15/2005 4:45:00 PM
Lab ID:	0509255-01A	**Matrix:**	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8310: PAHS						Analyst: JMP
Naphthalene	5000	100		mg/Kg	1000	10/9/2005 2:59:43 PM
1-Methylnaphthalene	ND	100		mg/Kg	1000	10/9/2005 2:59:43 PM
2-Methylnaphthalene	4100	100		mg/Kg	1000	10/9/2005 2:59:43 PM
Acenaphthylene	ND	100		mg/Kg	1000	10/9/2005 2:59:43 PM
Acenaphthene	440	100		mg/Kg	1000	10/9/2005 2:59:43 PM
Fluorene	460	60		mg/Kg	1000	10/9/2005 2:59:43 PM
Phenanthrene	5300	60	E	mg/Kg	5000	10/10/2005 10:21:37 AM
Anthracene	750	60		mg/Kg	5000	10/10/2005 10:21:37 AM
Fluoranthene	3400	60		mg/Kg	5000	10/10/2005 10:21:37 AM
Pyrene	2200	50		mg/Kg	5000	10/10/2005 10:21:37 AM
Benz(a)anthracene	550	8.0	E	mg/Kg	5000	10/10/2005 10:21:37 AM
Chrysene	650	40		mg/Kg	5000	10/10/2005 10:21:37 AM
Benzo(b)fluoranthene	380	20		mg/Kg	5000	10/10/2005 10:21:37 AM
Benzo(k)fluoranthene	160	5.0		mg/Kg	5000	10/10/2005 10:21:37 AM
Benzo(a)pyrene	270	8.0	E	mg/Kg	5000	10/10/2005 10:21:37 AM
Dibenz(a,h)anthracene	37	2.2		mg/Kg	1000	10/9/2005 2:59:43 PM
Benzo(g,h,i)perylene	120	20		mg/Kg	5000	10/10/2005 10:21:37 AM
Indeno(1,2,3-cd)pyrene	240	25		mg/Kg	5000	10/10/2005 10:21:37 AM
Surr: Benzo(e)pyrene	0	68.4-105	S	%REC	1000	10/9/2005 2:59:43 PM

Qualifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below quantitation limits

B - Analyte detected in the associated Method Blank

* - Value exceeds Maximum Contaminant Level

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

Hall Environmental Analysis Laboratory

Date: *10-Oct-05*

CLIENT: Terracon
Client Sample ID: Sample #2
Lab Order: 0509255
Collection Date: 9/15/2005 5:30:00 PM
Project: OLS/UDC VRP Main Machine Shop
Lab ID: 0509255-02
Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8310: PAHS						Analyst: JMP
Naphthalene	2500	100		mg/Kg	1000	10/9/2005 3:47:43 PM
1-Methylnaphthalene	ND	100		mg/Kg	1000	10/9/2005 3:47:43 PM
2-Methylnaphthalene	1200	100		mg/Kg	1000	10/9/2005 3:47:43 PM
Acenaphthylene	ND	100		mg/Kg	1000	10/9/2005 3:47:43 PM
Acenaphthene	220	100		mg/Kg	1000	10/9/2005 3:47:43 PM
Fluorene	310	60		mg/Kg	1000	10/9/2005 3:47:43 PM
Phenanthrene	2700	60	E	mg/Kg	5000	10/10/2005 11:09:36 AM
Anthracene	440	60		mg/Kg	5000	10/10/2005 11:09:36 AM
Fluoranthene	1700	60		mg/Kg	5000	10/10/2005 11:09:36 AM
Pyrene	1200	50		mg/Kg	5000	10/10/2005 11:09:36 AM
Benz(a)anthracene	320	8.0		mg/Kg	5000	10/10/2005 11:09:36 AM
Chrysene	340	40		mg/Kg	5000	10/10/2005 11:09:36 AM
Benzo(b)fluoranthene	190	20		mg/Kg	5000	10/10/2005 11:09:36 AM
Benzo(k)fluoranthene	80	5.0		mg/Kg	5000	10/10/2005 11:09:36 AM
Benzo(a)pyrene	110	8.0		mg/Kg	5000	10/10/2005 11:09:36 AM
Dibenz(a,h)anthracene	7.5	2.2		mg/Kg	1000	10/9/2005 3:47:43 PM
Benzo(g,h,i)perylene	31	4.0		mg/Kg	1000	10/9/2005 3:47:43 PM
Indeno(1,2,3-cd)pyrene	83	25		mg/Kg	5000	10/10/2005 11:09:36 AM
Surr: Benzo(e)pyrene	0	68.4-105	S	%REC	1000	10/9/2005 3:47:43 PM

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range

Hall Environmental Analysis Laboratory

Date: *10-Oct-05*

CLIENT: Terracon
Client Sample ID: Sample #3
Lab Order: 0509255
Collection Date: 9/16/2005 3:30:00 PM
Project: OLS/UDC VRP Main Machine Shop
Lab ID: 0509255-03
Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8310: PAHS						Analyst: JMP
Naphthalene	970	100		mg/Kg	1000	10/9/2005 4:35:43 PM
1-Methylnaphthalene	ND	100		mg/Kg	1000	10/9/2005 4:35:43 PM
2-Methylnaphthalene	440	100		mg/Kg	1000	10/9/2005 4:35:43 PM
Acenaphthylene	ND	100		mg/Kg	1000	10/9/2005 4:35:43 PM
Acenaphthene	ND	100		mg/Kg	1000	10/9/2005 4:35:43 PM
Fluorene	93	60		mg/Kg	1000	10/9/2005 4:35:43 PM
Phenanthrene	1100	60		mg/Kg	5000	10/10/2005 11:57:36 AM
Anthracene	170	12		mg/Kg	1000	10/9/2005 4:35:43 PM
Fluoranthene	930	60		mg/Kg	5000	10/10/2005 11:57:36 AM
Pyrene	710	10		mg/Kg	1000	10/9/2005 4:35:43 PM
Benz(a)anthracene	160	8.0		mg/Kg	5000	10/10/2005 11:57:36 AM
Chrysene	180	8.0		mg/Kg	1000	10/9/2005 4:35:43 PM
Benzo(b)fluoranthene	130	20		mg/Kg	5000	10/10/2005 11:57:36 AM
Benzo(k)fluoranthene	60	5.0		mg/Kg	5000	10/10/2005 11:57:36 AM
Benzo(a)pyrene	68	8.0		mg/Kg	5000	10/10/2005 11:57:36 AM
Dibenz(a,h)anthracene	9.0	2.2		mg/Kg	1000	10/9/2005 4:35:43 PM
Benzo(g,h,i)perylene	36	4.0		mg/Kg	1000	10/9/2005 4:35:43 PM
Indeno(1,2,3-cd)pyrene	94	5.0		mg/Kg	1000	10/9/2005 4:35:43 PM
Surr: Benzo(e)pyrene	0	68.4-105	S	%REC	1000	10/9/2005 4:35:43 PM

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range

Hall Environmental Analysis Laboratory

Date: *10-Oct-05*

CLIENT: Terracon
Work Order: 0509255
Project: OLS/UDC VRP Main Machine Shop

QC SUMMARY REPORT

Method Blank

Sample ID **MB-8817** Batch ID: **8817** Test Code: **SW8310** Units: **mg/Kg** Analysis Date **10/5/2005 4:54:03 PM** Prep Date **9/26/2005**

Client ID: Run ID: **HUGO_051005A** SeqNo: **408155**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Naphthalene	ND	0.05									
1-Methylnaphthalene	ND	0.05									
2-Methylnaphthalene	ND	0.05									
Acenaphthylene	ND	0.05									
Acenaphthene	ND	0.05									
Fluorene	ND	0.03									
Phenanthrene	ND	0.006									
Anthracene	ND	0.006									
Fluoranthene	ND	0.006									
Pyrene	ND	0.005									
Benz(a)anthracene	ND	0.0008									
Chrysene	ND	0.004									
Benzo(b)fluoranthene	ND	0.002									
Benzo(k)fluoranthene	ND	0.0005									
Benzo(a)pyrene	ND	0.0008									
Dibenz(a,h)anthracene	ND	0.0011									
Benzo(g,h,i)perylene	ND	0.002									
Indeno(1,2,3-cd)pyrene	ND	0.0025									
Surr: Benzo(e)pyrene	0.1853	0	0.25	0	74.1	68.4	105	0			

Qualifiers: ND - Not Detected at the Reporting Limit; S - Spike Recovery outside accepted recovery limits; B - Analyte detected in the associated Method Blank; J - Analyte detected below quantitation limits; R - RPD outside accepted recovery limits

Hall Environmental Analysis Laboratory

Date: *10-Oct-05*

CLIENT: Terracon
Work Order: 0509255
Project: OLS/UDC VRP Main Machine Shop

QC SUMMARY REPORT

Laboratory Control Spike - generic

Sample ID **LCS-8817** Batch ID: **8817** Test Code: **SW8310** Units: **mg/Kg** Analysis Date **10/6/2005 10:58:00 PM** Prep Date **9/26/2005**

Client ID: Run ID: **HUGO_051006A** SeqNo: **409297**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Naphthalene	0.6338	0.05	1	0	63.4	49.1	92.3	0			
1-Methylnaphthalene	0.6478	0.05	1	0	64.8	49.7	93.6	0			
2-Methylnaphthalene	0.6555	0.05	1	0	65.6	50.1	91.7	0			
Acenaphthylene	0.6993	0.05	1	0	69.9	54	93	0			
Acenaphthene	0.6618	0.05	1	0	66.2	49.5	93.6	0			
Fluorene	0.0675	0.03	0.1	0	67.5	46.8	93.4	0			
Phenanthrene	0.03575	0.006	0.0503	0	71.1	48.7	104	0			
Anthracene	0.03425	0.006	0.0503	0	68.1	47.5	102	0			
Fluoranthene	0.07375	0.006	0.1003	0	73.5	46.3	108	0			
Pyrene	0.07625	0.005	0.1	0	76.3	43.8	109	0			
Benz(a)anthracene	0.0075	0.0008	0.01	0	75.0	40.3	115	0			
Chrysene	0.03775	0.004	0.0503	0	75.0	42.6	107	0			
Benzo(b)fluoranthene	0.00975	0.002	0.0125	0	78.0	48.6	107	0			
Benzo(k)fluoranthene	0.00475	0.0005	0.00625	0	76.0	23.3	136	0			
Benzo(a)pyrene	0.00475	0.0008	0.00628	0	75.6	33.4	117	0			
Dibenz(a,h)anthracene	0.009	0.0011	0.0125	0	72.0	27.3	139	0			
Benzo(g,h,i)perylene	0.009	0.002	0.0125	0	72.0	38.2	117	0			
Indeno(1,2,3-cd)pyrene	0.02088	0.0025	0.0251	0	83.2	39.9	125	0			

6/7

Qualifiers: ND - Not Detected at the Reporting Limit; J - Analyte detected below quantitation limits; S - Spike Recovery outside accepted recovery limits; R - RPD outside accepted recovery limits; B - Analyte detected in the associated Method Blank

Hall Environmental Analysis Laboratory

Sample Receipt Checklist

Client Name TER-ALB | Date and Time Received: 9/23/2005

Work Order Number 0509255 | Received by AT

Checklist completed by _____ 9/23/05
Signature Date

Matrix | Carrier name Client drop-off

Shipping container/cooler in good condition?		Yes ☑	No ☐	Not Present ☐			
Custody seals intact on shipping container/cooler?		Yes ☐	No ☐	Not Present ☐		Not Shipped	☑
Custody seals intact on sample bottles?		Yes ☐	No ☑	N/A ☐			
Chain of custody present?		Yes ☑	No ☐				
Chain of custody signed when relinquished and received?		Yes ☑	No ☐				
Chain of custody agrees with sample labels?		Yes ☑	No ☐				
Samples in proper container/bottle?		Yes ☑	No ☐				
Sample containers intact?		Yes ☑	No ☐				
Sufficient sample volume for indicated test?		Yes ☑	No ☐				
All samples received within holding time?		Yes ☑	No ☐				
Water - VOA vials have zero headspace?	No VOA vials submitted ☑		Yes ☐	No ☐			
Water - pH acceptable upon receipt?		Yes ☐	No ☐	N/A ☑			

Container/Temp Blank temperature? *4° C ± 2 Acceptable* If given sufficient time to cool.

COMMENTS:

Client contacted _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding _____

Comments: _____

Corrective Action _____

CHAIN-OF-CUSTODY RECORD

QA / QC Package:
Std ☐ Level 4 ☐
Other: _____

HALL ENVIRONMENTAL ANALYSIS LABORATORY
4901 Hawkins NE, Suite D
Albuquerque, New Mexico 87109
Tel. 505.345.3975 Fax 505.345.4107
www.hallenvironmental.com

Client: Jerracon

Address: 4905 Hawkins St NE
albuq NM 87109

Phone #: 505-527-1700 or 505-797-4287

Fax #: 505-527-1092

Project Name: OIS IUDC VRP Main Machine Shop

Project #: 66057007

~~Mary E. Wells~~

Project Manager: Mary E. Wells

Sampler: MEW

Sample Temperature: 15°

Date	Time	Matrix	Sample I.D. No.	Number/Volume	Preservative $HgCl_2$	Preservative HNO_3	HEAL No.
9/15/05	1645	Wood Shavings	Sample #1	1 (4oz.)			0509255-1
9/15/05	1730	↓	#2	↓			-2
9/16/05	1530	↓	#3	↓			-3

ANALYSIS REQUEST

BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gasoline Only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	EDC (Method 8021)	8310 (PNA or PAH)	RCRA 8 Metals	Anions ($F, Cl, NO_3, NO_2, PO_4, SO_4$)	8081 Pesticides / PCB's (8082)	8260B (VOA)	8270 (Semi-VOA)					Air Bubbles or Headspace (Y or N)
						X										
						X										
						X										

Date	Time	Relinquished By: (Signature)	Received By: (Signature)
9-23-05	1:15		
			9/23/05 13:15

Remarks:

Hall Environmental Analysis Laboratory

Date: *10-Oct-05*

CLIENT:	Terracon	**Client Sample ID:**	OLS Sump Free Product
Lab Order:	0509330	**Tag Number:**	
Project:	OLS UCD VRP	**Collection Date:**	9/30/2005 11:22:00 AM
Lab ID:	0509330-04A	**Matrix:**	OIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
DRO BY 8015B						Analyst: **SCC**
Diesel Range Organics (DRO)	27	1.0		wt%	10	10/3/2005 12:53:49 PM
Motor Oil Range Organics (MRO)	14	5.0		wt%	10	10/3/2005 12:53:49 PM
Surr: DNOP	91.5	74-125		%REC	10	10/3/2005 12:53:49 PM
GRO BY 8015B						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	0.011		wt%	0.25	10/4/2005 9:30:27 AM
Surr: BFB	97.3	74.3-120		%REC	0.25	10/4/2005 9:30:27 AM

Qualifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below quantitation limits

B - Analyte detected in the associated Method Blank

* - Value exceeds Maximum Contaminant Level

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

HALL
ENVIRONMENTAL
ANALYSIS
LABORATORY

COVER LETTER

October 07, 2005

Mary E. Wells
Terracon
1630 Hickory Loop Ste. H
Las Cruces, NM 88005
TEL: (505) 527-1700
FAX (505) 527-1092

RE: OLS UDC

Order No.: 0509205

Dear Mary E. Wells:

Hall Environmental Analysis Laboratory received 18 samples on 9/21/2005 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent.

Reporting limits are determined by EPA methodology. No determination of compounds below these (denoted by the ND or < sign) has been made.

Please don't hesitate to contact HEAL for any additional information or clarifications.

Sincerely,

Andy Freeman, Business Manager
Nancy McDuffie, Laboratory Manager

4901 Hawkins NE ■ Suite D ■ Albuquerque, NM 87109
505.345.3975 ■ Fax 505.345.4107
www.hallenvironmental.com

Hall Environmental Analysis Laboratory

Date: *07-Oct-05*

CLIENT: Terracon
Project: OLS UDC

Lab Order: 0509205

Lab ID: 0509205-01 **Collection Date:** 9/20/2005 4:46:00 PM
Client Sample ID: SB EXCAV #1 **Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 6010B: SOIL METALS						Analyst: NMO
Lead	64	1.3		mg/Kg	5	10/7/2005 12:59:11 PM

Lab ID: 0509205-02 **Collection Date:** 9/20/2005 4:55:00 PM
Client Sample ID: SB EXCAV #2 **Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 6010B: SOIL METALS						Analyst: NMO
Lead	120	1.3		mg/Kg	5	10/7/2005 1:01:42 PM

Lab ID: 0509205-03 **Collection Date:** 9/20/2005 5:00:00 PM
Client Sample ID: SB EXCAV #3 **Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 6010B: SOIL METALS						Analyst: NMO
Lead	92	1.3		mg/Kg	5	10/7/2005 1:03:19 PM

Lab ID: 0509205-04 **Collection Date:** 9/20/2005 5:02:00 PM
Client Sample ID: SB EXCAV #4 **Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 6010B: SOIL METALS						Analyst: NMO
Lead	95	1.3		mg/Kg	5	10/7/2005 1:05:09 PM

Lab ID: 0509205-05 **Collection Date:** 9/20/2005 5:04:00 PM
Client Sample ID: SB EXCAV #5 **Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 6010B: SOIL METALS						Analyst: NMO
Lead	66	1.3		mg/Kg	5	10/7/2005 1:06:56 PM

Lab ID: 0509205-06 **Collection Date:** 9/20/2005 5:06:00 PM
Client Sample ID: SB EXCAV #6 **Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 6010B: SOIL METALS						Analyst: NMO
Lead	290	1.3		mg/Kg	5	10/7/2005 1:11:59 PM

Qualifiers:
- ND - Not Detected at the Reporting Limit
- J - Analyte detected below quantitation limits
- B - Analyte detected in the associated Method Blank
- * - Value exceeds Maximum Contaminant Level
- S - Spike Recovery outside accepted recovery limits
- R - RPD outside accepted recovery limits
- E - Value above quantitation range

Hall Environmental Analysis Laboratory

Date: *07-Oct-05*

CLIENT: Terracon
Project: OLS UDC

Lab Order: 0509205

Lab ID: 0509205-07 **Collection Date:** 9/20/2005 5:10:00 PM
Client Sample ID: SB EXCAV #7 **Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 6010B: SOIL METALS						Analyst: NMO
Lead	70	1.3		mg/Kg	5	10/7/2005 1:14:27 PM

Lab ID: 0509205-08 **Collection Date:** 9/20/2005 5:12:00 PM
Client Sample ID: SB EXCAV #8 **Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 6010B: SOIL METALS						Analyst: NMO
Lead	280	1.3		mg/Kg	5	10/7/2005 1:16:54 PM

Lab ID: 0509205-09 **Collection Date:** 9/20/2005 5:15:00 PM
Client Sample ID: SB EXCAV #9 **Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 6010B: SOIL METALS						Analyst: NMO
Lead	480	1.3		mg/Kg	5	10/7/2005 1:19:23 PM

Lab ID: 0509205-10 **Collection Date:** 9/20/2005 5:17:00 PM
Client Sample ID: SB EXCAV #10 **Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 6010B: SOIL METALS						Analyst: NMO
Lead	660	1.3		mg/Kg	5	10/7/2005 1:21:50 PM

Lab ID: 0509205-11 **Collection Date:** 9/20/2005 5:20:00 PM
Client Sample ID: SB EXCAV #11 **Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 6010B: SOIL METALS						Analyst: NMO
Lead	580	1.3		mg/Kg	5	10/7/2005 1:24:21 PM

Lab ID: 0509205-12 **Collection Date:** 9/20/2005 5:25:00 PM
Client Sample ID: SB EXCAV #12 **Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 6010B: SOIL METALS						Analyst: NMO
Lead	380	1.3		mg/Kg	5	10/7/2005 1:26:49 PM

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range

Hall Environmental Analysis Laboratory

Date: *07-Oct-05*

CLIENT: Terracon
Project: OLS UDC

Lab Order: 0509205

Lab ID: 0509205-13 **Collection Date:** 9/20/2005 5:29:00 PM
Client Sample ID: SB EXCAV #13 **Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 6010B: SOIL METALS						Analyst: NMO
Lead	260	1.3		mg/Kg	5	10/7/2005 1:29:17 PM

Lab ID: 0509205-14 **Collection Date:** 9/20/2005 5:30:00 PM
Client Sample ID: SB EXCAV #14 **Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 6010B: SOIL METALS						Analyst: NMO
Lead	380	1.3		mg/Kg	5	10/7/2005 1:31:48 PM

Lab ID: 0509205-15 **Collection Date:** 9/20/2005 5:32:00 PM
Client Sample ID: SB EXCAV #15 **Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 6010B: SOIL METALS						Analyst: NMO
Lead	160	1.3		mg/Kg	5	10/7/2005 1:34:18 PM

Lab ID: 0509205-16 **Collection Date:** 9/20/2005 5:35:00 PM
Client Sample ID: SB EXCAV #16 **Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 6010B: SOIL METALS						Analyst: NMO
Lead	120	1.3		mg/Kg	5	10/7/2005 1:42:27 PM

Lab ID: 0509205-17 **Collection Date:** 9/20/2005 5:38:00 PM
Client Sample ID: SB EXCAV #17 **Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 6010B: SOIL METALS						Analyst: NMO
Lead	490	1.3		mg/Kg	5	10/7/2005 1:44:53 PM

Lab ID: 0509205-18 **Collection Date:** 9/20/2005 5:55:00 PM
Client Sample ID: BAT. EXCAV #1 **Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 6010B: SOIL METALS						Analyst: NMO
Lead	930	1.3		mg/Kg	5	10/7/2005 1:47:23 PM

Qualifiers:
- ND - Not Detected at the Reporting Limit
- J - Analyte detected below quantitation limits
- B - Analyte detected in the associated Method Blank
- * - Value exceeds Maximum Contaminant Level
- S - Spike Recovery outside accepted recovery limits
- R - RPD outside accepted recovery limits
- E - Value above quantitation range

Hall Environmental Analysis Laboratory

Date: *07-Oct-05*

CLIENT: Terracon
Work Order: 0509205
Project: OLS UDC

QC SUMMARY REPORT
Method Blank

Sample ID MB-8898 Batch ID: 8898 Test Code: SW6010A Units: mg/Kg Analysis Date 10/7/2005 12:51:27 PM Prep Date 10/6/2005

Client ID: Run ID: ICP_051007A SeqNo: 409321

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	ND	0.25									

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

Hall Environmental Analysis Laboratory

Date: *07-Oct-05*

CLIENT: Terracon
Work Order: 0509205
Project: OLS UDC

QC SUMMARY REPORT

Laboratory Control Spike - generic

Sample ID LCS-8898	Batch ID: 8898	Test Code: SW6010A	Units: mg/Kg	Analysis Date 10/7/2005 12:53:27 PM	Prep Date 10/6/2005
Client ID:		Run ID: ICP_051007A		SeqNo: 409322	

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	22.75	0.25	25	0	91.0	80	120	0			

Sample ID LCSD-8898	Batch ID: 8898	Test Code: SW6010A	Units: mg/Kg	Analysis Date 10/7/2005 12:55:45 PM	Prep Date 10/6/2005
Client ID:		Run ID: ICP_051007A		SeqNo: 409323	

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	23.24	0.25	25	0	93.0	80	120	22.75	2.12	20	

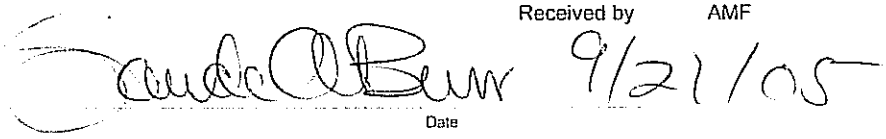
Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

Hall Environmental Analysis Laboratory

Sample Receipt Checklist

Client Name TER-ALB | Date and Time Received: 9/21/2005

Work Order Number 0509205 | Received by AMF

Checklist completed by  9/21/05
Signature | Date

Matrix | Carrier name Client drop-off

Shipping container/cooler in good condition?	Yes ☐	No ☐	Not Present ☑	
Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	Not Present ☐	Not Shipped ☑
Custody seals intact on sample bottles?	Yes ☑	No ☐	N/A ☐	
Chain of custody present?	Yes ☑	No ☐		
Chain of custody signed when relinquished and received?	Yes ☑	No ☐		
Chain of custody agrees with sample labels?	Yes ☑	No ☒	SSD	
Samples in proper container/bottle?	Yes ☑	No ☐		
Sample containers intact?	Yes ☑	No ☐		
Sufficient sample volume for indicated test?	Yes ☑	No ☐		
All samples received within holding time?	Yes ☑	No ☐		
Water - VOA vials have zero headspace? No VOA vials submitted	☑	Yes ☐	No ☐	
Water - pH acceptable upon receipt?	Yes ☐	No ☐	N/A ☑	

Container/Temp Blank temperature? **21°** *4° C ± 2 Acceptable* If given sufficient time to cool.

COMMENTS: Time discrepancies on 2 Samples - Called Mary Wells - Will Call Back SSD

Client contacted _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding _____

Comments: _____

Corrective Action _____

CHAIN-OF-CUSTODY RECORD

QA / QC Package:
Std ☐ Level 4 ☐
Other: _____

HALL ENVIRONMENTAL ANALYSIS LABORATORY
4901 Hawkins NE, Suite D
Albuquerque, New Mexico 87109
Tel. 505.345.3975 Fax 505.345.4107
www.hallenvironmental.com

Client: Terracon
Project Name: OLS / UDC
Address: 4905 Hawkins NE, Albuquerque, NM 87109
Project #: 68057001
Project Manager: Mary Wells
Phone #: 505-797-4287
Sampler: Ed James
Fax #: 505-797-4288
Sample Temperature: 2/0

ANALYSIS REQUEST

Date	Time	Matrix	Sample I.D. No.	Number/Volume	Preservative $HgCl_2$	Preservative HNO_3	HEAL No. 0509205	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gasoline Only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	EDC (Method 8021)	8310 (PNA or PAH)	RCRA 8 Metals	Anions (F, Cl, NO_3, NO_2, PO_4, SO_4)	8081 Pesticides / PCB's (8082)	8260B (VOA)	8270 (Semi-VOA)	Total Lead				Air Bubbles or Headspace (Y or N)
9/20/05	1646	Soil	SB Excav #1	1-4oz			-1													X				
	1655		" " #2				-2													X				
	1700		" " #3				-3													X				
	1702		" " #4				-4													X				
	1704		" " #5				-5													X				
	1706		" " #6				-6													X				
	1710		" " #7				-7													X				
	1712		" " #8				-8													X				
	1715		" " #9				-9													X				
	1717		" " #10				-10													X				
	1720		" " #11				-11													X				
	1725		" " #12				-12													X				

Date:	Time:	Relinquished By: (Signature)	Received By: (Signature)	
9/21/05	0810	Edward W. James		9/21/05 8:10
Date:	Time:	Relinquished By: (Signature)	Received By: (Signature)	

Remarks: STANDARD TURNAROUND

CHAIN-OF-CUSTODY RECORD

QA / QC Package:
Std ☐ Level 4 ☐
Other: _____

HALL ENVIRONMENTAL ANALYSIS LABORATORY
4901 Hawkins NE, Suite D
Albuquerque, New Mexico 87109
Tel. 505.345.3975 Fax 505.345.4107
www.hallenvironmental.com

Client: Terracon
Address: 4905 Hawkins NE
Albuquerque, NM 87109
Phone #: 505-797-4287
Fax #: 505-797-4288

Project Name: OLS/UDC
Project #: 68057001
Project Manager: Mary Wells
Sampler: Ed James
Sample Temperature: 21°

ANALYSIS REQUEST

Date	Time	Matrix	Sample I.D. No.	Number/Volume	Preservative $HgCl_2$	Preservative HNO_3	HEAL No.	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gasoline Only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	EDC (Method 8021)	8310 (PNA or PAH)	RCRA 8 Metals	Anions (F, Cl, NO_3, NO_2, PO_4, SO_4)	8081 Pesticides / PCB's (8082)	8260B (VOA)	8270 (Semi-VOA)	Total #Lead				Air Bubbles or Headspace (Y or N)
9/20/05	1729	Soil	SB Excav #13	1-4oz			050925-13													X				
	1730		" " #14				-14													X				
	1732		" " #15				-15													X				
	1735		" " #16				-16													X				
	1738		" " #17				-17													X				
↓	1755	↓	Bat. Excav #1	↓			-18													X				

Remarks: STANDARD TURN AROUND

Date	Time	Relinquished By: (Signature)	Received By: (Signature)	
9/21/05	0810	Edward W. James		9/21/05 8:10
Date:	Time:	Relinquished By: (Signature)	Received By: (Signature)	

HALL
ENVIRONMENTAL
ANALYSIS
LABORATORY

COVER LETTER

October 06, 2005

Mary E. Wells
Terracon
1630 Hickory Loop Ste. H
Las Cruces, NM 88005
TEL: (505) 527-1700
FAX (505) 527-1092

RE: OLS UDC

Order No.: 0509203

Dear Mary E. Wells:

Hall Environmental Analysis Laboratory received 10 samples on 9/20/2005 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent.

Reporting limits are determined by EPA methodology. No determination of compounds below these (denoted by the ND or < sign) has been made.

Please don't hesitate to contact HEAL for any additional information or clarifications.

Sincerely,

Andy Freeman, Business Manager
Nancy McDuffie, Laboratory Manager

4901 Hawkins NE ■ Suite D ■ Albuquerque, NM 87109
505.345.3975 ■ Fax 505.345.4107
www.hallenvironmental.com

Hall Environmental Analysis Laboratory

Date: *06-Oct-05*

CLIENT: Terracon
Lab Order: 0509203
Project: OLS UDC
Lab ID: 0509203-01

Client Sample ID: UDC Pet. Ex #5A
Collection Date: 9/20/2005 11:15:00 AM
Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8310: PAHS						Analyst: **JMP**
Naphthalene	ND	0.050		mg/Kg	1	10/5/2005 7:18:04 PM
1-Methylnaphthalene	ND	0.050		mg/Kg	1	10/5/2005 7:18:04 PM
2-Methylnaphthalene	ND	0.050		mg/Kg	1	10/5/2005 7:18:04 PM
Acenaphthylene	ND	0.050		mg/Kg	1	10/5/2005 7:18:04 PM
Acenaphthene	ND	0.050		mg/Kg	1	10/5/2005 7:18:04 PM
Fluorene	ND	0.030		mg/Kg	1	10/5/2005 7:18:04 PM
Phenanthrene	ND	0.0060		mg/Kg	1	10/5/2005 7:18:04 PM
Anthracene	ND	0.0060		mg/Kg	1	10/5/2005 7:18:04 PM
Fluoranthene	ND	0.0060		mg/Kg	1	10/5/2005 7:18:04 PM
Pyrene	ND	0.0050		mg/Kg	1	10/5/2005 7:18:04 PM
Benz(a)anthracene	ND	0.00080		mg/Kg	1	10/5/2005 7:18:04 PM
Chrysene	ND	0.0040		mg/Kg	1	10/5/2005 7:18:04 PM
Benzo(b)fluoranthene	ND	0.0020		mg/Kg	1	10/5/2005 7:18:04 PM
Benzo(k)fluoranthene	ND	0.00050		mg/Kg	1	10/5/2005 7:18:04 PM
Benzo(a)pyrene	ND	0.00080		mg/Kg	1	10/5/2005 7:18:04 PM
Dibenz(a,h)anthracene	ND	0.0011		mg/Kg	1	10/5/2005 7:18:04 PM
Benzo(g,h,i)perylene	ND	0.0020		mg/Kg	1	10/5/2005 7:18:04 PM
Indeno(1,2,3-cd)pyrene	ND	0.0025		mg/Kg	1	10/5/2005 7:18:04 PM
Surr: Benzo(e)pyrene	102	68.4-105		%REC	1	10/5/2005 7:18:04 PM

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range

Hall Environmental Analysis Laboratory

Date: *06-Oct-05*

CLIENT: Terracon
Work Order: 0509203
Project: OLS UDC

QC SUMMARY REPORT
Method Blank

Sample ID **MB-8817** Batch ID: **8817** Test Code: **SW8310** Units: **mg/Kg** Analysis Date **10/5/2005 4:54:03 PM** Prep Date **9/26/2005**

Client ID: Run ID: **HUGO_051005A** SeqNo: **408155**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Naphthalene	ND	0.05									
1-Methylnaphthalene	ND	0.05									
2-Methylnaphthalene	ND	0.05									
Acenaphthylene	ND	0.05									
Acenaphthene	ND	0.05									
Fluorene	ND	0.03									
Phenanthrene	ND	0.006									
Anthracene	ND	0.006									
Fluoranthene	ND	0.006									
Pyrene	ND	0.005									
Benz(a)anthracene	ND	0.0008									
Chrysene	ND	0.004									
Benzo(b)fluoranthene	ND	0.002									
Benzo(k)fluoranthene	ND	0.0005									
Benzo(a)pyrene	ND	0.0008									
Dibenz(a,h)anthracene	ND	0.0011									
Benzo(g,h,i)perylene	ND	0.002									
Indeno(1,2,3-cd)pyrene	ND	0.0025									
Surr: Benzo(e)pyrene	0.1853	0	0.25	0	74.1	68.4	105	0			

2 / 5

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

Hall Environmental Analysis Laboratory

Date: *06-Oct-05*

CLIENT: Terracon
Work Order: 0509203
Project: OLS UDC

QC SUMMARY REPORT
Laboratory Control Spike - generic

Sample ID **LCS-8817** Batch ID: **8817** Test Code: **SW8310** Units: **mg/Kg** Analysis Date **10/5/2005 5:42:03 PM** Prep Date **9/26/2005**

Client ID: Run ID: **HUGO_051005A** SeqNo: **408156**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Naphthalene	0.839	0.05	1	0	83.9	49.1	92.3	0			
1-Methylnaphthalene	0.8425	0.05	1	0	84.3	49.7	93.6	0			
2-Methylnaphthalene	0.8453	0.05	1	0	84.5	50.1	91.7	0			
Acenaphthylene	0.6762	0.05	1	0	67.6	54	93	0			
Acenaphthene	0.808	0.05	1	0	80.8	49.5	93.6	0			
Fluorene	0.07275	0.03	0.1	0	72.8	46.8	93.4	0			
Phenanthrene	0.0455	0.006	0.0503	0	90.5	48.7	104	0			
Anthracene	0.03575	0.006	0.0503	0	71.1	47.5	102	0			
Fluoranthene	0.08	0.006	0.1003	0	79.8	46.3	108	0			
Pyrene	0.1153	0.005	0.1	0	115	43.8	109	0			S
Benz(a)anthracene	0.01	0.0008	0.01	0	100	40.3	115	0			
Chrysene	0.05075	0.004	0.0503	0	101	42.6	107	0			
Benzo(b)fluoranthene	0.01125	0.002	0.0125	0	90.0	48.6	107	0			
Benzo(k)fluoranthene	0.00525	0.0005	0.00625	0	84.0	23.3	136	0			
Benzo(a)pyrene	0.00625	0.0008	0.00628	0	99.5	33.4	117	0			
Dibenz(a,h)anthracene	0.01075	0.0011	0.0125	0	86.0	27.3	139	0			
Benzo(g,h,i)perylene	0.01725	0.002	0.0125	0	138	38.2	117	0			S
Indeno(1,2,3-cd)pyrene	0.0217	0.0025	0.0251	0	86.5	39.9	125	0			

Qualifiers: ND - Not Detected at the Reporting Limit; S - Spike Recovery outside accepted recovery limits; B - Analyte detected in the associated Method Blank
J - Analyte detected below quantitation limits; R - RPD outside accepted recovery limits; /

CLIENT: Terracon
Work Order: 0509203
Project: OLS UDC

QC SUMMARY REPORT
Laboratory Control Spike Duplicate

Sample ID LCSD-8817 Batch ID: 8817 Test Code: SW8310 Units: mg/Kg Analysis Date 10/5/2005 6:30:04 PM Prep Date 9/26/2005
Client ID: Run ID: HUGO_051005A SeqNo: 408157

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Naphthalene	0.768	0.05	1	0	76.8	49.1	92.3	0.839	8.84	20	
1-Methylnaphthalene	0.7535	0.05	1	0	75.4	49.7	93.6	0.8425	11.2	20	
2-Methylnaphthalene	0.7475	0.05	1	0	74.8	50.1	91.7	0.8453	12.3	20	
Acenaphthylene	0.6053	0.05	1	0	60.5	54	93	0.6762	11.1	20	
Acenaphthene	0.7245	0.05	1	0	72.5	49.5	93.6	0.808	10.9	20	
Fluorene	0.06475	0.03	0.1	0	64.8	46.8	93.4	0.07275	11.6	20	
Phenanthrene	0.0425	0.006	0.0503	0	84.5	48.7	104	0.0455	6.82	20	
Anthracene	0.033	0.006	0.0503	0	65.6	47.5	102	0.03575	8.00	20	
Fluoranthene	0.07475	0.006	0.1003	0	74.5	46.3	108	0.08	6.79	20	
Pyrene	0.1065	0.005	0.1	0	107	43.8	109	0.1153	7.89	20	
Benz(a)anthracene	0.00925	0.0008	0.01	0	92.5	40.3	115	0.01	7.79	20	
Chrysene	0.04775	0.004	0.0503	0	94.9	42.6	107	0.05075	6.09	20	
Benzo(b)fluoranthene	0.0105	0.002	0.0125	0	84.0	48.6	107	0.01125	6.90	20	
Benzo(k)fluoranthene	0.005	0.0005	0.00625	0	80.0	23.3	136	0.00525	4.88	20	
Benzo(a)pyrene	0.006	0.0008	0.00628	0	95.5	33.4	117	0.00625	4.08	20	
Dibenz(a,h)anthracene	0.0095	0.0011	0.0125	0	76.0	27.3	139	0.01075	12.3	20	
Benzo(g,h,i)perylene	0.01625	0.002	0.0125	0	130	38.2	117	0.01725	5.97	20	S
Indeno(1,2,3-cd)pyrene	0.0186	0.0025	0.0251	0	74.1	39.9	125	0.0217	15.4	20	

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

Hall Environmental Analysis Laboratory

Sample Receipt Checklist

Client Name TER-ALB | Date and Time Received: 9/20/2005

Work Order Number 0509203 | Received by AMF

Checklist completed by _____ 9/20/05
Signature | Date

Matrix | Carrier name | Client drop-off

Shipping container/cooler in good condition?		Yes ☑	No ☐	Not Present ☐			
Custody seals intact on shipping container/cooler?		Yes ☐	No ☐	Not Present ☐	Not Shipped ☑		
Custody seals intact on sample bottles?		Yes ☑	No ☐	N/A ☐			
Chain of custody present?		Yes ☑	No ☐				
Chain of custody signed when relinquished and received?		Yes ☑	No ☐				
Chain of custody agrees with sample labels?		Yes ☑	No ☐				
Samples in proper container/bottle?		Yes ☑	No ☐				
Sample containers intact?		Yes ☑	No ☐				
Sufficient sample volume for indicated test?		Yes ☑	No ☐				
All samples received within holding time?		Yes ☑	No ☐				
Water - VOA vials have zero headspace?	No VOA vials submitted ☑		Yes ☐	No ☐			
Water - pH acceptable upon receipt?		Yes ☐	No ☐	N/A ☑			

Container/Temp Blank temperature? 9° *4° C ± 2 Acceptable*
If given sufficient time to cool.

COMMENTS: 0509203 [2-10] ON HOLD

Client contacted _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding _____

Comments: _____

Corrective Action _____

CHAIN-OF-CUSTODY RECORD

QA / QC Package:
Std ☐ Level 4 ☐
Other:

HALL ENVIRONMENTAL ANALYSIS LABORATORY
4901 Hawkins NE, Suite D
Albuquerque, New Mexico 87109
Tel. 505.345.3975 Fax 505.345.4107
www.hallenvironmental.com

Client: Terracon
Project Name: OLS / UDC
Address:
Project #: 68057001
Project Manager: Mary Wells
Phone #: 505-797-4287
Sampler: Ed James
Fax #:
Sample Temperature: 90

ANALYSIS REQUEST

Date	Time	Matrix	Sample I.D. No.	Number/Volume	Preservative $HgCl_2$	Preservative HNO_3	HEAL No. 0509203	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gasoline Only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	EDC (Method 8021)	8310 (PNA or PAH)	RCRA 8 Metals	Anions (F, Cl, NO_3, NO_2, PO_4, SO_4)	8081 Pesticides / PCB's (8082)	8260B (VOA)	8270 (Semi-VOA)					Air Bubbles or Headspace (Y or N)
9/20/05	1115	Soil	UDC Pet. Ex #5A	1-4oz			-1							X										
	0935		" " " #1				-2							Hold All										
	0940		" " " #2				-3																	
	0945		" " " #3				-4																	
	1024		" " " #4				-5																	
	1026		" " " #5				-6																	
	1028		" " " #6				-7																	
	1106		" " " #7				-8																	
	1108		" " " #8				-9																	
	1110		" " " #9				-10																	

Date	Time	Relinquished By: (Signature)	Received By: (Signature)
9/20/05	1455	Edward W. James	
9/20/05	1630		9/20/05 4:30

Remarks:

HALL
ENVIRONMENTAL
ANALYSIS
LABORATORY

COVER LETTER

October 05, 2005

Mary Wells
Terracon
1630 Hickory Loop Ste. H
Las Cruces, NM 88005
TEL: (505) 527-1700
FAX (505) 527-1092

RE: OLS UDC

Order No.: 0509201

Dear Mary Wells:

Hall Environmental Analysis Laboratory received 9 samples on 9/20/2005 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent.

Reporting limits are determined by EPA methodology. No determination of compounds below these (denoted by the ND or < sign) has been made.

Please don't hesitate to contact HEAL for any additional information or clarifications.

Sincerely,

Andy Freeman, Business Manager
Nancy McDuffie, Laboratory Manager

Hall Environmental Analysis Laboratory

Date: *05-Oct-05*

CLIENT: Terracon
Project: OLS UDC
Lab Order: 0509201

Lab ID: 0509201-01 **Collection Date:** 9/20/2005 7:20:00 AM
Client Sample ID: SB STOCK #1-4 COMP **Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 6010B: TCLP METALS						Analyst: NMO
Lead	ND	5.0		mg/L	1	9/26/2005 10:33:37 AM

Lab ID: 0509201-02 **Collection Date:** 9/20/2005 7:39:00 AM
Client Sample ID: SB STOCK #5-8 COMP **Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 6010B: TCLP METALS						Analyst: NMO
Lead	ND	5.0		mg/L	1	9/26/2005 10:37:58 AM

Lab ID: 0509201-03 **Collection Date:** 9/20/2005 7:45:00 AM
Client Sample ID: SB STOCK #9-12, COMP **Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 6010B: TCLP METALS						Analyst: NMO
Lead	ND	5.0		mg/L	1	10/4/2005 4:14:38 PM

Lab ID: 0509201-04 **Collection Date:** 9/20/2005 8:10:00 AM
Client Sample ID: SB STOCK #13-16 COMP **Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 6010B: TCLP METALS						Analyst: NMO
Lead	ND	5.0		mg/L	1	9/26/2005 10:42:20 AM

Lab ID: 0509201-05 **Collection Date:** 9/20/2005 12:40:00 PM
Client Sample ID: BAT. STOCK B #1-4 COMP **Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 6010B: TCLP METALS						Analyst: NMO
Lead	ND	5.0		mg/L	1	10/4/2005 4:18:52 PM

Lab ID: 0509201-06 **Collection Date:** 9/20/2005 12:48:00 PM
Client Sample ID: BAT. STOCK B #5-8 COMP **Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 6010B: TCLP METALS						Analyst: NMO
Lead	ND	5.0		mg/L	1	10/4/2005 4:23:04 PM

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range

Hall Environmental Analysis Laboratory

Date: *05-Oct-05*

CLIENT: Terracon
Project: OLS UDC
Lab Order: 0509201

Lab ID: 0509201-07 **Collection Date:** 9/20/2005 1:07:00 PM
Client Sample ID: BAT. STOCK #9-12 COMP **Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 6010B: TCLP METALS						Analyst: NMO
Lead	ND	5.0		mg/L	1	9/26/2005 10:46:42 AM

Lab ID: 0509201-08 **Collection Date:** 9/20/2005 1:15:00 PM
Client Sample ID: BAT. STOCK B #13-16 COMP **Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 6010B: TCLP METALS						Analyst: NMO
Lead	ND	5.0		mg/L	1	10/4/2005 4:27:16 PM

Lab ID: 0509201-09 **Collection Date:** 9/20/2005 1:40:00 PM
Client Sample ID: RH STOCK #1-4 COMP **Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 6010B: TCLP METALS						Analyst: NMO
Lead	ND	5.0		mg/L	1	9/26/2005 10:50:56 AM

Qualifiers:

- ND - Not Detected at the Reporting Limit
- J - Analyte detected below quantitation limits
- B - Analyte detected in the associated Method Blank
- * - Value exceeds Maximum Contaminant Level
- S - Spike Recovery outside accepted recovery limits
- R - RPD outside accepted recovery limits
- E - Value above quantitation range

Hall Environmental Analysis Laboratory

Date: *05-Oct-05*

CLIENT: Terracon
Work Order: 0509201
Project: OLS UDC

QC SUMMARY REPORT

Method Blank

Sample ID MB-8814	Batch ID: 8814	Test Code: SW1311/6010	Units: mg/L	Analysis Date 9/26/2005 10:10:22 AM	Prep Date 9/25/2005
Client ID:		Run ID: ICP_050926A		SeqNo: 403822	

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	ND	5									

Sample ID MB-8866	Batch ID: 8866	Test Code: SW1311/6010	Units: mg/L	Analysis Date 10/4/2005 3:57:36 PM	Prep Date 10/3/2005
Client ID:		Run ID: ICP_051004C		SeqNo: 407453	

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	ND	5									

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

Hall Environmental Analysis Laboratory

Date: *05-Oct-05*

CLIENT: Terracon
Work Order: 0509201
Project: OLS UDC

QC SUMMARY REPORT

Laboratory Control Spike - generic

Sample ID	LCS-8814	Batch ID: 8814	Test Code: SW1311/6010	Units: mg/L		Analysis Date 9/26/2005 10:14:39 AM		Prep Date 9/25/2005			
Client ID:			Run ID: ICP_050926A			SeqNo: 403823					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	0.484	0.2	0.5	0	96.8	80	120	0			

Sample ID	LCSD-8814	Batch ID: 8814	Test Code: SW1311/6010	Units: mg/L		Analysis Date 9/26/2005 10:18:58 AM		Prep Date 9/25/2005			
Client ID:			Run ID: ICP_050926A			SeqNo: 403824					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	0.4839	0.2	0.5	0	96.8	80	120	0.484	0.0336	20	

Sample ID	LCS-8866	Batch ID: 8866	Test Code: SW1311/6010	Units: mg/L		Analysis Date 10/4/2005 4:01:41 PM		Prep Date 10/3/2005			
Client ID:			Run ID: ICP_051004C			SeqNo: 407454					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	0.4723	0.2	0.5	0	94.5	80	120	0			

Sample ID	LCSD-8866	Batch ID: 8866	Test Code: SW1311/6010	Units: mg/L		Analysis Date 10/4/2005 4:06:08 PM		Prep Date 10/3/2005			
Client ID:			Run ID: ICP_051004C			SeqNo: 407455					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	0.4817	0.2	0.5	0	96.3	80	120	0.4723	1.96	20	

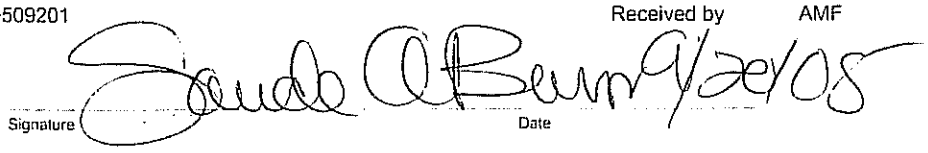
Qualifiers: ND - Not Detected at the Reporting Limit; J - Analyte detected below quantitation limits; S - Spike Recovery outside accepted recovery limits; R - RPD outside accepted recovery limits; B - Analyte detected in the associated Method Blank

Hall Environmental Analysis Laboratory

Sample Receipt Checklist

Client Name TER-ALB | Date and Time Received: 9/20/2005

Work Order Number 0509201 | Received by AMF

Checklist completed by  9/20/05
Signature | Date

Matrix | Carrier name Client drop-off

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐	
Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	Not Present ☐	Not Shipped ☑
Custody seals intact on sample bottles?	Yes ☑	No ☐	N/A ☐	
Chain of custody present?	Yes ☑	No ☐		
Chain of custody signed when relinquished and received?	Yes ☑	No ☐		
Chain of custody agrees with sample labels?	Yes ☑	No ☐		
Samples in proper container/bottle?	Yes ☑	No ☐		
Sample containers intact?	Yes ☑	No ☐		
Sufficient sample volume for indicated test?	Yes ☑	No ☐		
All samples received within holding time?	Yes ☑	No ☐		
Water - VOA vials have zero headspace?	No VOA vials submitted ☑	Yes ☐	No ☐	
Water - pH acceptable upon receipt?	Yes ☐	No ☐	N/A ☑	

Container/Temp Blank temperature? 9° *4° C ± 2 Acceptable* If given sufficient time to cool.

COMMENTS: Rush 0509201 [4, 7, 9]

Client contacted _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding _____

Comments: _____

Corrective Action _____

CHAIN-OF-CUSTODY RECORD

QA/QC Package: Std ☐ Level 4 ☐
Other: _____

HALL ENVIRONMENTAL ANALYSIS LABORATORY
4901 Hawkins NE, Suite D
Albuquerque, New Mexico 87109
Tel. 505.345.3975 Fax 505.345.4107
www.hallenvironmental.com

Client: Terracon
Address:
Phone #: 505-797-4287
Fax #:

Project Name: OLS/UDC
Project #: 68057001
Project Manager: Mary Wells
Sampler: Ed James
Sample Temperature: 90

ANALYSIS REQUEST

Date	Time	Matrix	Sample I.D. No.	Number/Volume	Preservative $HgCl_2$	Preservative HNO_3	Preservative	HEAL No.
9/20/05	0720	Soil	SB STOCK #1	1-4oz				0509201 -1
	0725		SB STOCK #2	Composite				
	0730		SB STOCK #3					
	0735		SB STOCK #4					
	0737		SB STOCK #5					-2
	0739		SB STOCK #6	Comp				
	0741		SB STOCK #7					
	0743		SB STOCK #8					
	0745		SB STOCK #9					-3
	0747		SB STOCK #10	Comp				
	0749		SB STOCK #11					
	0751		SB STOCK #12					

BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gasoline Only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	EDC (Method 8021)	8310 (PNA or PAH)	RCRA 8 Metals	Anions (F, Cl, NO_3, NO_2, PO_4, SO_4)	8081 Pesticides / PCB's (8082)	8260B (VOA)	8270 (Semi-VOA)	TCLP Lead				Air Bubbles or Headspace (Y or N)
											X					
												X				
												X				

Date	Time	Relinquished By: (Signature)	Received By: (Signature)
9/20/05	1455	Edward W. James	
9/20/05	1630		9/20/05 4:30

Remarks: RUSH 0509201 [4, 7, 9]

CHAIN-OF-CUSTODY RECORD

QA / QC Package:
Std ☐ Level 4 ☐
Other:

HALL ENVIRONMENTAL ANALYSIS LABORATORY
4901 Hawkins NE, Suite D
Albuquerque, New Mexico 87109
Tel. 505.345.3975 Fax 505.345.4107
www.hallenvironmental.com

Client: Terracon
Address:
Phone #: 505-797-4287
Fax #:

Project Name: OLS/UDC
Project #: 68057001
Project Manager: Mary Wells
Sampler: Ed James
Sample Temperature: 90

Date	Time	Matrix	Sample I.D. No.	Number/Volume	Preservative $HgCl_2$	Preservative HNO_3	Preservative	HEAL No.
9/20/05	0810	Soil	SB* STOCK #13	1-4oz Comp				0509201 -4
	0812		SB STOCK #14					
	0814		SB STOCK #15					
	0816		SB STOCK #16					
	1240		Bat. STOCK "B" #1					
	1242		Bat. STOCK "B" #2					-5
	1244		Bat. STOCK "B" #3					
	1246		Bat. Stock "B" #4					
	1248		Bat. STOCK "B" #5					
	1250		Bat. STOCK "B" #6					-6
	1252		Bat. STOCK "B" #7					
↓	1254	↓	Bat. STOCK "B" #8	↓				

ANALYSIS REQUEST

BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gasoline Only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	EDC (Method 8021)	8310 (PNA or PAH)	RCRA 8 Metals	Anions (F, Cl, NO_3, NO_2, PO_4, SO_4)	8081 Pesticides / PCB's (8082)	8260B (VOA)	8270 (Semi-VOA)	TCLP Lead				Air Bubbles or Headspace (Y or N)
												X				
												X				
												X				

Date	Time	Relinquished By: (Signature)	Received By: (Signature)
9/20/05	1455	Edward W. James	
9/20/05	1630		9/20/05 4:30

Remarks: RUSH 0509201 [4]
3 DAY TAT

CHAIN-OF-CUSTODY RECORD

QA / QC Package:
Std ☐ Level 4 ☐
Other: _____

HALL ENVIRONMENTAL ANALYSIS LABORATORY
4901 Hawkins NE, Suite D
Albuquerque, New Mexico 87109
Tel. 505.345.3975 Fax 505.345.4107
www.hallenvironmental.com

Client: Terracon
Project Name: OLS/UDC
Address:
Project #: 680570001
Project Manager: Mary Wells
Phone #: 505-797-4287
Sampler: Ed James
Fax #:
Sample Temperature: 90

ANALYSIS REQUEST

Date	Time	Matrix	Sample I.D. No.	Number/Volume	Preservative $HgCl_2$	Preservative HNO_3	Preservative	HEAL No. 0509201	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gasoline Only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	EDC (Method 8021)	8310 (PNA or PAH)	RCRA 8 Metals	Anions (F, Cl, NO_3, NO_2, PO_4, SO_4)	8081 Pesticides / PCB's (8082)	8260B (VOA)	8270 (Semi-VOA)	TCLP Lead				Air Bubbles or Headspace (Y or N)
9/20/05	1307	Soil	Bat. STOCK "B" #9*	1-4oz				-7																	
	1309		Bat. STOCK "B" #10	Comp																					
	1311		Bat. STOCK "B" #11																		X				
	1313		Bat. STOCK "B" #12																						
	1315		Bat. STOCK "B" #13																						
	1317		Bat. STOCK "B" #14	Comp				-8													X				
	1319		Bat. STOCK "B" #15																						
	1321		Bat. STOCK "B" #16																						
	1340		RH* STOCK #1																						
	1342		RH STOCK #2	Comp				-9													X				
	1344		RH STOCK #3																						
	1346		RH STOCK #4																						

Date:	Time:	Relinquished By: (Signature)	Received By: (Signature)
9/20/05	1455	Edward W. James	
9/20/05	1630		9/20/05 4:30

Remarks: RUSH 0509201 [7, 9]
3 day TAT

Hall Environmental Analysis Laboratory

Date: *26-Sep-05*

CLIENT: Terracon
Client Sample ID: OLSPASP 1 A-D COMP
Lab Order: 0509227
Collection Date: 9/21/2005 11:41:00 AM
Project: OLS UDC VRP
Lab ID: 0509227-01
Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 6010C: TCLP METALS						Analyst: **NMO**
Arsenic	ND	5.0		mg/L	1	9/26/2005 11:11:04 AM
Barium	ND	100		mg/L	1	9/26/2005 11:11:04 AM
Cadmium	ND	1.0		mg/L	1	9/26/2005 11:11:04 AM
Chromium	ND	5.0		mg/L	1	9/26/2005 11:11:04 AM
Lead	ND	5.0		mg/L	1	9/26/2005 11:11:04 AM
Selenium	ND	1.0		mg/L	1	9/26/2005 12:55:54 PM
Silver	ND	5.0		mg/L	1	9/26/2005 11:11:04 AM

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range

Hall Environmental Analysis Laboratory

Date: *26-Sep-05*

CLIENT: Terracon
Client Sample ID: OLSPASP 2 A-D COMP
Lab Order: 0509227
Collection Date: 9/21/2005 11:47:00 AM
Project: OLS UDC VRP
Lab ID: 0509227-02
Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 6010C: TCLP METALS						Analyst: **NMO**
Arsenic	ND	5.0		mg/L	1	9/26/2005 11:15:27 AM
Barium	ND	100		mg/L	1	9/26/2005 11:15:27 AM
Cadmium	ND	1.0		mg/L	1	9/26/2005 11:15:27 AM
Chromium	ND	5.0		mg/L	1	9/26/2005 11:15:27 AM
Lead	ND	5.0		mg/L	1	9/26/2005 11:15:27 AM
Selenium	ND	1.0		mg/L	1	9/26/2005 12:57:27 PM
Silver	ND	5.0		mg/L	1	9/26/2005 11:15:27 AM

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range

Hall Environmental Analysis Laboratory

Date: *26-Sep-05*

CLIENT: Terracon
Client Sample ID: OLSPASP 3 A-D COMP
Lab Order: 0509227
Collection Date: 9/21/2005 11:53:00 AM
Project: OLS UDC VRP
Lab ID: 0509227-03
Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 6010C: TCLP METALS						Analyst: **NMO**
Arsenic	ND	5.0		mg/L	1	9/26/2005 11:19:04 AM
Barium	ND	100		mg/L	1	9/26/2005 11:19:04 AM
Cadmium	ND	1.0		mg/L	1	9/26/2005 11:19:04 AM
Chromium	ND	5.0		mg/L	1	9/26/2005 11:19:04 AM
Lead	ND	5.0		mg/L	1	9/26/2005 11:19:04 AM
Selenium	ND	1.0		mg/L	1	9/26/2005 12:59:10 PM
Silver	ND	5.0		mg/L	1	9/26/2005 11:19:04 AM

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range

Hall Environmental Analysis Laboratory

Date: *26-Sep-05*

CLIENT: Terracon
Lab Order: 0509227
Project: OLS UDC VRP
Lab ID: 0509227-04

Client Sample ID: OLSPASP 4 A-D COMP
Collection Date: 9/21/2005 12:00:00 PM
Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 6010C: TCLP METALS						Analyst: **NMO**
Arsenic	ND	5.0		mg/L	1	9/26/2005 11:22:49 AM
Barium	ND	100		mg/L	1	9/26/2005 11:22:49 AM
Cadmium	ND	1.0		mg/L	1	9/26/2005 11:22:49 AM
Chromium	ND	5.0		mg/L	1	9/26/2005 11:22:49 AM
Lead	ND	5.0		mg/L	1	9/26/2005 11:22:49 AM
Selenium	ND	1.0		mg/L	1	9/26/2005 1:00:52 PM
Silver	ND	5.0		mg/L	1	9/26/2005 11:22:49 AM

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range

Hall Environmental Analysis Laboratory

Date: *26-Sep-05*

CLIENT: Terracon
Lab Order: 0509227
Project: OLS UDC VRP
Lab ID: 0509227-05

Client Sample ID: OLSPASP 5 A-D COMP
Collection Date: 9/21/2005 12:07:00 PM
Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 6010C: TCLP METALS						Analyst: **NMO**
Arsenic	ND	5.0		mg/L	1	9/26/2005 11:25:27 AM
Barium	ND	100		mg/L	1	9/26/2005 11:25:27 AM
Cadmium	ND	1.0		mg/L	1	9/26/2005 11:25:27 AM
Chromium	ND	5.0		mg/L	1	9/26/2005 11:25:27 AM
Lead	ND	5.0		mg/L	1	9/26/2005 11:25:27 AM
Selenium	ND	1.0		mg/L	1	9/26/2005 1:03:19 PM
Silver	ND	5.0		mg/L	1	9/26/2005 11:25:27 AM

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range

Hall Environmental Analysis Laboratory

Date: *26-Sep-05*

CLIENT: Terracon
Client Sample ID: OLSPASP 6 A-D COMP
Lab Order: 0509227
Collection Date: 9/21/2005 12:12:00 PM
Project: OLS UDC VRP
Lab ID: 0509227-06
Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 6010C: TCLP METALS						Analyst: **NMO**
Arsenic	ND	5.0		mg/L	1	9/26/2005 11:29:51 AM
Barium	ND	100		mg/L	1	9/26/2005 11:29:51 AM
Cadmium	ND	1.0		mg/L	1	9/26/2005 11:29:51 AM
Chromium	ND	5.0		mg/L	1	9/26/2005 11:29:51 AM
Lead	ND	5.0		mg/L	1	9/26/2005 11:29:51 AM
Selenium	ND	1.0		mg/L	1	9/26/2005 1:05:47 PM
Silver	ND	5.0		mg/L	1	9/26/2005 11:29:51 AM

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range

HALL
ENVIRONMENTAL
ANALYSIS
LABORATORY

COVER LETTER

September 19, 2005

Melissa Housey
Terracon
4905 Hawkins, NE
Albuquerque, NM 87109
TEL: (505) 235-4135
FAX (505) 797-4288

RE: OLS/UDC VRP Order No.: 0509146

Dear Melissa Housey:

Hall Environmental Analysis Laboratory received 1 sample on 9/14/2005 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent.

Reporting limits are determined by EPA methodology. No determination of compounds below these (denoted by the ND or < sign) has been made.

Please don't hesitate to contact HEAL for any additional information or clarifications.

Sincerely,

Andy Freeman, Business Manager
Nancy McDuffie, Laboratory Manager

Anatek Labs, Inc.

1282 Alturas Drive • Moscow, ID 83843 • (208) 883-2839 • Fax (208) 882-9246 • email moscow@anateklabs.com
504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

HALL ENVIRONMENTAL ANALYSIS LAB
ANDY FREEMAN
4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109

Sample Name: SAMPLE #1-#3 COMP
Sample Location: 0509146-01A
Sampling Date: 9/12/2005
Sampling Time: 15:30
Date Received: 9/15/2005
Report Date: 19-Sep-05

Certificate of Analysis

EPA Method 8270C - GC/MS Semivolatile Organics

Analyte	Result	Units	PQL
Acenaphthene	311	mg/Kg	5.00
Acenaphthylene	32.9	mg/Kg	5.00
Anthracene	411	mg/Kg	5.00
Benzidine	ND	mg/Kg	5.00
Benzo(k)fluoranthene	294	mg/Kg	5.00
Benzo(b)fluoranthene	329	mg/Kg	5.00
Benzo(ghi)perylene	141	mg/Kg	5.00
Benzo(a)anthracene	503	mg/Kg	5.00
Benzo(a)pyrene	234	mg/Kg	5.00
Benzyl alcohol	ND	mg/Kg	5.00
Bis(2-chlorethoxy)methane	ND	mg/Kg	5.00
Bis(2-chloroisopropyl)ether	ND	mg/Kg	5.00
Bis(2-chloroethyl)ether	ND	mg/Kg	5.00
Bis(2-ethylhexyl)phthalate	ND	mg/Kg	5.00
4-Bromophenyl phenyl ether	ND	mg/Kg	5.00
Butylbenzylphthalate	ND	mg/Kg	5.00
4-Chloroaniline	ND	mg/Kg	5.00
2-Chloronaphthalene	ND	mg/Kg	5.00
4-Chloro-3-methylphenol	ND	mg/Kg	5.00
2-Chlorophenol	ND	mg/Kg	5.00
4-Chlorophenyl phenyl ether	ND	mg/Kg	5.00
Chrysene	568	mg/Kg	5.00
Dibenz(ah)anthracene	55.7	mg/Kg	5.00
Dibenzofuran	422	mg/Kg	5.00
Di-n-butyl phthalate	ND	mg/Kg	5.00
1,3-Dichlorobenzene	ND	mg/Kg	5.00
1,2-Dichlorobenzene	ND	mg/Kg	5.00
1,4-Dichlorobenzene	ND	mg/Kg	5.00
3,3-Dichlorobenzidine	ND	mg/Kg	5.00
2,4-Dichlorophenol	ND	mg/Kg	5.00
2,6-Dichlorophenol	ND	mg/Kg	5.00
Diethyl phthalate	ND	mg/Kg	5.00
2,4-Dimethylphenol	83.6	mg/Kg	5.00
Dimethyl phthalate	ND	mg/Kg	5.00
4,6-Dinitro-2-methylphenol	ND	mg/Kg	5.00
2,4-Dinitrophenol	ND	mg/Kg	5.00
2,4-Dinitrotoluene	ND	mg/Kg	5.00
2,6-Dinitrotoluene	ND	mg/Kg	5.00
Di-n-octyl phthalate	ND	mg/Kg	5.00
1,2-Diphenylhydrazine	ND	mg/Kg	5.00

Anatek Labs, Inc.

1282 Alturas Drive • Moscow, ID 83843 • (208) 883-2839 • Fax (208) 882-9246 • email moscow@anateklabs.com
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HALL ENVIRONMENTAL ANALYSIS LAB
ANDY FREEMAN
4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109

Sample Name: SAMPLE #1-#3 COMP
Sample Location: 0509146-01A
Sampling Date: 9/12/2005
Sampling Time: 15:30
Date Received: 9/15/2005
Report Date: 19-Sep-05

Certificate of Analysis (Continued)

EPA Method 8270C - GC/MS Semivolatile Organics

Analyte	Result	Units	PQL
Fluoranthene	1790	mg/Kg	5.00
Fluorene	277	mg/Kg	5.00
Hexachlorobenzene	ND	mg/Kg	5.00
Hexachlorobutadiene	ND	mg/Kg	5.00
Hexachlorocyclopentadiene	ND	mg/Kg	5.00
Hexachloroethane	ND	mg/Kg	5.00
Indeno(123,cd)pyrene	132	mg/Kg	5.00
Isophorone	ND	mg/Kg	5.00
2-Methylnaphthalene	235	mg/Kg	5.00
2-Methylphenol	69.0	mg/Kg	5.00
4+3-Methylphenol	191	mg/Kg	5.00
Naphthalene	571	mg/Kg	5.00
2-Nitroaniline	ND	mg/Kg	5.00
3-Nitroaniline	ND	mg/Kg	5.00
4-Nitroaniline	ND	mg/Kg	5.00
Nitrobenzene	ND	mg/Kg	5.00
2-Nitrophenol	ND	mg/Kg	5.00
4-Nitrophenol	ND	mg/Kg	5.00
N-nitrosodibutylamine	ND	mg/Kg	5.00
N-Nitrosodimethylamine	ND	mg/Kg	5.00
N-nitrosodiphenylamine	ND	mg/Kg	5.00
N-nitrosodipropylamine	ND	mg/Kg	5.00
Pentachlorophenol	ND	mg/Kg	5.00
Phenanthrene	2210	mg/Kg	5.00
Phenol	107	mg/Kg	5.00
Pyrene	1270	mg/Kg	5.00
Pyridine	ND	mg/Kg	5.00
1,2,4-Trichlorobenzene	ND	mg/Kg	5.00
2,4,5-Trichlorophenol	ND	mg/Kg	5.00
2,4,6-Trichlorophenol	ND	mg/Kg	5.00

Surrogate Standard	% Recovery	QC Limits
2-Fluorophenol %R	61.6	25-121
Phenol-d5 %R	65.6	24-113
Nitrobenzene-d5 %R	46.4	23-120
2-Fluorobiphenyl %R	67.2	30-115
2,4,6-Tribromophenol %R	72.0	19-122
Terphenyl-d14 %R	74.4	18-137

Lab #: 05X3104-01
Matrix: SOLID
Analyst: EMP
Extract Date: 9/15/2005
Analysis Date: 9/19/2005
% Solids 92.2

Approved by: John W. Caddell

ND Not Detected PQL Practical Quantitation Limit Project: 8081/8270 EPA 8270 Report Page 2 of 2

Anatek Labs, Inc.

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504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

HALL ENVIRONMENTAL ANALYSIS LAB

ANDY FREEMAN
4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109

Project: 8081/8270
Report Date: 19-Sep-05

Certificate of Analysis

EPA Method 8081A - Organochlorine Pesticides

Sample Name: SAMPLE #1-#3 COMP
Sample Location: 0509146-01A
Sampling Date: 9/12/2005
Sampling Time: 15:30
Date Received: 9/15/2005

Lab #: 05X3104-01
Matrix: SOLID
Analyst: JWC
Extract Date: 9/17/2005
Analysis Date: 9/17/2005

Analyte	Result	Units	PQL
alpha-BHC:	ND	mg/Kg	0.50
gamma-BHC (Lindane):	ND	mg/Kg	0.50
Heptachlor:	ND	mg/Kg	0.50
Aldrin:	ND	mg/Kg	0.50
beta-BHC:	ND	mg/Kg	0.50
delta-BHC:	ND	mg/Kg	0.50
Heptachlor Epoxide:	ND	mg/Kg	0.50
Endosulfan I:	ND	mg/Kg	0.50
4,4'-DDE:	ND	mg/Kg	0.50
Dieldrin:	ND	mg/Kg	0.50
Endrin:	ND	mg/Kg	0.50
Endosulfan II:	ND	mg/Kg	0.50
4,4'-DDD:	ND	mg/Kg	0.50
4,4'-DDT:	ND	mg/Kg	0.50
Endrin Aldehyde:	ND	mg/Kg	0.50
Endosulfan Sulfate:	ND	mg/Kg	0.50
Methoxychlor:	ND	mg/Kg	0.50
Endrin Ketone:	ND	mg/Kg	0.50
Chlordane:	ND	mg/Kg	5.0
Toxaphene:	ND	mg/Kg	5.0

Surrogate Standard	% Recovery	% Rec AR
TCX %R	55.4	30-130

Approved by: John W. Cobb

ND Not Detected PQL Practical Quantitation Limit

Pesticide Report Page 1 of 1

Hall Environmental Analysis Laboratory

Sample Receipt Checklist

Client Name TER-ALB | Date and Time Received: 9/14/2005

Work Order Number 0509146 | Received by AT

Checklist completed by _____ 9/14/05
Signature | Date

Matrix | Carrier name Client drop-off

Shipping container/cooler in good condition?		Yes ☑	No ☐	Not Present ☐			
Custody seals intact on shipping container/cooler?		Yes ☐	No ☐	Not Present ☐		Not Shipped ☑	
Custody seals intact on sample bottles?		Yes ☑	No ☐	N/A ☐			
Chain of custody present?		Yes ☑	No ☐				
Chain of custody signed when relinquished and received?		Yes ☑	No ☐				
Chain of custody agrees with sample labels?		Yes ☑	No ☐				
Samples in proper container/bottle?		Yes ☑	No ☐				
Sample containers intact?		Yes ☑	No ☐				
Sufficient sample volume for indicated test?		Yes ☑	No ☐				
All samples received within holding time?		Yes ☑	No ☐				
Water - VOA vials have zero headspace?	No VOA vials submitted ☑		Yes ☐	No ☐			
Water - pH acceptable upon receipt?		Yes ☐	No ☐	N/A ☑			

Container/Temp Blank temperature? *4° C ± 2 Acceptable* If given sufficient time to cool.

COMMENTS:

Client contacted _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding _____

Comments: _____

Corrective Action _____

CHAIN-OF-CUSTODY RECORD

QA / QC Package:
Std ☐ Level 4 ☐
Other:

HALL ENVIRONMENTAL ANALYSIS LABORATORY
4901 Hawkins NE, Suite D
Albuquerque, New Mexico 87109
Tel. 505.345.3975 Fax 505.345.4107
www.hallenvironmental.com

Client: TERRACON
Project Name: OCS/UOC VRP
Address: 4905 Hawkins
Albuquerque, N.M. 87109
Project #: 66057007
Project Manager: Melissa M. Housley
Mary Wells
Phone #: 505.797.4257
Sampler: Melissa M. Housley
Fax #:
Sample Temperature:

Date	Time	Matrix	Sample I.D. No.	Number/Volume	Preservative $HgCl_2$	Preservative HNO_3	Preservative	HEAL No.
9/12/05	1530	WOOD SHAVINGS	Sample #1	1				0509146-1
9/12/05	1615	WOOD SHAVINGS	Sample #2	1				-1
9/14/05	1145	WOOD SHAVINGS	Sample #3	1				-1

ANALYSIS REQUEST

BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gasoline Only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	EDC (Method 8021)	8310 (PNA or PAH)	RCRA 8 Metals	Anions ($F, Cl, NO_3, NO_2, PO_4, SO_4$)	8081 Pesticides / PCB's (8082)	8260B (VOA)	8270 (Semi-VOA)	8081/8270				Air Bubbles or Headspace (Y or N)
												✓				
												✓				
												✓				

Date	Time	Relinquished By: (Signature)	Received By: (Signature)
9/14/05	1445		
Date:	Time:	Relinquished By: (Signature)	Received By: (Signature)
			9-14-05 @1540

Remarks: For LRO Composite

Anatek Labs, Inc.

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HALL ENVIRONMENTAL ANALYSIS LAB
ANDY FREEMAN
4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109

Sample Name: SAMPLE #1-#3 COMP
Sample Location: 0509146-01A
Sampling Date: 9/12/2005
Sampling Time: 15:30
Date Received: 9/15/2005
Report Date: 19-Sep-05

Certificate of Analysis

EPA Method 8270C - GC/MS Semivolatile Organics

Analyte	Result	Units	PQL
Acenaphthene	311	mg/Kg	5.00
Acenaphthylene	32.9	mg/Kg	5.00
Anthracene	411	mg/Kg	5.00
Benzidine	ND	mg/Kg	5.00
Benzo(k)fluoranthene	294	mg/Kg	5.00
Benzo(b)fluoranthene	329	mg/Kg	5.00
Benzo(ghi)perylene	141	mg/Kg	5.00
Benzo(a)anthracene	503	mg/Kg	5.00
Benzo(a)pyrene	234	mg/Kg	5.00
Benzyl alcohol	ND	mg/Kg	5.00
Bis(2-chlorethoxy)methane	ND	mg/Kg	5.00
Bis(2-chloroisopropyl)ether	ND	mg/Kg	5.00
Bis(2-chloroethyl)ether	ND	mg/Kg	5.00
Bis(2-ethylhexyl)phthalate	ND	mg/Kg	5.00
4-Bromophenyl phenyl ether	ND	mg/Kg	5.00
Butylbenzylphthalate	ND	mg/Kg	5.00
4-Chloroaniline	ND	mg/Kg	5.00
2-Chloronaphthalene	ND	mg/Kg	5.00
4-Chloro-3-methylphenol	ND	mg/Kg	5.00
2-Chlorophenol	ND	mg/Kg	5.00
4-Chlorophenyl phenyl ether	ND	mg/Kg	5.00
Chrysene	568	mg/Kg	5.00
Dibenz(ah)anthracene	55.7	mg/Kg	5.00
Dibenzofuran	422	mg/Kg	5.00
Di-n-butyl phthalate	ND	mg/Kg	5.00
1,3-Dichlorobenzene	ND	mg/Kg	5.00
1,2-Dichlorobenzene	ND	mg/Kg	5.00
1,4-Dichlorobenzene	ND	mg/Kg	5.00
3,3-Dichlorobenzidine	ND	mg/Kg	5.00
2,4-Dichlorophenol	ND	mg/Kg	5.00
2,6-Dichlorophenol	ND	mg/Kg	5.00
Diethyl phthalate	ND	mg/Kg	5.00
2,4-Dimethylphenol	83.6	mg/Kg	5.00
Dimethyl phthalate	ND	mg/Kg	5.00
4,6-Dinitro-2-methylphenol	ND	mg/Kg	5.00
2,4-Dinitrophenol	ND	mg/Kg	5.00
2,4-Dinitrotoluene	ND	mg/Kg	5.00
2,6-Dinitrotoluene	ND	mg/Kg	5.00
Di-n-octyl phthalate	ND	mg/Kg	5.00
1,2-Diphenylhydrazine	ND	mg/Kg	5.00

Anatek Labs, Inc.

1282 Alturas Drive • Moscow, ID 83843 • (208) 883-2839 • Fax (208) 882-9246 • email moscow@anateklabs.com
504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

HALL ENVIRONMENTAL ANALYSIS LAB
ANDY FREEMAN
4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109

Sample Name: SAMPLE #1-#3 COMP
Sample Location: 0509146-01A
Sampling Date: 9/12/2005
Sampling Time: 15:30
Date Received: 9/15/2005
Report Date: 19-Sep-05

Certificate of Analysis (Continued)

EPA Method 8270C - GC/MS Semivolatile Organics

Analyte	Result	Units	PQL
Fluoranthene	1790	mg/Kg	5.00
Fluorene	277	mg/Kg	5.00
Hexachlorobenzene	ND	mg/Kg	5.00
Hexachlorobutadiene	ND	mg/Kg	5.00
Hexachlorocyclopentadiene	ND	mg/Kg	5.00
Hexachloroethane	ND	mg/Kg	5.00
Indeno(123,cd)pyrene	132	mg/Kg	5.00
Isophorone	ND	mg/Kg	5.00
2-Methylnaphthalene	235	mg/Kg	5.00
2-Methylphenol	69.0	mg/Kg	5.00
4+3-Methylphenol	191	mg/Kg	5.00
Naphthalene	571	mg/Kg	5.00
2-Nitroaniline	ND	mg/Kg	5.00
3-Nitroaniline	ND	mg/Kg	5.00
4-Nitroaniline	ND	mg/Kg	5.00
Nitrobenzene	ND	mg/Kg	5.00
2-Nitrophenol	ND	mg/Kg	5.00
4-Nitrophenol	ND	mg/Kg	5.00
N-nitrosodibutylamine	ND	mg/Kg	5.00
N-Nitrosodimethylamine	ND	mg/Kg	5.00
N-nitrosodiphenylamine	ND	mg/Kg	5.00
N-nitrosodipropylamine	ND	mg/Kg	5.00
Pentachlorophenol	ND	mg/Kg	5.00
Phenanthrene	2210	mg/Kg	5.00
Phenol	107	mg/Kg	5.00
Pyrene	1270	mg/Kg	5.00
Pyridine	ND	mg/Kg	5.00
1,2,4-Trichlorobenzene	ND	mg/Kg	5.00
2,4,5-Trichlorophenol	ND	mg/Kg	5.00
2,4,6-Trichlorophenol	ND	mg/Kg	5.00

Surrogate Standard	% Recovery	QC Limits
2-Fluorophenol %R	61.6	25-121
Phenol-d5 %R	65.6	24-113
Nitrobenzene-d5 %R	46.4	23-120
2-Fluorobiphenyl %R	67.2	30-115
2,4,6-Tribromophenol %R	72.0	19-122
Terphenyl-d14 %R	74.4	18-137

Lab #: 05X3104-01
Matrix: SOLID
Analyst: EMP
Extract Date: 9/15/2005
Analysis Date: 9/19/2005
% Solids 92.2

Approved by: John W. Cobb

ND Not Detected PQL Practical Quantitation Limit Project: 8081/8270

Anatek Labs, Inc.

1282 Alturas Drive • Moscow, ID 83843 • (208) 883-2839 • Fax (208) 882-9246 • email moscow@anateklabs.com
504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

HALL ENVIRONMENTAL ANALYSIS LAB

ANDY FREEMAN
4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109

Project: 8081/8270
Report Date: 19-Sep-05

Certificate of Analysis

EPA Method 8081A - Organochlorine Pesticides

Sample Name: SAMPLE #1-#3 COMP
Sample Location: 0509146-01A
Sampling Date: 9/12/2005
Sampling Time: 15:30
Date Received: 9/15/2005

Lab #: 05X3104-01
Matrix: SOLID
Analyst: JWC
Extract Date: 9/17/2005
Analysis Date: 9/17/2005

Analyte	Result	Units	PQL
alpha-BHC:	ND	mg/Kg	0.50
gamma-BHC (Lindane):	ND	mg/Kg	0.50
Heptachlor:	ND	mg/Kg	0.50
Aldrin:	ND	mg/Kg	0.50
beta-BHC:	ND	mg/Kg	0.50
delta-BHC:	ND	mg/Kg	0.50
Heptachlor Epoxide:	ND	mg/Kg	0.50
Endosulfan I:	ND	mg/Kg	0.50
4,4'-DDE:	ND	mg/Kg	0.50
Dieldrin:	ND	mg/Kg	0.50
Endrin:	ND	mg/Kg	0.50
Endosulfan II:	ND	mg/Kg	0.50
4,4'-DDD:	ND	mg/Kg	0.50
4,4'-DDT:	ND	mg/Kg	0.50
Endrin Aldehyde:	ND	mg/Kg	0.50
Endosulfan Sulfate:	ND	mg/Kg	0.50
Methoxychlor:	ND	mg/Kg	0.50
Endrin Ketone:	ND	mg/Kg	0.50
Chlordane:	ND	mg/Kg	5.0
Toxaphene:	ND	mg/Kg	5.0

Surrogate Standard	% Recovery	% Rec AR
TCX %R	55.4	30-130

Approved by: John W. Cobb

ND Not Detected PQL Practical Quantitation Limit

Terracon - Las Cruces

1630 Hickory Loop Ste 8
Las Cruces,NM 88005

Alternate billing information:

Chain of Custody
Page 1 of 1

Prepared by:
ENVIRONMENTAL SCIENCE CORP.
12065 Lebanon Road
Mt. Juliet, TN 37122
Phone (800) 767-5859
FAX (615) 758-5859

Report to: ~~Project Mgr~~ Mary E Wells
Email: mewells@terracon.com ~~vtrujillo@terracon.com~~
Project Description:
City/State Collected: Albuquerque, New Mexico
Phone: (505) 527-1700
FAX: (505) 5271092
Client Project #: 6657007
Lab Project #
Collected by (print): Fred Small
Site/Facility ID#:
P.O.#:
Collected by (signature): DS
Packed on Ice N ___ Y ✓
Rush? (Lab MUST Be Notified)
___Same Day 200%
___ Next Day.....100%
___ Two Day ~~5 day~~ 50%
Date Results Needed
Email? ___No X_Yes
FAX? No Yes

Acctnum: TERRLCNM (lab use only)
Template/Prelogin: T33180/P157945
Cooler #: 10|13 DS
Shipped Via: FedEx Priority

Analysis/Container/Preservative: PBICP 4ozClr-NoPres Method 6010

Sample ID	Comp/Grab	Matrix*	Depth	Date	Time	No. of Cntrs		Remarks/Contaminant	Sample # (lab only)
		Misc				99	X		L218941
		SS				1	X		
A1-SB1-2.5	grab	SS	2.5'	10/15	11:30a	1	✓		-01
A1-SB2-1.7			1.7'	10/15	11:40a	1	✓		-02
A1-SB~~3~~-2.5 ~~FS~~			2.5'	10/15	11:47a	1	✓		-03
A1-SB3-5.0			5.0'	10/15	11:55a	1	✓		-04
A1-SB4-2.5			2.5'	10/15	2:30p	1	✓		-05
A1-SB4-5.0			5.0'	10/15	2:40p	1	✓		-06
A1-SB5-2.5	↓	↓	2.5'	10/15	2:50	1	✓		-07

*Matrix: **SS** - Soil **GW** - Groundwater **WW** - WasteWater **DW** - Drinking Water **OT** - Other_____

pH _____ Temp _____

Remarks:

Flow _____ Other _____

8502 1663 0914

Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)
DS	10/17	4:00PM	
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)
Relinquished by: (Signature)	Date:	Time:	Received for lab by: (Signature)
			Alisa Neal

Samples returned via: ☐ UPS ☒ FedEx ☐ Courier ☐ _____
Temp: 3.6 Bottles Received: 5 1-4oz
Date: 10/18 Time: 1030

Condition: (lab use only) dw
pH Checked: NCF:

Company Name/Address:
Terracon - Las Cruces

1630 Hickory Loop Ste 8
Las Cruces,NM 88005

Alternate billing information:

Analysis/Container/Preservative

Chain of Custody Page 2 of 6

Prepared by:

ENVIRONMENTAL SCIENCE CORP.
12065 Lebanon Road
Mt. Juliet, TN 37122
Phone (615) 758-5858
Phone (800) 767-5859
FAX (615) 758-5859

Report to: Mary F. Wells
Email to: mfwells@terracon.com
Project Description:
City/State Collected: Albuquerque, NM
Phone: (505) 527-1700
FAX: (505)527 1092
Client Project #: 6657007
ESC Key:
Collected by: Fred Small
Site/Facility ID#:
P.O.#:
Collected by (signature):
Packed on Ice N Y ✓

Rush? (Lab MUST Be Notified)
____ Same Day. 200%
____ Next Day. 100%
____ Two Day 50%
~~5-Day~~

Date Results Needed:
Email? __No ✓Yes
FAX? __No__Yes

CoCode: **TERRLCNM** (lab use only)
Template/Prelogin
Shipped Via:

Sample ID	Comp/Grab	Matrix*	Depth	Date	Time	No. of Cntrs	Pb - Method 6010 ✓	Remarks/Contaminant	Sample # (lab only)
A1-SB5-5.0 FS	Grab	SS	5.0'	10/15	2:58P	1	✓		L218941-08
A1-SB6-2.5			2.5'	10/15	3:06P	1	✓		-09
A1-SB7-2.5			2.5'	10/15	3:18P	1	✓		-10
A1-SB8-2.5			2.5'	10/15	3:20P	1	✓		-11
A1-SB-5.0			5.0'	10/15	3:33P	1	✓		-12
A1-SB9-2.5			2.5'	10/15	3:38P	1	✓		-13
A1-SB9-5.0			5.0'	10/15	3:48P	1	✓		-14
A1-SB10-2.5			2.5'	10/16	7:52A	1	✓		-15
A1-SB10-5.0			5.0'	10/16	8:01A	1	✓		-16

*Matrix: **SS** - Soil/Solid **GW** - Groundwater **WW** - WasteWater **DW** - Drinking Water **OT** - Other_____

pH _____ Temp _____

Remarks:

Flow _____ Other _____

Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Samples returned via: ☐ UPS ☐ FedEx ☐ Courier ☐ _____	Condition: (lab use only)
	10/17	4:00PM			dl
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Temp: 3.6 / Bottles Received: 51-402	
Relinquished by: (Signature)	Date:	Time:	Received for lab by: (Signature) Alissa Neal	Date: 10/18 / Time: 1030	pH Checked: / NCF:

Company Name/Address:
Terracon - Las Cruces

1630 Hickory Loop Ste 8
Las Cruces,NM 88005

Alternate billing information:

Analysis/Container/Preservative

Chain of Custody Page 3 of 4

Prepared by:

ENVIRONMENTAL SCIENCE CORP.
12065 Lebanon Road
Mt. Juliet, TN 37122
Phone (615) 758-5858
Phone (800) 767-5859
FAX (615) 758-5859

Report to: Mary F. Wells

Email to: mcwellse terracon.com

Project Description:

City/State Collected: Albuquerque, NM

Phone: (505) 527-1700
FAX: (505)5271092

Client Project #: 6657007

ESC Key:

Collected by:

Site/Facility ID#:

P.O.#:

Collected by (signature):

Packed on Ice N Y ✓

Rush? (Lab MUST Be Notified)
____ Same Day.....200%
____ Next Day.....100%
____ Two Day.....50%
*5-day

Date Results Needed:

Email? __No ✓Yes
FAX? __No __Yes

No. of Cntrs: Pb-6010

CoCode **TERRLCNM** (lab use only)
Template/Prelogin
Shipped Via:

Sample ID	Comp/Grab	Matrix*	Depth	Date	Time		Remarks/Contaminant	Sample # (lab only)
A1-SB11-2.5	grab	SS	2.5'	10/16	8:08am	1 ✓		L21844-17
A1-SB11-5.0			5.0'	10/16	8:13am	1 ✓		-18
A1-SB12-2.5			2.5'	10/16	8:18am	1 ✓		-19
A1-SB15-5.0 FS			5.0'	10/16	9:02am	1 ✓		-20
A1-SB12-5.0			5.0'	10/16	8:24am	1 ✓		-21
A1-SB13-2.5			2.5'	10/16	8:31am	1 ✓		-22
A1-SB14-2.5			2.5'	10/16	8:40am	1 ✓		-23
A1-SB14-5.0			5.0'	10/16	8:50am	1 ✓		-24
A1-~~SB15~~ SB16-2.5 FS			2.5'	10/16	9:14am	1 ✓		-25

*Matrix: **SS** - Soil/Solid **GW** - Groundwater **WW** - WasteWater **DW** - Drinking Water **OT** - Other_____

pH _____ Temp _____

Remarks:

Flow _____ Other _____

Relinquished by: (Signature)	Date: 10/17	Time: 4:00PM	Received by: (Signature)	Samples returned via: ☐ UPS ☐ FedEx ☐ Courier ☐ _____	Condition: (lab use only) dc
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Temp: 3.6 / Bottles Received: 5L-4oz	
Relinquished by: (Signature)	Date:	Time:	Received for lab by: (Signature) alicia Neal	Date: 10/18 / Time: 10:30	pH Checked: / NCF:

Company Name/Address:
Terracon - Las Cruces

1630 Hickory Loop Ste 8
Las Cruces,NM 88005

Alternate billing information:

Analysis/Container/Preservative

Chain of Custody Page 4 of 6

Prepared by:

ENVIRONMENTAL SCIENCE CORP.
12065 Lebanon Road
Mt. Juliet, TN 37122
Phone (615) 758-5858
Phone (800) 767-5859
FAX (615) 758-5859

Report to: Mary E. Wells
Email to: mewells@terracon.com
Project Description:
City/State Collected: Albuquerque, NM
Phone: (505) 527-1700
FAX: (505)5271092
Client Project #: 6657007
ESC Key:
Collected by: Fred Small
Site/Facility ID#:
P.O.#:
Collected by (signature):
Packed on Ice N Y ✓
Rush? (Lab MUST Be Notified)
____ Same Day. 200%
____ Next Day. 100%
____ Two Day 50%
x 5day
Date Results Needed:
Email? __No ✓Yes
FAX? __No__Yes
CoCode: TERRLCNM (lab use only)
Template/Prelogin
Shipped Via:

Sample ID	Comp/Grab	Matrix*	Depth	Date	Time	No. of Cntrs	Pb - method 6010	Remarks/Contaminant	Sample # (lab only)
A1-SB16-5.0	grab	SS	5.0'	10/16	9:30A	1	✓		L2189411-26
A1-SB17-2.5			2.5'	10/16	9:35A	1	✓		-27
A1-SB17-5.0			5.0'	10/16	9:45A	1	✓		-28
A1-SB18-2.5			2.5'	10/16	9:52A	1	✓		-29
A1-SB19-2.5			2.5'	10/16	10:00am	1	✓		-30
A1-SB19-5.0			5.0'	10/16	10:08A	1	✓		-31
A1-SB20-2.5			2.5'	10/16	10:15A	1	✓		-32
A1-SB21-2.5			2.5'	10/16	10:23A	1	✓		-33
A1-SB21-5.0			5.0'	10/16	10:30A	1	✓		-34

*Matrix: **SS** - Soil/Solid **GW** - Groundwater **WW** - WasteWater **DW** - Drinking Water **OT** - Other_____

pH _____ Temp _____

Remarks:

Flow _____ Other _____

Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Samples returned via: ☐ UPS ☐ FedEx ☐ Courier ☐ _____	Condition: (lab use only)
	10/17	4:00PM			ac
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Temp: 3.6	Bottles Received: 51-402
Relinquished by: (Signature)	Date:	Time:	Received for lab by: (Signature) Alisa Neal	Date: 10/18	Time: 1030
				pH Checked:	NCF:

Company Name/Address:

Terracon - Las Cruces

1630 Hickory Loop Ste 8
Las Cruces,NM 88005

Alternate billing information:

Analysis/Container/Preservative

Chain of Custody Page 5 of 6

Prepared by:

ENVIRONMENTAL SCIENCE CORP.
12065 Lebanon Road
Mt. Juliet, TN 37122
Phone (615) 758-5858
Phone (800) 767-5859
FAX (615) 758-5859

Report to: Mary E. Wells

Email to: mewells@terracon.com

Project Description:

City/State Collected: Albuquerque, NM

Phone: (505) 527-1700
FAX: (505)5271092

Client Project #: 6657007

ESC Key:

Collected by: Fred Small

Site/Facility ID#:

P.O.#:

Collected by (signature):

Packed on Ice N Y ✓

Rush? (Lab MUST Be Notified)
____ Same Day.....200%
____ Next Day.....100%
____ Two Day 50%
*5 day

Date Results Needed:

Email? __No ✓Yes
FAX? __No__Yes

CoCode: TERRLCNM (lab use only)
Template/Prelogin
Shipped Via:

Sample ID	Comp/Grab	Matrix*	Depth	Date	Time	No. of Cntrs	Pb Method 6010	Remarks/Contaminant	Sample # (lab only)
A1-SB22-2.5	grab	SS	2.5'	10/16	11:10am	1	✓		L218941-35
A1-SB22-5.0			5.0'	10/16	11:19am	1	✓		-36
A1-SB23-2.5			2.5'	10/16	11:25A	1	✓		-37
A1-SB23-5.0			5.0'	10/16	11:35A	1	✓		-38
A1-SB24-2.5			2.5'	10/16	11:41A	1	✓		-39
A1 SB25-2.5			2.5'	10/16	11:48A	1	✓		-40
A1-SB25-5.0			5.0'	10/16	11:56A	1	✓		-41
A1-SB26-1.4			1.4'	10/16	12:01 PM	1	✓		-42
A1-SB27-1.4			1.4'	10/16	12:06	1	✓		-43

*Matrix: **SS** - Soil/Solid **GW** - Groundwater **WW** - WasteWater **DW** - Drinking Water **OT** - Other_____

pH _____ Temp _____

Remarks:

Flow _____ Other _____

Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)
	10/17	4:00	
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)
Relinquished by: (Signature)	Date:	Time:	Received for lab by: (Signature)
			Alisa Neal

Samples returned via: ☐ UPS ☐ FedEx ☐ Courier ☐ _____

Condition: (lab use only) ok

Temp:	Bottles Received:	pH Checked:	NCF:
3.6	51-4oz		

Date: 10/18 Time: 1030

Company Name/Address:

Terracon - Las Cruces

1630 Hickory Loop Ste 8
Las Cruces,NM 88005

Alternate billing information:

Analysis/Container/Preservative

Chain of Custody
Page 1a of 1b

Prepared by:

ENVIRONMENTAL SCIENCE CORP.
12065 Lebanon Road
Mt. Juliet, TN 37122
Phone (615) 758-5858
Phone (800) 767-5859
FAX (615) 758-5859

Report to: Mary E. Wells

Email to: mewells@terracon.com

Project Description:

City/State Collected: Albuquerque, NM.

Phone: (505) 527-1700

FAX: (505) 527 1092

Client Project #: 6657007

ESC Key:

Collected by: Fred Small

Site/Facility ID#:

P.O.#:

Collected by (signature):

Packed on Ice N Y ✓

Rush? (Lab MUST Be Notified)
____ Same Day. 200%
____ Next Day. 100%
✓ 5-day Two Day 50%

Date Results Needed:

Email? __No ✓Yes
FAX? __No__Yes

CoCode: TERRLCNM (lab use only)

Template/Prelogin

Shipped Via:

Sample ID	Comp/Grab	Matrix*	Depth	Date	Time	No. of Cntrs	Pb Method 6010	Remarks/Contaminant	Sample # (lab only)
A1-SB28-2.5	grab	SS	2.5'	10/16	12:11PM	1	✓		L218941-44
A1-SB28-5.0			5.0'	10/16	12:22PM	1	✓		-45
A1-SB29-1.5			1.5'	10/16	12:28PM	1	✓		-46
A1-SB30-1.9 FS.			1.9'	10/16	12:35PM	1	✓		-47
A1-SB31-2.5			2.5'	10/16	12:45PM	1	✓		-48
A1-SB31-5.0			FS 5.0'	10/16	12:53	1	✓		-49
A1-SB32-1.6			FS 1.6'	10/16	12:58	1	✓		-50
A1-SB33-2.0			FS 2.0'	10/16	1205	1	✓		-51

*Matrix: **SS** - Soil/Solid **GW** - Groundwater **WW** - WasteWater **DW** - Drinking Water **OT** - Other_____

pH _____ Temp _____

Remarks:

Flow _____ Other _____

Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Samples returned via: ☐ UPS ☐ FedEx ☐ Courier ☐ _____	Condition: (lab use only)
	10/17	4:00PM			
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Temp: 3.6	Bottles Received: 51-402
Reiinquished by: (Signature)	Date:	Time:	Received for lab by: (Signature) alisa Neal	Date: 10/18	Time: 1030

pH Checked: _____ NCF: _____

HALL
ENVIRONMENTAL
ANALYSIS
LABORATORY

COVER LETTER

October 07, 2005

Mary E. Wells
Terracon
1630 Hickory Loop Ste. H
Las Cruces, NM 88005
TEL: (505) 527-1700
FAX (505) 527-1092

RE: OLS UDC VRP

Order No.: 0509228

Dear Mary E. Wells:

Hall Environmental Analysis Laboratory received 12 samples on 9/21/2005 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent.

Reporting limits are determined by EPA methodology. No determination of compounds below these (denoted by the ND or < sign) has been made.

Please don't hesitate to contact HEAL for any additional information or clarifications.

Sincerely,

Andy Freeman, Business Manager
Nancy McDuffie, Laboratory Manager

Hall Environmental Analysis Laboratory Date: *07-Oct-05*

CLIENT: Terracon
Project: OLS UDC VRP
Lab Order: 0509228

CASE NARRATIVE

"S" flags denote that the surrogate was not recoverable due to sample dilution or matrix interferences.

Reporting limits have been elevated for EPA method 8310 due to matrix interferences.

Hall Environmental Analysis Laboratory

Date: *07-Oct-05*

CLIENT: Terracon
Lab Order: 0509228
Project: OLS UDC VRP
Lab ID: 0509228-02

Client Sample ID: OLSMMSB210'
Collection Date: 9/21/2005 10:50:00 AM
Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8310: PAHS						Analyst: JMP
Naphthalene	ND	1.0		mg/Kg	20	10/7/2005 2:42:58 PM
1-Methylnaphthalene	ND	1.0		mg/Kg	20	10/7/2005 2:42:58 PM
2-Methylnaphthalene	ND	1.0		mg/Kg	20	10/7/2005 2:42:58 PM
Acenaphthylene	ND	1.0		mg/Kg	20	10/7/2005 2:42:58 PM
Acenaphthene	ND	1.0		mg/Kg	20	10/7/2005 2:42:58 PM
Fluorene	ND	0.60		mg/Kg	20	10/7/2005 2:42:58 PM
Phenanthrene	0.55	0.12		mg/Kg	20	10/7/2005 2:42:58 PM
Anthracene	ND	0.12		mg/Kg	20	10/7/2005 2:42:58 PM
Fluoranthene	ND	0.12		mg/Kg	20	10/7/2005 2:42:58 PM
Pyrene	ND	0.10		mg/Kg	20	10/7/2005 2:42:58 PM
Benz(a)anthracene	ND	0.016		mg/Kg	20	10/7/2005 2:42:58 PM
Chrysene	ND	0.080		mg/Kg	20	10/7/2005 2:42:58 PM
Benzo(b)fluoranthene	ND	0.040		mg/Kg	20	10/7/2005 2:42:58 PM
Benzo(k)fluoranthene	ND	0.010		mg/Kg	20	10/7/2005 2:42:58 PM
Benzo(a)pyrene	ND	0.016		mg/Kg	20	10/7/2005 2:42:58 PM
Dibenz(a,h)anthracene	ND	0.022		mg/Kg	20	10/7/2005 2:42:58 PM
Benzo(g,h,i)perylene	ND	0.040		mg/Kg	20	10/7/2005 2:42:58 PM
Indeno(1,2,3-cd)pyrene	ND	0.050		mg/Kg	20	10/7/2005 2:42:58 PM
Surr: Benzo(e)pyrene	46.0	68.4-105	S	%REC	20	10/7/2005 2:42:58 PM

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range

Hall Environmental Analysis Laboratory

Date: *07-Oct-05*

CLIENT: Terracon
Lab Order: 0509228
Project: OLS UDC VRP
Lab ID: 0509228-03

Client Sample ID: OLSMMSB215'
Collection Date: 9/21/2005 10:55:00 AM
Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8310: PAHS						Analyst: **JMP**
Naphthalene	ND	0.050		mg/Kg	1	10/5/2005 8:06:04 PM
1-Methylnaphthalene	ND	0.050		mg/Kg	1	10/5/2005 8:06:04 PM
2-Methylnaphthalene	ND	0.050		mg/Kg	1	10/5/2005 8:06:04 PM
Acenaphthylene	ND	0.050		mg/Kg	1	10/5/2005 8:06:04 PM
Acenaphthene	ND	0.050		mg/Kg	1	10/5/2005 8:06:04 PM
Fluorene	ND	0.030		mg/Kg	1	10/5/2005 8:06:04 PM
Phenanthrene	ND	0.0060		mg/Kg	1	10/5/2005 8:06:04 PM
Anthracene	ND	0.0060		mg/Kg	1	10/5/2005 8:06:04 PM
Fluoranthene	ND	0.0060		mg/Kg	1	10/5/2005 8:06:04 PM
Pyrene	ND	0.0050		mg/Kg	1	10/5/2005 8:06:04 PM
Benz(a)anthracene	ND	0.00080		mg/Kg	1	10/5/2005 8:06:04 PM
Chrysene	ND	0.0040		mg/Kg	1	10/5/2005 8:06:04 PM
Benzo(b)fluoranthene	ND	0.0020		mg/Kg	1	10/5/2005 8:06:04 PM
Benzo(k)fluoranthene	ND	0.00050		mg/Kg	1	10/5/2005 8:06:04 PM
Benzo(a)pyrene	ND	0.00080		mg/Kg	1	10/5/2005 8:06:04 PM
Dibenz(a,h)anthracene	ND	0.0011		mg/Kg	1	10/5/2005 8:06:04 PM
Benzo(g,h,i)perylene	ND	0.0020		mg/Kg	1	10/5/2005 8:06:04 PM
Indeno(1,2,3-cd)pyrene	ND	0.0025		mg/Kg	1	10/5/2005 8:06:04 PM
Surr: Benzo(e)pyrene	105	68.4-105		%REC	1	10/5/2005 8:06:04 PM

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range

Hall Environmental Analysis Laboratory

Date: *07-Oct-05*

CLIENT: Terracon
Lab Order: 0509228
Project: OLS UDC VRP
Lab ID: 0509228-08

Client Sample ID: OLSMMSB410'
Collection Date: 9/21/2005 12:10:00 PM
Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8310: PAHS						Analyst: JMP
Naphthalene	ND	2.5		mg/Kg	50	10/6/2005 6:09:58 PM
1-Methylnaphthalene	ND	2.5		mg/Kg	50	10/6/2005 6:09:58 PM
2-Methylnaphthalene	ND	2.5		mg/Kg	50	10/6/2005 6:09:58 PM
Acenaphthylene	ND	2.5		mg/Kg	50	10/6/2005 6:09:58 PM
Acenaphthene	ND	2.5		mg/Kg	50	10/6/2005 6:09:58 PM
Fluorene	ND	1.5		mg/Kg	50	10/6/2005 6:09:58 PM
Phenanthrene	ND	0.30		mg/Kg	50	10/6/2005 6:09:58 PM
Anthracene	ND	0.30		mg/Kg	50	10/6/2005 6:09:58 PM
Fluoranthene	ND	0.30		mg/Kg	50	10/6/2005 6:09:58 PM
Pyrene	ND	0.25		mg/Kg	50	10/6/2005 6:09:58 PM
Benz(a)anthracene	ND	0.040		mg/Kg	50	10/6/2005 6:09:58 PM
Chrysene	ND	0.20		mg/Kg	50	10/6/2005 6:09:58 PM
Benzo(b)fluoranthene	0.66	0.10		mg/Kg	50	10/6/2005 6:09:58 PM
Benzo(k)fluoranthene	ND	0.025		mg/Kg	50	10/6/2005 6:09:58 PM
Benzo(a)pyrene	0.10	0.040		mg/Kg	50	10/6/2005 6:09:58 PM
Dibenz(a,h)anthracene	ND	0.055		mg/Kg	50	10/6/2005 6:09:58 PM
Benzo(g,h,i)perylene	ND	0.10		mg/Kg	50	10/6/2005 6:09:58 PM
Indeno(1,2,3-cd)pyrene	ND	0.13		mg/Kg	50	10/6/2005 6:09:58 PM
Surr: Benzo(e)pyrene	375	68.4-105	S	%REC	50	10/6/2005 6:09:58 PM

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range

Hall Environmental Analysis Laboratory

Date: *07-Oct-05*

CLIENT: Terracon
Lab Order: 0509228
Project: OLS UDC VRP
Lab ID: 0509228-09

Client Sample ID: OLSMMSB415'
Collection Date: 9/21/2005 12:20:00 PM
Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8310: PAHS						Analyst: **JMP**
Naphthalene	ND	2.5		mg/Kg	50	10/6/2005 6:57:58 PM
1-Methylnaphthalene	ND	2.5		mg/Kg	50	10/6/2005 6:57:58 PM
2-Methylnaphthalene	ND	2.5		mg/Kg	50	10/6/2005 6:57:58 PM
Acenaphthylene	ND	2.5		mg/Kg	50	10/6/2005 6:57:58 PM
Acenaphthene	ND	2.5		mg/Kg	50	10/6/2005 6:57:58 PM
Fluorene	ND	1.5		mg/Kg	50	10/6/2005 6:57:58 PM
Phenanthrene	ND	0.30		mg/Kg	50	10/6/2005 6:57:58 PM
Anthracene	ND	0.30		mg/Kg	50	10/6/2005 6:57:58 PM
Fluoranthene	ND	0.30		mg/Kg	50	10/6/2005 6:57:58 PM
Pyrene	ND	0.25		mg/Kg	50	10/6/2005 6:57:58 PM
Benz(a)anthracene	ND	0.040		mg/Kg	50	10/6/2005 6:57:58 PM
Chrysene	ND	0.20		mg/Kg	50	10/6/2005 6:57:58 PM
Benzo(b)fluoranthene	ND	0.10		mg/Kg	50	10/6/2005 6:57:58 PM
Benzo(k)fluoranthene	ND	0.025		mg/Kg	50	10/6/2005 6:57:58 PM
Benzo(a)pyrene	ND	0.040		mg/Kg	50	10/6/2005 6:57:58 PM
Dibenz(a,h)anthracene	ND	0.055		mg/Kg	50	10/6/2005 6:57:58 PM
Benzo(g,h,i)perylene	ND	0.10		mg/Kg	50	10/6/2005 6:57:58 PM
Indeno(1,2,3-cd)pyrene	ND	0.13		mg/Kg	50	10/6/2005 6:57:58 PM
Surr: Benzo(e)pyrene	450	68.4-105	S	%REC	50	10/6/2005 6:57:58 PM

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range

Hall Environmental Analysis Laboratory

Date: *07-Oct-05*

CLIENT: Terracon
Work Order: 0509228
Project: OLS UDC VRP

QC SUMMARY REPORT
Method Blank

Sample ID **MB-8817** Batch ID: **8817** Test Code: **SW8310** Units: **mg/Kg** Analysis Date **10/5/2005 4:54:03 PM** Prep Date **9/26/2005**

Client ID: Run ID: **HUGO_051005A** SeqNo: **408155**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Naphthalene	ND	0.05									
1-Methylnaphthalene	ND	0.05									
2-Methylnaphthalene	ND	0.05									
Acenaphthylene	ND	0.05									
Acenaphthene	ND	0.05									
Fluorene	ND	0.03									
Phenanthrene	ND	0.006									
Anthracene	ND	0.006									
Fluoranthene	ND	0.006									
Pyrene	ND	0.005									
Benz(a)anthracene	ND	0.0008									
Chrysene	ND	0.004									
Benzo(b)fluoranthene	ND	0.002									
Benzo(k)fluoranthene	ND	0.0005									
Benzo(a)pyrene	ND	0.0008									
Dibenz(a,h)anthracene	ND	0.0011									
Benzo(g,h,i)perylene	ND	0.002									
Indeno(1,2,3-cd)pyrene	ND	0.0025									
Surr: Benzo(e)pyrene	0.1853	0	0.25	0	74.1	68.4	105	0			

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

Hall Environmental Analysis Laboratory

Date: *07-Oct-05*

CLIENT: Terracon
Work Order: 0509228
Project: OLS UDC VRP

QC SUMMARY REPORT

Laboratory Control Spike - generic

Sample ID **LCS-8817** Batch ID: **8817** Test Code: **SW8310** Units: **mg/Kg** Analysis Date **10/6/2005 10:58:00 PM** Prep Date **9/26/2005**

Client ID: Run ID: **HUGO_051006A** SeqNo: **409297**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Naphthalene	0.6338	0.05	1	0	63.4	49.1	92.3	0			
1-Methylnaphthalene	0.6478	0.05	1	0	64.8	49.7	93.6	0			
2-Methylnaphthalene	0.6555	0.05	1	0	65.6	50.1	91.7	0			
Acenaphthylene	0.6993	0.05	1	0	69.9	54	93	0			
Acenaphthene	0.6618	0.05	1	0	66.2	49.5	93.6	0			
Fluorene	0.0675	0.03	0.1	0	67.5	46.8	93.4	0			
Phenanthrene	0.03575	0.006	0.0503	0	71.1	48.7	104	0			
Anthracene	0.03425	0.006	0.0503	0	68.1	47.5	102	0			
Fluoranthene	0.07375	0.006	0.1003	0	73.5	46.3	108	0			
Pyrene	0.07625	0.005	0.1	0	76.3	43.8	109	0			
Benz(a)anthracene	0.0075	0.0008	0.01	0	75.0	40.3	115	0			
Chrysene	0.03775	0.004	0.0503	0	75.0	42.6	107	0			
Benzo(b)fluoranthene	0.00975	0.002	0.0125	0	78.0	48.6	107	0			
Benzo(k)fluoranthene	0.00475	0.0005	0.00625	0	76.0	23.3	136	0			
Benzo(a)pyrene	0.00475	0.0008	0.00628	0	75.6	33.4	117	0			
Dibenz(a,h)anthracene	0.009	0.0011	0.0125	0	72.0	27.3	139	0			
Benzo(g,h,i)perylene	0.009	0.002	0.0125	0	72.0	38.2	117	0			
Indeno(1,2,3-cd)pyrene	0.02088	0.0025	0.0251	0	83.2	39.9	125	0			

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

Hall Environmental Analysis Laboratory

Sample Receipt Checklist

Client Name TER-ALB | Date and Time Received: 9/21/2005

Work Order Number 0509228 | Received by SSB

Checklist completed by Signature Date 9/21/05

Matrix | Carrier name Client drop-off

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐		
Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	Not Present ☐	Not Shipped	☑
Custody seals intact on sample bottles?	Yes ☑	No ☐	N/A ☐		
Chain of custody present?	Yes ☑	No ☐			
Chain of custody signed when relinquished and received?	Yes ☑	No ☐			
Chain of custody agrees with sample labels?	Yes ☑	No ☐			
Samples in proper container/bottle?	Yes ☑	No ☐			
Sample containers intact?	Yes ☑	No ☐			
Sufficient sample volume for indicated test?	Yes ☑	No ☐			
All samples received within holding time?	Yes ☑	No ☐			
Water - VOA vials have zero headspace?	No VOA vials submitted ☑	Yes ☐	No ☐		
Water - pH acceptable upon receipt?	Yes ☐	No ☐	N/A ☑		

Container/Temp Blank temperature? **12°** *4° C ± 2 Acceptable* If given sufficient time to cool.

COMMENTS:

Client contacted _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding _____

Comments: _____

Corrective Action _____

CHAIN-OF-CUSTODY RECORD

QA / QC Package:
Std ☐ Level 4 ☐
Other:

HALL ENVIRONMENTAL ANALYSIS LABORATORY
4901 Hawkins NE, Suite D
Albuquerque, New Mexico 87109
Tel. 505.345.3975 Fax 505.345.4107
www.hallenvironmental.com

Client: Terralon
Address: 4905 Hawkins NE
Albuquerque NM 87109
Phone #: 505.527.1700
505.~~897~~.4287
Fax #: 505.527.1092

Project Name: OLS/UDC VRP
Project #: 66057007
Project Manager: Mary Wells
Sampler: Victoria Trujillo
Sample Temperature: 12°

ANALYSIS REQUEST

Date	Time	Matrix	Sample I.D. No.	Number/Volume	Preservative $HgCl_2$	Preservative HNO_3	Preservative None	HEAL No.
9/21/05	10:42	Soil	OLSMMSSB25'	1-4oz				0509228 -1
	10:50		OLSMMSSB210'					-2
	10:55		OLSMMSSB215'					-3
	10:57		OLSMMSSB220'					-4
	11:10		OLSMMSSB225'					-5
	11:15		OLSMMSSB230'					-6
	12:05		OLSMMSSB345'					-7
	12:10		OLSMMSSB410'					-8
	12:20		OLSMMSSB415'					-9
	12:25		OLSMMSSB420'					-10
	12:30		OLSMMSSB425'					-11
	12:35		OLSMMSSB430'					-12

BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gasoline Only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	EDC (Method 8021)	8310 (PNA or PAH)	RCRA 8 Metals	Anions (F, Cl, NO_3, NO_2, PO_4, SO_4)	8081 Pesticides / PCB's (8082)	8260B (VOA)	8270 (Semi-VOA)	HOLD				Air Bubbles or Headspace (Y or N)
												X				
						X										
						X										
												X				
												X				
												X				
												X				
						X										
						X										
												X				
												X				
												X				

Remarks:

Date	Time	Relinquished By: (Signature)	Received By: (Signature)
9/21/05	1705		
Date:	Time:	Relinquished By: (Signature)	Received By: (Signature)
			9/21/05 17:05

Terracon - Las Cruces

1630 Hickory Loop Ste H
Las Cruces,NM 88005

Alternate billing information:

Analysis/Container/Preservative

Chain of Custody
Page 1 of 1

Prepared by:
ENVIRONMENTAL SCIENCE CORP.
12065 Lebanon Road
Mt. Juliet, TN 37122
Phone (800) 767-5859
FAX (615) 758-5859

Report to: Mr. Fred Small
Email: fvsmall@terracon.com

Project Description: CLS UDC VRP
City/State Collected: ALBUQUERQUE, NM

Phone: (505) 527-1700
FAX: (505) 527-1092
Client Project #: 66057007
Lab Project #: TERRLCNM-6657007

Collected by (print): FRED V. SMALL
Site/Facility ID#:
P.O.#:

Collected by (signature):
Packed on Ice N ___ Y ___

Rush? (Lab MUST Be Notified)
___ Same Day 200%
___ Next Day.....100%
___ Two Day.....50%

Date Results Needed

Email? __No X Yes
FAX? No Yes

Acctnum: TERRLCNM (lab use only)
Template/Prelogin: T33266/ P158208
Cooler #: 10/19/05
Shipped Via: FedEx 2nd Day

Sample ID	Comp/Grab	Matrix*	Depth	Date	Time	No. of Cntrs	BTEX 40mlAmb-HCl	BTEX 4ozClr-NoPres	TPHOGHEX 16ozClr-NoPres	TPHOGHEX 1L-Clr-Add HCl	Remarks/Contaminant	Sample # (lab only)
OWS-COMP	Composite	GW	9'	10-22-05	4:30pm	3	X			X		L219782-01
		~~SS~~				~~2~~		~~X~~	~~X~~			

*Matrix: **SS** - Soil **GW** - Groundwater **WW** - WasteWater **DW** - Drinking Water **OT** - Other_____

pH _____ Temp _____

Remarks: SLUDGE COULD NOT BE COLLECTED.

Flow _____ Other _____

Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Samples returned via: ☐ UPS ☒ FedEx ☐ Courier ☐	Condition: (lab use only)
Fred Small	10/24/05	4:30pm			
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Temp: 2.9°C	Bottles Received: 3+4+TB
Relinquished by: (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: 10/25/05 Time: 1030	pH Checked: NCF: YES

Terri

ENVIRONMENTAL SCIENCE CORP.

SAMPLE NON-CONFORMANCE FORM

Sample No. : L219732

Date: 10/25/05

Evaluated by: JASON P.

Client: TETRA CNM

Non-Conformance (check applicable items)

_____	Chain of Custody is missing	X	Login Clarification Needed
_____	Improper container type	_____	Improper preservation
_____	Chain of custody is incomplete	_____	Container lid not in tact
_____	Parameter(s) past holding time	_____	Improper temperature
_____	Broken container(s) **see below**	_____	Broken container: sufficient sample volume remains for analysis requested

_____ Insufficient packing material around container

_____ Insufficient packing material inside cooler

_____ Improper handling by carrier (FedEx / UPS / Courier)

_____ Sample was frozen

Comments: Sample OW5-Comp is bi-phasic

Login Instructions: **TSR Initials:** Y

Client informed by call / email / fax / voice mail date: 10/25/05 time: 1145

Client contact: Mary Wells

oil part only (top)

Company Name/Address:

Terracon - Las Cruces

1630 Hickory Loop Ste 8
Las Cruces,NM 88005

Alternate billing information:

Analysis/Container/Preservative

Chain of Custody Page 1 of 2

Prepared by:

ENVIRONMENTAL SCIENCE CORP.
12065 Lebanon Road
Mt. Juliet, TN 37122
Phone (615) 758-5858
Phone (800) 767-5859
FAX (615) 758-5859

Report to: MARY E. WELLS, P.E. Email to: MEWELLS@TERRACON.COM

Project Description: OLS UDC VRP City/Sate Collected: ALBUQUERQUE, NM

Phone: (505) 527-1700 FAX: (505) 527-1092 Client Project #: 66057007 ESC Key:

Collected by: F.V.SMALL Site/Facility ID#: P.O.#:

Collected by (signature): F.V. Small

Packed on Ice N

Rush? (Lab MUST Be Notified)
____ Same Day. 200%
____ Next Day. 100%
✓ Two Day 50%

Date Results Needed:

Email? __No ✓Yes
FAX? __No __Yes

CoCode: TERRLCNM (lab use only)
Template/Prelogin
Shipped Via:

Sample ID	Comp/Grab	Matrix*	Depth	Date	Time	No. of Cntrs	Pb 6010B	Remarks/Contaminant	Sample # (lab only)
A2-SB1-4.2	GRAB	SS	4.2'	10-22-05	10:15am	1	Pb-6010B/4025/Ice	L2	19725-01
A2-SB2-5.0	"	"	5.0'	"	10:20am	1	"		02
A2-SB3-5.0	"	"	5.0'	"	10:28am	1	"		03
A2-SB4-2.5	"	"	2.5'	"	10:33am	1	"		04
A2-SB5-2.5	"	"	2.5'	"	10:41am	1	"		05
A2-SB5-5.0	"	"	5.0'	"	10:48am	1	"		06
A2-SB6-2.5	"	"	2.5'	"	10:57am	1	"		07
A2-SB6-3.5	"	"	3.5'	"	11:03am	1	"		08
A2-SB7-2.5	"	"	2.5'	"	11:10am	1	"		09

*Matrix: **SS** - Soil/Solid **GW** - Groundwater **WW** - WasteWater **DW** - Drinking Water **OT** - Other_____

pH N/A Temp N/A

Remarks:

Flow N/A Other

Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Samples returned via: ☐ UPS ☐ FedEx ☐ Courier ☐	Condition:	(lab use only)
F.V. Small	10/24/05	4:30pm				
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Temp: 2.5°C	Bottles Received: 23	
Relinquished by: (Signature)	Date:	Time:	Received for lab by: (Signature) Jason Davidge	Date: 10/25/05	Time: 1030	pH Checked:	NCF:

Company Name/Address:
Terracon - Las Cruces

1630 Hickory Loop Ste 8
Las Cruces,NM 88005

Alternate billing information:

Analysis/Container/Preservative

Chain of Custody
Page 2 of 2

Prepared by:

ENVIRONMENTAL SCIENCE CORP.
12065 Lebanon Road
Mt. Juliet, TN 37122
Phone (615) 758-5858
Phone (800) 767-5859
FAX (615) 758-5859

Report to: MARY E. WELLS, P.E. | Email to: MEWELLS@TERRACON.COM

Project Description: OLS UDC VRP | City/State Collected: ALBUQUERQUE, NM

Phone: (505) 527-1700
FAX: (505) 527-1092

Client Project #: 66057007

ESC Key:

Collected by: FVSMALL

Site/Facility ID#:

P.O.#:

Collected by (signature): FVSmall

Packed on Ice N (Y)

Rush? (Lab MUST Be Notified)
___ Same Day.....200%
___ Next Day.....100%
✓ Two Day.....50%

Date Results Needed:

Email? __No X Yes
FAX? __No __Yes

CoCode: **TERRLCNM** (lab use only)
Template/Prelogin
Shipped Via:

Sample ID	Comp/Grab	Matrix*	Depth	Date	Time	No. of Cntrs	Pb 6010B	Remarks/Contaminant	Sample # (lab only)
A2-SB7-2.8	GRAB	SS	2.8'	10-22-05	11:15am	1	Pb-6010B/402/ICE	LA	9725-10
A2-SB8-2.5	"	"	2.5'	"	11:20am	1	"		11
A2-SB8-3.0	"	"	3.0'	"	11:25am	1	"		12
A2-SB11-2.5	"	"	2.5'	"	11:35am	1	"		13
A2-SB11-4.0	"	"	4.0'	"	11:42am	1	"		14
A2-SB12-1.0	"	"	1.0'	"	11:50am	1	"		15
A2-SB13-2.5	"	"	2.5'	"	11:55am	1	"		16
A2-SB14-2.5	"	"	2.5'	"	12:01pm	1	"		17
A2-SB14-4.0	"	"	4.0'	"	12:05pm	1	"		18

*Matrix: **SS** - Soil/Solid **GW** - Groundwater **WW** - WasteWater **DW** - Drinking Water **OT** - Other_____

pH N/A Temp N/A

Remarks:

Flow N/A Other

Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Samples returned via: ☐ UPS ☐ FedEx ☐ Courier ☐	Condition: (lab use only)
FVSmall	10/24/05	4:30pm			OK
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Temp: 2.5°C / Bottles Received: 23 / 4 / 12	
Relinquished by: (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: 10/25/05 / Time: 1020	pH Checked: / NCF:

Company Name/Address:

Terracon - Las Cruces

1630 Hickory Loop Ste 8
Las Cruces,NM 88005

Alternate billing information:

Analysis/Container/Preservative

Chain of Custody
Page ___ of ___

Prepared by:

ENVIRONMENTAL SCIENCE CORP.
12065 Lebanon Road
Mt. Juliet, TN 37122
Phone (615) 758-5858
Phone (800) 767-5859
FAX (615) 758-5859

Report to: MARY E. WELLS, P.E.

Email to: MEWELLS@TERRACON.COM

Project Description: OLS UDC VRP

City/Sate Collected: ALBUQUERQUE, NM

Phone: (505) 527-1700
FAX: (505) 527-1092

Client Project #: 66057007

ESC Key:

Collected by: FRED V. SMALL

Site/Facility ID#:

P.O.#:

Collected by (signature):

Packed on Ice N (Y)

Rush? (Lab MUST Be Notified)
___ Same Day. 200%
___ Next Day. 100%
✓ Two Day 50%

Date Results Needed:

Email? __No ✓Yes
FAX? __No ✓Yes

CoCode: **TERRLCNM** (lab use only)
Template/Prelogin
Shipped Via:

Sample ID	Comp/Grab	Matrix*	Depth	Date	Time	No. of Cntrs	TPH 8015B (Mod) Full Range	Remarks/Contaminant	Sample # (lab only)
TP-7 2.5	GRAB	SS	2.5'	10-23-05	9:33am	1	X	L2	19725-19
TP-8 2.5	"	"	2.5'	"	9:54am	1	X		20
TP-8 5.0	"	"	5.0'	"	10:05am	1	X		21
TP-9 2.5	"	"	2.5'	"	10:23am	1	X		22
TP-9 5.0	"	"	5.0'	"	10:30am	1	X		23

*Matrix: **SS** - Soil/Solid **GW** - Groundwater **WW** - WasteWater **DW** - Drinking Water **OT** - Other_____

pH _____ Temp _____

Remarks:

Flow _____ Other _____

Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Samples returned via: ☐ UPS ☑ FedEx ☐ Courier ☐	Condition:	(lab use only)
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Temp: 2.4°C	Bottles Received: 23	
Reiinquished by: (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: 10/25/05	Time: 1030	pH Checked:	NCF:

Terracon - Las Cruces

1630 Hickory Loop Ste 8
Las Cruces,NM 88005

Alternate billing information:

Analysis/Container/Preservative

Chain of Custody
Page ___ of ___

Prepared by:
ENVIRONMENTAL SCIENCE CORP.
12065 Lebanon Road
Mt. Juliet, TN 37122
Phone (800) 767-5859
FAX (615) 758-5859

Report to: Project Mgr MARY E. WELLS, P.E.
Email: MEWELLS@terracon.com
Project Description: OLS UDC VRP
City/State Collected: ALBUQUERQUE, NM
Phone: (505) 527-1700
FAX: (505) 527-1092
Client Project #: 66057007
Lab Project #
Collected by (print): FRED V. SMALL
Site/Facility ID#:
P.O.#:
Collected by (signature):
Packed on Ice N ___ Y ___

Rush? (Lab MUST Be Notified)
___Same Day 200%
___ Next Day.....100%
✓ Two Day.....50%

Date Results Needed
Email? ___No X Yes
FAX? No Yes

Acctnum: TERRLCNM (lab use only)
Template/Prelogin: T33179/ P157944
Cooler #: 10/13 TB
Shipped Via: FedEX Priority

Sample ID	Comp/Grab	Matrix*	Depth	Date	Time	No. of Cntrs	BENZENE 8021 40mlClr-HCl	SV8310 1L-Amb-No Pres	Remarks/Contaminant	Sample # (lab only)
MW-1	GRAB	GW	30'	10-22-05	12:37pm	3	X	X		L21923-01
MW-3	"	GW	33'	"	1:18pm	3	X	X		02
MW-4	"	GW	34'	"	1:41pm	3	X	X		03
MW-5	"	GW	36'	"	2:06pm	3	X	X		04
MW-9	"	GW	35'	"	2:43pm	3	X	X		05
		GW				3	X	X		
		GW				3	X	X		
		GW				3	X	X		

*Matrix: SS - Soil GW - Groundwater WW - WasteWater DW - Drinking Water OT - Other_____

pH _____ Temp _____

Remarks:

Flow _____ Other _____

8502 6563 0855

Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Samples returned via: ☐ UPS ☒ FedEx ☐ Courier ☐	Condition:	(lab use only)
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Temp: 2.8°C Bottles Received: 15 47+8TB		
Relinquished by: (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: 10/25/05 Time: 1030	pH Checked:	NCF:

Company Name/Address:
Terracon - Las Cruces

1630 Hickory Loop Ste 8
Las Cruces,NM 88005

Alternate billing information:

Report to: Mary E. Wells
Email to: mewells@terracon.com
Project Description:
City/State Collected: Albuquerque, NM
Phone: (505) 527-1700
FAX: (505) 5271092
Client Project #: 66507007
ESC Key:
Collected by: Fred Small
Site/Facility ID#:
P.O.#:
Collected by (signature):
Packed on Ice N Y ✓

Rush? (Lab MUST Be Notified)
___ Same Day.....200%
___ Next Day.....100%
___ Two Day.....50%
* 5-day *

Date Results Needed:
Email? __No X Yes
FAX? __No__Yes

Analysis/Container/Preservative

Chain of Custody
Page 1 of 1

Prepared by:

ENVIRONMENTAL SCIENCE CORP.
12065 Lebanon Road
Mt. Juliet, TN 37122
Phone (615) 758-5858
Phone (800) 767-5859
FAX (615) 758-5859

CoCode: **TERRLCNM** (lab use only)
Template/Prelogin
Shipped Via:

Sample ID	Comp/Grab	Matrix*	Depth	Date	Time	No. of Cntrs	PAHs Method 8310	Benzene Method 8021-B	Remarks/Contaminant	Sample # (lab only)
MW-68 S	Grab	GW	34.49'	10/16	4:47	3	X	X		L218948-01
MW-7	↓	GW	35.04'	10/16	5:10 PM	3	X	X		-02
MW-80 S	↓	GW	37.59'	10/16	3:50 PM	3	X	X		-03

*Matrix: **SS** - Soil/Solid **GW** - Groundwater **WW** - WasteWater **DW** - Drinking Water **OT** - Other_____

pH _____ Temp _____

Remarks: 8502 6563 0914

Flow _____ Other _____

Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Samples returned via: ☐ UPS ☐ FedEx ☐ Courier ☐ _____	Condition: (lab use only)
	10/17	4:00PM			dc
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Temp: 3.6	Bottles Received: 9
Relinquished by: (Signature)	Date:	Time:	Received for lab by: (Signature) Alisa Neal	Date: 10/18	Time: 1030
				pH Checked:	NCF:

Terracon - Las Cruces

1630 Hickory Loop Ste 8
Las Cruces,NM 88005

Alternate billing information:

Chain of Custody
Page 1 of 1

Prepared by:
ENVIRONMENTAL SCIENCE CORP.
12065 Lebanon Road
Mt. Juliet, TN 37122
Phone (800) 767-5859
FAX (615) 758-5859

Report to: ~~Project Mgr~~ Mary E Wells
Email: mewells@terracon.com ~~vtrujillo@terracon.com~~
Project Description:
City/State Collected: Albuquerque, New Mexico
Phone: (505) 527-1700
FAX: (505) 5271092
Client Project #: 6657007
Lab Project #
Collected by (print): Fred Small
Site/Facility ID#:
P.O.#:
Collected by (signature): DS
Packed on Ice N ___ Y ✓
Rush? (Lab MUST Be Notified)
___Same Day 200%
___ Next Day.....100%
___ Two Day ~~5 day~~ 50%
Date Results Needed
Email? ___No X_Yes
FAX? No Yes

Acctnum: TERRLCNM (lab use only)
Template/Prelogin: T33180/P157945
Cooler #: 10|13 DS
Shipped Via: FedEx Priority

Analysis/Container/Preservative: PBICP 4ozClr-NoPres Method 6010

Sample ID	Comp/Grab	Matrix*	Depth	Date	Time	No. of Cntrs		Remarks/Contaminant	Sample # (lab only)
		Misc				99	X		L218941
		SS				1	X		
A1-SB1-2.5	grab	SS	2.5'	10/15	11:30a	1	✓		-01
A1-SB2-1.7			1.7'	10/15	11:40a	1	✓		-02
A1-SB~~3~~-2.5 ~~FS~~			2.5'	10/15	11:47a	1	✓		-03
A1-SB3-5.0			5.0'	10/15	11:55a	1	✓		-04
A1-SB4-2.5			2.5'	10/15	2:30p	1	✓		-05
A1-SB4-5.0			5.0'	10/15	2:40p	1	✓		-06
A1-SB5-2.5	↓	↓	2.5'	10/15	2:50	1	✓		-07

*Matrix: **SS** - Soil **GW** - Groundwater **WW** - WasteWater **DW** - Drinking Water **OT** - Other_____

pH _____ Temp _____

Remarks:

Flow _____ Other _____

8502 1663 0914

Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)
DS	10/17	4:00PM	
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)
Relinquished by: (Signature)	Date:	Time:	Received for lab by: (Signature)
			Alisa Neal

Samples returned via: ☐ UPS ☒ FedEx ☐ Courier ☐ _____
Temp: 3.6 Bottles Received: 5 1-4oz
Date: 10/18 Time: 1030

Condition: (lab use only) dw
pH Checked: NCF:

Company Name/Address:
Terracon - Las Cruces

1630 Hickory Loop Ste 8
Las Cruces,NM 88005

Alternate billing information:

Analysis/Container/Preservative

Chain of Custody Page 2 of 6

Prepared by:

ENVIRONMENTAL SCIENCE CORP.
12065 Lebanon Road
Mt. Juliet, TN 37122
Phone (615) 758-5858
Phone (800) 767-5859
FAX (615) 758-5859

Report to: Mary F. Wells
Email to: mfwells@terracon.com
Project Description:
City/State Collected: Albuquerque, NM
Phone: (505) 527-1700
FAX: (505)527 1092
Client Project #: 6657007
ESC Key:
Collected by: Fred Small
Site/Facility ID#:
P.O.#:
Collected by (signature):
Packed on Ice N Y ✓

Rush? (Lab MUST Be Notified)
____ Same Day. 200%
____ Next Day. 100%
____ Two Day 50%
~~5-Day~~

Date Results Needed:
Email? __No ✓Yes
FAX? __No__Yes

CoCode: **TERRLCNM** (lab use only)
Template/Prelogin
Shipped Via:

Sample ID	Comp/Grab	Matrix*	Depth	Date	Time	No. of Cntrs	Pb - Method 6010 ✓	Remarks/Contaminant	Sample # (lab only)
A1-SB5-5.0 FS	Grab	SS	5.0'	10/15	2:58P	1	✓		L218941-08
A1-SB6-2.5			2.5'	10/15	3:06P	1	✓		-09
A1-SB7-2.5			2.5'	10/15	3:18P	1	✓		-10
A1-SB8-2.5			2.5'	10/15	3:20P	1	✓		-11
A1-SB-5.0			5.0'	10/15	3:33P	1	✓		-12
A1-SB9-2.5			2.5'	10/15	3:38P	1	✓		-13
A1-SB9-5.0			5.0'	10/15	3:48P	1	✓		-14
A1-SB10-2.5			2.5'	10/16	7:52A	1	✓		-15
A1-SB10-5.0			5.0'	10/16	8:01A	1	✓		-16

*Matrix: **SS** - Soil/Solid **GW** - Groundwater **WW** - WasteWater **DW** - Drinking Water **OT** - Other_____

pH _____ Temp _____

Remarks:

Flow _____ Other _____

Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Samples returned via: ☐ UPS ☐ FedEx ☐ Courier ☐ _____	Condition: (lab use only)
	10/17	4:00PM			dl
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Temp: 3.6 / Bottles Received: 51-402	
Relinquished by: (Signature)	Date:	Time:	Received for lab by: (Signature) Alissa Neal	Date: 10/18 / Time: 1030	pH Checked: / NCF:

Company Name/Address:
Terracon - Las Cruces

1630 Hickory Loop Ste 8
Las Cruces,NM 88005

Alternate billing information:

Analysis/Container/Preservative

Chain of Custody Page 3 of 4

Prepared by:

ENVIRONMENTAL SCIENCE CORP.
12065 Lebanon Road
Mt. Juliet, TN 37122
Phone (615) 758-5858
Phone (800) 767-5859
FAX (615) 758-5859

Report to: Mary F. Wells

Email to: mcwellse terracon.com

Project Description:

City/State Collected: Albuquerque, NM

Phone: (505) 527-1700
FAX: (505)5271092

Client Project #: 6657007

ESC Key:

Collected by:

Site/Facility ID#:

P.O.#:

Collected by (signature):

Packed on Ice N Y ✓

Rush? (Lab MUST Be Notified)
____ Same Day.....200%
____ Next Day.....100%
____ Two Day.....50%
*5-day

Date Results Needed:

Email? __No ✓Yes
FAX? __No __Yes

No. of Cntrs: Pb-6010

CoCode **TERRLCNM** (lab use only)
Template/Prelogin
Shipped Via:

Sample ID	Comp/Grab	Matrix*	Depth	Date	Time		Remarks/Contaminant	Sample # (lab only)
A1-SB11-2.5	grab	SS	2.5'	10/16	8:08am	1 ✓		L21844-17
A1-SB11-5.0			5.0'	10/16	8:13am	1 ✓		-18
A1-SB12-2.5			2.5'	10/16	8:18am	1 ✓		-19
A1-SB15-5.0 FS			5.0'	10/16	9:02am	1 ✓		-20
A1-SB12-5.0			5.0'	10/16	8:24am	1 ✓		-21
A1-SB13-2.5			2.5'	10/16	8:31am	1 ✓		-22
A1-SB14-2.5			2.5'	10/16	8:40am	1 ✓		-23
A1-SB14-5.0			5.0'	10/16	8:50am	1 ✓		-24
A1-~~SB15~~ SB16-2.5 FS			2.5'	10/16	9:14am	1 ✓		-25

*Matrix: **SS** - Soil/Solid **GW** - Groundwater **WW** - WasteWater **DW** - Drinking Water **OT** - Other_____

pH _____ Temp _____

Remarks:

Flow _____ Other _____

Relinquished by: (Signature)	Date: 10/17	Time: 4:00PM	Received by: (Signature)	Samples returned via: ☐ UPS ☐ FedEx ☐ Courier ☐ _____	Condition: (lab use only) dc
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Temp: 3.6 / Bottles Received: 5L-4oz	
Relinquished by: (Signature)	Date:	Time:	Received for lab by: (Signature) alicia Neal	Date: 10/18 / Time: 10:30	pH Checked: / NCF:

Company Name/Address:
Terracon - Las Cruces

1630 Hickory Loop Ste 8
Las Cruces,NM 88005

Alternate billing information:

Analysis/Container/Preservative

Chain of Custody Page 4 of 6

Prepared by:

ENVIRONMENTAL SCIENCE CORP.
12065 Lebanon Road
Mt. Juliet, TN 37122
Phone (615) 758-5858
Phone (800) 767-5859
FAX (615) 758-5859

Report to: Mary E. Wells
Email to: mewells@terracon.com
Project Description:
City/State Collected: Albuquerque, NM
Phone: (505) 527-1700
FAX: (505)5271092
Client Project #: 6657007
ESC Key:
Collected by: Fred Small
Site/Facility ID#:
P.O.#:
Collected by (signature):
Packed on Ice N Y ✓
Rush? (Lab MUST Be Notified)
____ Same Day. 200%
____ Next Day. 100%
____ Two Day 50%
x 5day
Date Results Needed:
Email? __No ✓Yes
FAX? __No__Yes
CoCode: TERRLCNM (lab use only)
Template/Prelogin
Shipped Via:

Sample ID	Comp/Grab	Matrix*	Depth	Date	Time	No. of Cntrs	Pb - method 6010	Remarks/Contaminant	Sample # (lab only)
A1-SB16-5.0	grab	SS	5.0'	10/16	9:30A	1	✓		L2189411-26
A1-SB17-2.5			2.5'	10/16	9:35A	1	✓		-27
A1-SB17-5.0			5.0'	10/16	9:45A	1	✓		-28
A1-SB18-2.5			2.5'	10/16	9:52A	1	✓		-29
A1-SB19-2.5			2.5'	10/16	10:00am	1	✓		-30
A1-SB19-5.0			5.0'	10/16	10:08A	1	✓		-31
A1-SB20-2.5			2.5'	10/16	10:15A	1	✓		-32
A1-SB21-2.5			2.5'	10/16	10:23A	1	✓		-33
A1-SB21-5.0			5.0'	10/16	10:30A	1	✓		-34

*Matrix: **SS** - Soil/Solid **GW** - Groundwater **WW** - WasteWater **DW** - Drinking Water **OT** - Other_____

pH _____ Temp _____

Remarks:

Flow _____ Other _____

Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Samples returned via: ☐ UPS ☐ FedEx ☐ Courier ☐ _____	Condition: (lab use only)
	10/17	4:00PM			ac
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Temp: 3.6	Bottles Received: 51-402
Relinquished by: (Signature)	Date:	Time:	Received for lab by: (Signature) Alisa Neal	Date: 10/18	Time: 1030
				pH Checked:	NCF:

Company Name/Address:

Terracon - Las Cruces

1630 Hickory Loop Ste 8
Las Cruces,NM 88005

Alternate billing information:

Analysis/Container/Preservative

Chain of Custody Page 5 of 6

Prepared by:

ENVIRONMENTAL SCIENCE CORP.
12065 Lebanon Road
Mt. Juliet, TN 37122
Phone (615) 758-5858
Phone (800) 767-5859
FAX (615) 758-5859

Report to: Mary E. Wells

Email to: mewells@terracon.com

Project Description:

City/State Collected: Albuquerque, NM

Phone: (505) 527-1700
FAX: (505)5271092

Client Project #: 6657007

ESC Key:

Collected by: Fred Small

Site/Facility ID#:

P.O.#:

Collected by (signature):

Packed on Ice N Y ✓

Rush? (Lab MUST Be Notified)
____ Same Day.....200%
____ Next Day.....100%
____ Two Day 50%
*5 day

Date Results Needed:

Email? __No ✓Yes
FAX? __No__Yes

CoCode: TERRLCNM (lab use only)
Template/Prelogin
Shipped Via:

Sample ID	Comp/Grab	Matrix*	Depth	Date	Time	No. of Cntrs	Pb Method 6010	Remarks/Contaminant	Sample # (lab only)
A1-SB22-2.5	grab	SS	2.5'	10/16	11:10am	1	✓		L218941-35
A1-SB22-5.0			5.0'	10/16	11:19am	1	✓		-36
A1-SB23-2.5			2.5'	10/16	11:25A	1	✓		-37
A1-SB23-5.0			5.0'	10/16	11:35A	1	✓		-38
A1-SB24-2.5			2.5'	10/16	11:41A	1	✓		-39
A1 SB25-2.5			2.5'	10/16	11:48A	1	✓		-40
A1-SB25-5.0			5.0'	10/16	11:56A	1	✓		-41
A1-SB26-1.4			1.4'	10/16	12:01 PM	1	✓		-42
A1-SB27-1.4			1.4'	10/16	12:06	1	✓		-43

*Matrix: **SS** - Soil/Solid **GW** - Groundwater **WW** - WasteWater **DW** - Drinking Water **OT** - Other_____

pH _____ Temp _____

Remarks:

Flow _____ Other _____

Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)
	10/17	4:00	
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)
Relinquished by: (Signature)	Date:	Time:	Received for lab by: (Signature)
			Alisa Neal

Samples returned via: ☐ UPS ☐ FedEx ☐ Courier ☐ _____

Condition: (lab use only) ok

Temp:	Bottles Received:	pH Checked:	NCF:
3.6	51-4oz		

Date: 10/18 Time: 1030

Company Name/Address:

Terracon - Las Cruces

1630 Hickory Loop Ste 8
Las Cruces,NM 88005

Alternate billing information:

Analysis/Container/Preservative

Chain of Custody
Page 1a of 1b

Prepared by:

ENVIRONMENTAL SCIENCE CORP.
12065 Lebanon Road
Mt. Juliet, TN 37122
Phone (615) 758-5858
Phone (800) 767-5859
FAX (615) 758-5859

Report to: Mary E. Wells

Email to: mewells@terracon.com

Project Description:

City/State Collected: Albuquerque, NM.

Phone: (505) 527-1700

FAX: (505) 527 1092

Client Project #: 6657007

ESC Key:

Collected by: Fred Small

Site/Facility ID#:

P.O.#:

Collected by (signature):

Packed on Ice N Y ✓

Rush? (Lab MUST Be Notified)
____ Same Day. 200%
____ Next Day. 100%
✓ 5-day Two Day 50%

Date Results Needed:

Email? __No ✓Yes
FAX? __No__Yes

CoCode: TERRLCNM (lab use only)

Template/Prelogin

Shipped Via:

Sample ID	Comp/Grab	Matrix*	Depth	Date	Time	No. of Cntrs	Pb Method 6010	Remarks/Contaminant	Sample # (lab only)
A1-SB28-2.5	grab	SS	2.5'	10/16	12:11PM	1	✓		L218941-44
A1-SB28-5.0			5.0'	10/16	12:22PM	1	✓		-45
A1-SB29-1.5			1.5'	10/16	12:28PM	1	✓		-46
A1-SB30-1.9 FS.			1.9'	10/16	12:35PM	1	✓		-47
A1-SB31-2.5			2.5'	10/16	12:45PM	1	✓		-48
A1-SB31-5.0			FS 5.0'	10/16	12:53	1	✓		-49
A1-SB32-1.6			FS 1.6'	10/16	12:58	1	✓		-50
A1-SB33-2.0			FS 2.0'	10/16	1205	1	✓		-51

*Matrix: **SS** - Soil/Solid **GW** - Groundwater **WW** - WasteWater **DW** - Drinking Water **OT** - Other_____

pH _____ Temp _____

Remarks:

Flow _____ Other _____

Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Samples returned via: ☐ UPS ☐ FedEx ☐ Courier ☐ _____	Condition: (lab use only)
	10/17	4:00PM			
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Temp: 3.6	Bottles Received: 51-402
Reiinquished by: (Signature)	Date:	Time:	Received for lab by: (Signature) alisa Neal	Date: 10/18	Time: 1030

pH Checked: _____ NCF: _____

HALL
ENVIRONMENTAL
ANALYSIS
LABORATORY

COVER LETTER

October 07, 2005

Mary E. Wells
Terracon
1630 Hickory Loop Ste. H
Las Cruces, NM 88005
TEL: (505) 527-1700
FAX (505) 527-1092

RE: OLS UDC VRP

Order No.: 0509228

Dear Mary E. Wells:

Hall Environmental Analysis Laboratory received 12 samples on 9/21/2005 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent.

Reporting limits are determined by EPA methodology. No determination of compounds below these (denoted by the ND or < sign) has been made.

Please don't hesitate to contact HEAL for any additional information or clarifications.

Sincerely,

Andy Freeman, Business Manager
Nancy McDuffie, Laboratory Manager

Hall Environmental Analysis Laboratory Date: *07-Oct-05*

CLIENT: Terracon
Project: OLS UDC VRP
Lab Order: 0509228

CASE NARRATIVE

"S" flags denote that the surrogate was not recoverable due to sample dilution or matrix interferences.

Reporting limits have been elevated for EPA method 8310 due to matrix interferences.

Hall Environmental Analysis Laboratory

Date: *07-Oct-05*

CLIENT: Terracon
Lab Order: 0509228
Project: OLS UDC VRP
Lab ID: 0509228-02

Client Sample ID: OLSMMSB210'
Collection Date: 9/21/2005 10:50:00 AM
Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8310: PAHS						Analyst: JMP
Naphthalene	ND	1.0		mg/Kg	20	10/7/2005 2:42:58 PM
1-Methylnaphthalene	ND	1.0		mg/Kg	20	10/7/2005 2:42:58 PM
2-Methylnaphthalene	ND	1.0		mg/Kg	20	10/7/2005 2:42:58 PM
Acenaphthylene	ND	1.0		mg/Kg	20	10/7/2005 2:42:58 PM
Acenaphthene	ND	1.0		mg/Kg	20	10/7/2005 2:42:58 PM
Fluorene	ND	0.60		mg/Kg	20	10/7/2005 2:42:58 PM
Phenanthrene	0.55	0.12		mg/Kg	20	10/7/2005 2:42:58 PM
Anthracene	ND	0.12		mg/Kg	20	10/7/2005 2:42:58 PM
Fluoranthene	ND	0.12		mg/Kg	20	10/7/2005 2:42:58 PM
Pyrene	ND	0.10		mg/Kg	20	10/7/2005 2:42:58 PM
Benz(a)anthracene	ND	0.016		mg/Kg	20	10/7/2005 2:42:58 PM
Chrysene	ND	0.080		mg/Kg	20	10/7/2005 2:42:58 PM
Benzo(b)fluoranthene	ND	0.040		mg/Kg	20	10/7/2005 2:42:58 PM
Benzo(k)fluoranthene	ND	0.010		mg/Kg	20	10/7/2005 2:42:58 PM
Benzo(a)pyrene	ND	0.016		mg/Kg	20	10/7/2005 2:42:58 PM
Dibenz(a,h)anthracene	ND	0.022		mg/Kg	20	10/7/2005 2:42:58 PM
Benzo(g,h,i)perylene	ND	0.040		mg/Kg	20	10/7/2005 2:42:58 PM
Indeno(1,2,3-cd)pyrene	ND	0.050		mg/Kg	20	10/7/2005 2:42:58 PM
Surr: Benzo(e)pyrene	46.0	68.4-105	S	%REC	20	10/7/2005 2:42:58 PM

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range

Hall Environmental Analysis Laboratory

Date: *07-Oct-05*

CLIENT: Terracon
Lab Order: 0509228
Project: OLS UDC VRP
Lab ID: 0509228-03

Client Sample ID: OLSMMSB215'
Collection Date: 9/21/2005 10:55:00 AM
Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8310: PAHS						Analyst: **JMP**
Naphthalene	ND	0.050		mg/Kg	1	10/5/2005 8:06:04 PM
1-Methylnaphthalene	ND	0.050		mg/Kg	1	10/5/2005 8:06:04 PM
2-Methylnaphthalene	ND	0.050		mg/Kg	1	10/5/2005 8:06:04 PM
Acenaphthylene	ND	0.050		mg/Kg	1	10/5/2005 8:06:04 PM
Acenaphthene	ND	0.050		mg/Kg	1	10/5/2005 8:06:04 PM
Fluorene	ND	0.030		mg/Kg	1	10/5/2005 8:06:04 PM
Phenanthrene	ND	0.0060		mg/Kg	1	10/5/2005 8:06:04 PM
Anthracene	ND	0.0060		mg/Kg	1	10/5/2005 8:06:04 PM
Fluoranthene	ND	0.0060		mg/Kg	1	10/5/2005 8:06:04 PM
Pyrene	ND	0.0050		mg/Kg	1	10/5/2005 8:06:04 PM
Benz(a)anthracene	ND	0.00080		mg/Kg	1	10/5/2005 8:06:04 PM
Chrysene	ND	0.0040		mg/Kg	1	10/5/2005 8:06:04 PM
Benzo(b)fluoranthene	ND	0.0020		mg/Kg	1	10/5/2005 8:06:04 PM
Benzo(k)fluoranthene	ND	0.00050		mg/Kg	1	10/5/2005 8:06:04 PM
Benzo(a)pyrene	ND	0.00080		mg/Kg	1	10/5/2005 8:06:04 PM
Dibenz(a,h)anthracene	ND	0.0011		mg/Kg	1	10/5/2005 8:06:04 PM
Benzo(g,h,i)perylene	ND	0.0020		mg/Kg	1	10/5/2005 8:06:04 PM
Indeno(1,2,3-cd)pyrene	ND	0.0025		mg/Kg	1	10/5/2005 8:06:04 PM
Surr: Benzo(e)pyrene	105	68.4-105		%REC	1	10/5/2005 8:06:04 PM

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range

Hall Environmental Analysis Laboratory

Date: *07-Oct-05*

CLIENT: Terracon
Lab Order: 0509228
Project: OLS UDC VRP
Lab ID: 0509228-08

Client Sample ID: OLSMMSB410'
Collection Date: 9/21/2005 12:10:00 PM
Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8310: PAHS						Analyst: JMP
Naphthalene	ND	2.5		mg/Kg	50	10/6/2005 6:09:58 PM
1-Methylnaphthalene	ND	2.5		mg/Kg	50	10/6/2005 6:09:58 PM
2-Methylnaphthalene	ND	2.5		mg/Kg	50	10/6/2005 6:09:58 PM
Acenaphthylene	ND	2.5		mg/Kg	50	10/6/2005 6:09:58 PM
Acenaphthene	ND	2.5		mg/Kg	50	10/6/2005 6:09:58 PM
Fluorene	ND	1.5		mg/Kg	50	10/6/2005 6:09:58 PM
Phenanthrene	ND	0.30		mg/Kg	50	10/6/2005 6:09:58 PM
Anthracene	ND	0.30		mg/Kg	50	10/6/2005 6:09:58 PM
Fluoranthene	ND	0.30		mg/Kg	50	10/6/2005 6:09:58 PM
Pyrene	ND	0.25		mg/Kg	50	10/6/2005 6:09:58 PM
Benz(a)anthracene	ND	0.040		mg/Kg	50	10/6/2005 6:09:58 PM
Chrysene	ND	0.20		mg/Kg	50	10/6/2005 6:09:58 PM
Benzo(b)fluoranthene	0.66	0.10		mg/Kg	50	10/6/2005 6:09:58 PM
Benzo(k)fluoranthene	ND	0.025		mg/Kg	50	10/6/2005 6:09:58 PM
Benzo(a)pyrene	0.10	0.040		mg/Kg	50	10/6/2005 6:09:58 PM
Dibenz(a,h)anthracene	ND	0.055		mg/Kg	50	10/6/2005 6:09:58 PM
Benzo(g,h,i)perylene	ND	0.10		mg/Kg	50	10/6/2005 6:09:58 PM
Indeno(1,2,3-cd)pyrene	ND	0.13		mg/Kg	50	10/6/2005 6:09:58 PM
Surr: Benzo(e)pyrene	375	68.4-105	S	%REC	50	10/6/2005 6:09:58 PM

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range

Hall Environmental Analysis Laboratory

Date: *07-Oct-05*

CLIENT: Terracon
Lab Order: 0509228
Project: OLS UDC VRP
Lab ID: 0509228-09

Client Sample ID: OLSMMSB415'
Collection Date: 9/21/2005 12:20:00 PM
Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8310: PAHS						Analyst: **JMP**
Naphthalene	ND	2.5		mg/Kg	50	10/6/2005 6:57:58 PM
1-Methylnaphthalene	ND	2.5		mg/Kg	50	10/6/2005 6:57:58 PM
2-Methylnaphthalene	ND	2.5		mg/Kg	50	10/6/2005 6:57:58 PM
Acenaphthylene	ND	2.5		mg/Kg	50	10/6/2005 6:57:58 PM
Acenaphthene	ND	2.5		mg/Kg	50	10/6/2005 6:57:58 PM
Fluorene	ND	1.5		mg/Kg	50	10/6/2005 6:57:58 PM
Phenanthrene	ND	0.30		mg/Kg	50	10/6/2005 6:57:58 PM
Anthracene	ND	0.30		mg/Kg	50	10/6/2005 6:57:58 PM
Fluoranthene	ND	0.30		mg/Kg	50	10/6/2005 6:57:58 PM
Pyrene	ND	0.25		mg/Kg	50	10/6/2005 6:57:58 PM
Benz(a)anthracene	ND	0.040		mg/Kg	50	10/6/2005 6:57:58 PM
Chrysene	ND	0.20		mg/Kg	50	10/6/2005 6:57:58 PM
Benzo(b)fluoranthene	ND	0.10		mg/Kg	50	10/6/2005 6:57:58 PM
Benzo(k)fluoranthene	ND	0.025		mg/Kg	50	10/6/2005 6:57:58 PM
Benzo(a)pyrene	ND	0.040		mg/Kg	50	10/6/2005 6:57:58 PM
Dibenz(a,h)anthracene	ND	0.055		mg/Kg	50	10/6/2005 6:57:58 PM
Benzo(g,h,i)perylene	ND	0.10		mg/Kg	50	10/6/2005 6:57:58 PM
Indeno(1,2,3-cd)pyrene	ND	0.13		mg/Kg	50	10/6/2005 6:57:58 PM
Surr: Benzo(e)pyrene	450	68.4-105	S	%REC	50	10/6/2005 6:57:58 PM

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range

Hall Environmental Analysis Laboratory

Date: *07-Oct-05*

CLIENT: Terracon
Work Order: 0509228
Project: OLS UDC VRP

QC SUMMARY REPORT
Method Blank

Sample ID **MB-8817** Batch ID: **8817** Test Code: **SW8310** Units: **mg/Kg** Analysis Date **10/5/2005 4:54:03 PM** Prep Date **9/26/2005**

Client ID: Run ID: **HUGO_051005A** SeqNo: **408155**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Naphthalene	ND	0.05									
1-Methylnaphthalene	ND	0.05									
2-Methylnaphthalene	ND	0.05									
Acenaphthylene	ND	0.05									
Acenaphthene	ND	0.05									
Fluorene	ND	0.03									
Phenanthrene	ND	0.006									
Anthracene	ND	0.006									
Fluoranthene	ND	0.006									
Pyrene	ND	0.005									
Benz(a)anthracene	ND	0.0008									
Chrysene	ND	0.004									
Benzo(b)fluoranthene	ND	0.002									
Benzo(k)fluoranthene	ND	0.0005									
Benzo(a)pyrene	ND	0.0008									
Dibenz(a,h)anthracene	ND	0.0011									
Benzo(g,h,i)perylene	ND	0.002									
Indeno(1,2,3-cd)pyrene	ND	0.0025									
Surr: Benzo(e)pyrene	0.1853	0	0.25	0	74.1	68.4	105	0			

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

Hall Environmental Analysis Laboratory

Date: *07-Oct-05*

CLIENT: Terracon
Work Order: 0509228
Project: OLS UDC VRP

QC SUMMARY REPORT

Laboratory Control Spike - generic

Sample ID **LCS-8817** Batch ID: **8817** Test Code: **SW8310** Units: **mg/Kg** Analysis Date **10/6/2005 10:58:00 PM** Prep Date **9/26/2005**

Client ID: Run ID: **HUGO_051006A** SeqNo: **409297**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Naphthalene	0.6338	0.05	1	0	63.4	49.1	92.3	0			
1-Methylnaphthalene	0.6478	0.05	1	0	64.8	49.7	93.6	0			
2-Methylnaphthalene	0.6555	0.05	1	0	65.6	50.1	91.7	0			
Acenaphthylene	0.6993	0.05	1	0	69.9	54	93	0			
Acenaphthene	0.6618	0.05	1	0	66.2	49.5	93.6	0			
Fluorene	0.0675	0.03	0.1	0	67.5	46.8	93.4	0			
Phenanthrene	0.03575	0.006	0.0503	0	71.1	48.7	104	0			
Anthracene	0.03425	0.006	0.0503	0	68.1	47.5	102	0			
Fluoranthene	0.07375	0.006	0.1003	0	73.5	46.3	108	0			
Pyrene	0.07625	0.005	0.1	0	76.3	43.8	109	0			
Benz(a)anthracene	0.0075	0.0008	0.01	0	75.0	40.3	115	0			
Chrysene	0.03775	0.004	0.0503	0	75.0	42.6	107	0			
Benzo(b)fluoranthene	0.00975	0.002	0.0125	0	78.0	48.6	107	0			
Benzo(k)fluoranthene	0.00475	0.0005	0.00625	0	76.0	23.3	136	0			
Benzo(a)pyrene	0.00475	0.0008	0.00628	0	75.6	33.4	117	0			
Dibenz(a,h)anthracene	0.009	0.0011	0.0125	0	72.0	27.3	139	0			
Benzo(g,h,i)perylene	0.009	0.002	0.0125	0	72.0	38.2	117	0			
Indeno(1,2,3-cd)pyrene	0.02088	0.0025	0.0251	0	83.2	39.9	125	0			

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

Hall Environmental Analysis Laboratory

Sample Receipt Checklist

Client Name TER-ALB | Date and Time Received: 9/21/2005

Work Order Number 0509228 | Received by SSB

Checklist completed by Signature Date 9/21/05

Matrix | Carrier name Client drop-off

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐		
Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	Not Present ☐	Not Shipped	☑
Custody seals intact on sample bottles?	Yes ☑	No ☐	N/A ☐		
Chain of custody present?	Yes ☑	No ☐			
Chain of custody signed when relinquished and received?	Yes ☑	No ☐			
Chain of custody agrees with sample labels?	Yes ☑	No ☐			
Samples in proper container/bottle?	Yes ☑	No ☐			
Sample containers intact?	Yes ☑	No ☐			
Sufficient sample volume for indicated test?	Yes ☑	No ☐			
All samples received within holding time?	Yes ☑	No ☐			
Water - VOA vials have zero headspace?	No VOA vials submitted ☑	Yes ☐	No ☐		
Water - pH acceptable upon receipt?	Yes ☐	No ☐	N/A ☑		

Container/Temp Blank temperature? **12°** *4° C ± 2 Acceptable* If given sufficient time to cool.

COMMENTS:

Client contacted _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding _____

Comments: _____

Corrective Action _____

CHAIN-OF-CUSTODY RECORD

QA / QC Package:
Std ☐ Level 4 ☐
Other:

HALL ENVIRONMENTAL ANALYSIS LABORATORY
4901 Hawkins NE, Suite D
Albuquerque, New Mexico 87109
Tel. 505.345.3975 Fax 505.345.4107
www.hallenvironmental.com

Client: Terralon
Address: 4905 Hawkins NE
Albuquerque NM 87109
Phone #: 505.527.1700
505.~~897~~.4287
Fax #: 505.527.1092

Project Name: OLS/UDC VRP
Project #: 66057007
Project Manager: Mary Wells
Sampler: Victoria Trujillo
Sample Temperature: 12°

ANALYSIS REQUEST

Date	Time	Matrix	Sample I.D. No.	Number/Volume	Preservative $HgCl_2$	Preservative HNO_3	Preservative None	HEAL No.
9/21/05	10:42	Soil	OLSMMSSB25'	1-4oz				0509228 -1
	10:50		OLSMMSSB210'					-2
	10:55		OLSMMSSB215'					-3
	10:57		OLSMMSSB220'					-4
	11:10		OLSMMSSB225'					-5
	11:15		OLSMMSSB230'					-6
	12:05		OLSMMSSB345'					-7
	12:10		OLSMMSSB410'					-8
	12:20		OLSMMSSB415'					-9
	12:25		OLSMMSSB420'					-10
	12:30		OLSMMSSB425'					-11
	12:35		OLSMMSSB430'					-12

BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gasoline Only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	EDC (Method 8021)	8310 (PNA or PAH)	RCRA 8 Metals	Anions (F, Cl, NO_3, NO_2, PO_4, SO_4)	8081 Pesticides / PCB's (8082)	8260B (VOA)	8270 (Semi-VOA)	HOLD				Air Bubbles or Headspace (Y or N)
												X				
						X										
						X										
												X				
												X				
												X				
												X				
						X										
						X										
												X				
												X				
												X				

Remarks:

Date	Time	Relinquished By: (Signature)	Received By: (Signature)
9/21/05	1705		
Date:	Time:	Relinquished By: (Signature)	Received By: (Signature)
			9/21/05 17:05

APPENDIX D BORING LOGS

LOG OF BORING NO. SB2

Old Locomotive Shops LLC
Union Development Corporation

Main Machine Shop

SITE **2nd Street**
Albuquerque, Bernalillo County, New Mexico

PROJECT
Former AT & SF/BSNF Co. CWE Facility

GRAPHIC LOG	DESCRIPTION	DEPTH, ft.	USCS SYMBOL	SAMPLES NUMBER	SAMPLES TYPE	SAMPLES RECOVERY, in.	SAMPLES SPT - N BLOWS / ft.	TESTS WATER CONTENT, %	TESTS FIELD VAPOR TEST (PPM)*	TESTS SOIL SAMPLE SENT TO LABORATORY
	POORLY GRADED SAND WITH SILT ; Dark brown to black, loose, moist.	5	SP SM		SS	12				
		10	CL		SS	14				8310
	LEAN CLAY ; Dark brown to grey, loose, moist.	15	SP		SS	12				8310
	POORLY GRADED SAND ; Light brown with some grey, loose, moist, fine grained.	20	SP		SS	10				
	Some coarse grained.	25	SP		SS	10				
		30	SP		SS	10				
	Boring terminated at 31.5 feet. No free water encountered at time of drilling.	31.5								

The stratification lines represent the approximate boundary lines between soil and rock types: in-situ, the transition may be gradual.

* ND indicates a reading of less than the field detection limit (FDL) of one (1) part per million isobutylene equivalents (ppmi).

WATER LEVEL OBSERVATIONS, ft		
WL	▽	▼
WL	▼	▼
WL		

Terracon

BORING STARTED	9-2-05		
BORING COMPLETED	9-2-05		
RIG	CME-75	FOREMAN	VVT
APPROVED	MEW	JOB #	66057007

BOREHOLE 99 1 66057007.GPJ TERRACON.GDT 10/31/05

LOG OF BORING NO. SB4

Old Locomotive Shops LLC
Union Development Corporation

Main Machine Shop

SITE **2nd Street**
Albuquerque, Bernalillo County, New Mexico

PROJECT
Former AT & SF/BSNF Co. CWE Facility

GRAPHIC LOG	DESCRIPTION	DEPTH, ft.	USCS SYMBOL	SAMPLES NUMBER	SAMPLES TYPE	SAMPLES RECOVERY, in.	SAMPLES SPT - N BLOWS / ft.	TESTS WATER CONTENT, %	TESTS FIELD VAPOR TEST (PPM)*	TESTS SOIL SAMPLE SENT TO LABORATORY
	POORLY GRADED SAND WITH SILT ; Black with some grey, loose, moist.	5	SP SM		SS	2				
		10	SP SM		SS	12				8310
	15									
	16 **LEAN CLAY** ; Dark brown to grey, loose, moist.	15	CL		SS	12				8310
	16.5 **POORLY GRADED SAND** ; Dark brown, loose, moist, oily. Light brown, loose, moist.	20	SP		SS	12				
		25	SP		SS	12				
	30 Wet.	30	SP		SS	3				
	31.5 Boring terminated at 31.5 feet. No free water encountered at time of drilling.									

The stratification lines represent the approximate boundary lines between soil and rock types: in-situ, the transition may be gradual.

* ND indicates a reading of less than the field detection limit (FDL) of one (1) part per million isobutylene equivalents (ppmi).

WATER LEVEL OBSERVATIONS, ft		
WL	▽	▼
WL	▼	▼
WL		

Terracon

BORING STARTED	9-2-05		
BORING COMPLETED	9-2-05		
RIG	CME-75	FOREMAN	VVT
APPROVED	MEW	JOB #	66057007

BOREHOLE 99 1 66057007.GPJ TERRACON.GDT 10/31/05

LOG OF BORING NO. SB-5

Old Locomotive Shops LLC
Union Development Corporation

Boiler Shop

SITE **2nd Street**
Albuquerque, Bernalillo County, New Mexico

PROJECT
Former AT & SF/BNSF Co. CWE Facility

GRAPHIC LOG	DESCRIPTION	DEPTH, ft.	USCS SYMBOL	SAMPLES NUMBER	SAMPLES TYPE	SAMPLES RECOVERY, in.	SAMPLES SPT - N BLOWS / ft.	TESTS WATER CONTENT, %	TESTS FIELD VAPOR TEST (PPM)*	TESTS SOIL SAMPLE SENT TO LABORATORY
	POORLY GRADED SAND WITH SILT ; Dark brown to black, loose, wet, some grey lean clay.									
			SP SM		SS	2				8310
5		5								
	SILTY SAND ; Light brown, loose, moist.		SM		SS	13				8310
10		10								
	LEAN CLAY ; Grey to light brown, loose, moist, 2" of light brown to white poorly graded sand at bottom of sample.		CL		SS	18				8310
15		15								
	POORLY GRADED SAND ; Light brown, loose, moist, some orange.		SP		SS	16				8310
20		20								
	Light brown.		SP		SS	16				8310
25		25								
	Some gravel.		SP		SS	12				
31.5		30								
	SP				SS	12				
	Boring terminated at 31.5 feet. No free water encountered at time of drilling.									

The stratification lines represent the approximate boundary lines between soil and rock types: in-situ, the transition may be gradual.

* ND indicates a reading of less than the field detection limit (FDL) of one (1) part per million isobutylene equivalents (ppmi).

WATER LEVEL OBSERVATIONS, ft		
WL	▽	▼
WL	▼	▼
WL		

Terracon

BORING STARTED	9-30-05		
BORING COMPLETED	9-30-05		
RIG	CME-75	FOREMAN	VVT
APPROVED	MEW	JOB #	66057007

APPENDIX E ASBESTOS SURVEY REPORT

LIMITED ASBESTOS SURVEY

FORMER AT&SF/BNSF COMPANY CWE FACILITY
ALBUQUERQUE, BERNALILLO COUNTY, NEW MEXICO

Terracon Project No. 66057007
October 12, 2005

1.0 INTRODUCTION

Terracon conducted an asbestos survey of the former Aitcheson Topeka and Santa Fe (AT&SF)/Burlington Northern and Santa Fe (BNSF) Railway Centralized Work Equipment (CWE) facility in Albuquerque, Bernalillo County, New Mexico (see Figure 1). The survey was conducted on September 21 and 30, 2005 by two accredited Asbestos Inspectors in general conformance with Terracon Final Work Plan dated October 3, 2005. Interior building components were surveyed and homogeneous areas of suspect asbestos-containing materials (ACM) were visually identified and documented. Although reasonable effort was made to survey accessible suspect materials, additional suspect but unsampled materials could be located in walls, in voids or in other concealed areas. Suspect ACM was sampled in general conformance with the protocols outlined in EPA regulation 40 CFR 763 (Asbestos Hazard Emergency Response Act, (AHERA)). Samples were delivered to Analytica Solutions, an accredited laboratory for analysis by polarized light microscopy.

1.1 Project Objective

The survey was requested due to planned demolition the existing abandoned BNSF buildings. EPA regulation 40 CFR 61, Subpart M, National Emission Standards for Hazardous Air Pollutants (NESHAP), prohibits the release of asbestos fibers to the atmosphere during abatement or renovation activities. The asbestos NESHAP requires that potentially regulated asbestos containing building materials be identified, classified and quantified prior to planned disturbances.

2.0 BUILDING DESCRIPTION

The three main buildings (the boiler shop to the north, the machine shop to the south, and the CWE shop east of the boiler and machine shops) are single-story, elevated-roof, masonry-block structures. A smaller structure south of the machine shop used as a paint shop is also a single-story masonry-block structure. Two other structures used as break areas and restrooms are constructed of masonry brick. One small fire house located north of the main buildings is constructed of brick covered with plaster. The exterior walls are constructed with/of cinder blocks, while some interior walls are studs with sheetrock (drywall) material.

3.0 FIELD ACTIVITIES

The survey was conducted by Mr. Frederick V. Small and Ms. Victoria Trujillo; AHERA trained and accredited Asbestos Inspectors. The survey was conducted in general conformance with the protocols established by EPA regulation 40 CFR 763, the Asbestos Hazard Emergency Response Act (AHERA). A summary of survey activities is provided below.

3.1 Visual Assessment

Survey activities began with visual observation of the interior of the buildings to identify homogeneous areas of suspect ACM. A homogeneous area consists of building materials, which appear similar throughout in terms of color, texture and date of application. Interior assessment was conducted in each of the eight buildings. Building materials, which were not identified as concrete, glass, wood, masonry, metal or rubber, were considered suspect ACM.

3.2 Physical Assessment

A physical assessment of each homogeneous area of suspect ACM was conducted to assess the friability and condition of the materials. The EPA defines a friable material as a material which can be crumbled, pulverized or reduced to powder by hand pressure when dry. Friability was assessed by physically touching suspect materials.

3.3 Sample Collection

Based on results of the visual observation, bulk samples of suspect ACM were collected in general conformance with AHERA protocols. Random samples of suspect materials were collected in each homogeneous area. Appropriately attired sample team members collected bulk samples using wet methods as applicable to reduce the potential for fiber release. Samples were placed in sealable containers and labeled with unique sample numbers using an indelible marker.

A total of fifty-three (53) bulk samples were collected from eleven (11) homogeneous areas of suspect ACM. Bulk samples were collected from window glazing/putty sealant, drywall; roofing shingles, and insulating material. Bulk samples of transite pipe material also collected from the ground surface of the fenced-off area of the old transformers. Suspect ACM identified and sampled during the survey are tabulated and presented as Attachment A.

3.4 Sample Analysis

Bulk samples were submitted under chain of custody to Analytica Solutions in Thorton, Colorado for analysis by polarized light microscopy (PLM) with dispersion staining techniques per EPA methodology (40 CFR 763, Subpart F). The percentage of asbestos, where

applicable, was determined by microscopical visual estimation. Analytica Solutions is accredited under the National Voluntary Laboratory Accreditation Program NVLAP (0001).

4.0 REGULATORY OVERVIEW

The asbestos NESHAP (40 CFR Part 61, Subpart M) regulates asbestos fiber emissions and asbestos waste disposal practices. It also requires the identification and classification of existing building materials prior to demolition or renovation activity. Under NESHAP, asbestos containing building materials is classified as either friable, Category I non-friable or Category II non-friable ACM. Friable materials are those that, when dry, may be crumbled, pulverized or reduced to powder by hand pressure. Category I non-friable ACM includes packings, gaskets, resilient floor coverings and asphalt roofing products containing more than 1% asbestos. Category II non-friable ACM are any materials other than Category I materials that contain more than 1% asbestos.

Friable ACM, Category I and Category II non-friable ACM which is in poor condition and has become friable or which will be subjected to drilling, sanding, grinding, cutting or abrading and which could be crushed or pulverized during anticipated renovation or demolition activities are considered regulated ACM (RACM). RACM must be removed prior to renovation or demolition activities. If the amount of RACM exceeds 260 linear feet of pipe insulation, more than 160 square feet in other building, or will generate more than one cubic meter of waste, the owner or operator must provide the EPA with written notification of planned removal activities at least 10 working days prior to the commencement of asbestos abatement activities. An appropriately accredited and licensed asbestos abatement contractor must conduct removal of RACM.

The OSHA Asbestos standard for the construction industry (29 CFR 1926.1101) regulates workplace exposure to asbestos. The OSHA standard requires that employee exposure to airborne asbestos fibers be maintained below 0.1 asbestos fiber per cubic centimeter of air (0.1 f/cc). The OSHA standard classifies construction and maintenance activities, which could disturb ACM, and specifies work practices and precautions which employers must follow when engaging in each class of regulated work. States that administer their own federally approved state OSHA programs may require other precautions.

5.0 FINDINGS AND RECOMMENDATIONS

Based on the results of laboratory analyses, the tan window glazing, the transite pipe material found in the fenced enclosure of the old transformers, and the plaster material from the fire house contained asbestos. A summary of the classification, condition and approximate quantity of identified ACM are presented in Attachment B. Laboratory analytical reports are provided in Attachment C.

The window glazing in the machine shop and boiler shop contained from less than one percent to 2 percent chrysotile asbestos and was used extensively in both buildings. Approximately 35 percent of the windows in these two buildings appear to need replacement. Putty used to seal and secure the windows in the east CWE building did not contain asbestos.

The transite pipe material found in the fenced enclosure of the old transformers contained from 25 percent to 30 percent asbestos and appears to be the remnant of water (hot and/or cold) piping used throughout the main buildings. The pipe material was intact and difficult to break.

The drywall/plaster material collected from the old fire house contained 4 to 5 percent asbestos and comprised most of the interior walls, approximately 300 square feet.

Terracon recommends that the pre-renovation/modification abatement be completed in the following manner:

- Thoroughly search the buildings and their surroundings for the presence of the asbestos containing pipes and document their location. Under the supervision of an asbestos consultant, carefully remove the pipes and transport them to an asbestos-licensed landfill for disposal.

- Since only the damaged windows will be replaced or renovated, only the glazing from those windows needs to be abated. The glazing on the windows to be replaced should be removed under wet conditions, that is, wetting the glazing thoroughly to prevent the release of fibers during removal. This removal should also be done under the supervision of an asbestos consultant.

- Before any renovation, the fire house should be abated by a licensed abatement contractor. This abatement requires that a 10-day Notification be submitted to the New Mexico Environment Department (NMED) Hazardous Waste Bureau (Asbestos Section) for approval.

6.0 GENERAL COMMENTS

This asbestos survey was conducted in a manner consistent with the level of care and skill ordinarily exercised by members of the profession currently practicing under similar conditions in the same locale. The results, findings, conclusions and recommendations expressed in this report are based on conditions observed during our survey of the building. The information contained in this report is relevant to the date on which this survey was performed, and should not be relied upon to represent conditions at a later date.

This report has been prepared on behalf of and exclusively for use by the UDC and OLS for specific application to their project as discussed. This report is not a bidding document. Contractors or consultants reviewing this report must draw their own conclusions regarding further investigation or remediation deemed necessary. Terracon does not warrant the work of regulatory agencies, laboratories or other third parties supplying information, which may have been used in the preparation of this report. No warranty, express or implied is made.

ATTACHMENT A

ASBESTOS SURVEY SAMPLE SUMMARY
OLS UDC BNSF Railroad Complex
2nd Street, Albuquerque, New Mexico

Polarized Light Microscopy (PLM)		
Sample No.	**Description**	**Sample Location**
577007-NB.NS.1	Silver glaze coating window pane	Boiler Shop North Side
577007-NB.NS.2	Silver glaze coating on window pane	Boiler Shop North Side
577007-NB.NS.3	Silver glaze coating on window pane	Boiler Shop North Side
577007-NB.SS.4	Green painted window pane	Boiler Shop South Side
577007-NB.SS.5	Green painted window pane	Boiler Shop South Side
577007-NB.SS.6	Green painted window pane	Boiler Shop North Side
577007-NB.NS.7	Silver glaze coating on window pane	Boiler Shop North Side
577007-NB.NS.8	Silver glaze coating on window pane	Boiler Shop North Side
577707-NB.NS.9	Silver glaze/black spray-on with pane	Boiler Shop North Side
577007-NB.NS.10	Silver glaze/black spray-on with pane	Boiler Shop North Side
577007-NB.NS.11	Silver glaze/black spray-on with pane	Boiler Shop North Side
577007-SB.SS.F1.1	Silver glaze coating on window pane	Main Machine Shop South Side First Floor
577007-SB.SS.F1.2	Glaze coating on window pane (silver/black)	Main Machine Shop South Side First Floor
577007-SB.SS.F1.3	Glaze coating on window pane (silver)	Main Machine Shop South Side First Floor
577007-SB.SS.F1.4	Glaze coating on window pane (silver)	Main Machine Shop South Side First Floor
577007-SB.SS.F1.5	Glaze coating on window pane (silver)	Main Machine Shop South Side First Floor
577007-SB.SS.F1.6	Glaze coating on window pane (silver)	Main Machine Shop South Side First Floor
577007-SB.SS.F1.7	Glaze coating on window pane (silver/green)	Main Machine Shop South Side First Floor
577007-SB.SS.F2.1	Glaze coating on window pane (beige/green)	Main Machine Shop South Side

		Second Floor
577007-SB.SS.F2.2	Glaze coating on window pane (tan/brown)	Main Machine Shop South Side Second Floor
577007-SB.SS.F2.3	Glaze coating on window pane (off-white)	Main Machine Shop South Side Second Floor
577007-SB.SS.F2.4	Glaze coating on window pane (grey/green)	Main Machine Shop South Side Second Floor
577007-SB.SS.F2.5	Glaze coating on window pane (off-white)	Main Machine Shop South Side Second Floor
577007-SB.SS.F2.6	Plaster over cc wall (grey with paint)	Main Machine Shop South Side Second Floor
577007-SB.SS.F2.7	Plaster over cc wall (grey with paint)	Main Machine Shop South Side Second Floor
577007-NB.SS.1	Window glazing (tan)	Boiler Shops South Side
577007-NB.SS.2	Window glazing (tan)	Boiler Shops South Side
577007- NB.SS.3	Window glazing (tan)	Boiler Shops South Side
577007-NB.SS.01	Window glazing (beige)	Boiler Shops South Site
577007-NB.SS.02	Window glazing (beige)	Boiler Shops South Side
577007-NB.SS.03	Window glazing (beige)	Boiler Shops South Side
577007-NB.ES.01	Window glazing (beige)	Boiler Shops East Side
577007-NB.ES.02	Window glazing (beige)	Boiler Shops East Side
577007-N.O.01	Outside shingle (red with granules)	Outside of the Boiler Shops
577007-N.O.02	Outside shingle (red with granules)	Outside of the Boiler Shops
577007-N.O.03	Outside shingle (red with granules)	Outside of the Boiler Shops
577007-N.O.G.01	White insulation	100ft North of CWE Storage Shed
577007-N.O.G.02	White insulation	100ft North of CWE Storage Shed
577007-N.O.G.03	White insulation	100ft North of CWE Storage Shed
577007-NTE.WS-1	Transite pipe (grey)	Former Transformer Fenced Area West Side
577007-NTE.ES-3	Transite pipe (grey)	Former Transformer Area
577007-NTE.ES-1	Transite pipe (grey)	Former Transformer Area

		East Side
577007-SWB.WW.01	Window putty/glazing (beige)	Babbit Shop West Wall
577007-SWB.WW.02	Window putty/glazing (beige)	Babbit Shop West Wall
577007-FH.01	Insulation/plaster over brick	Fire House
577007-FH.02	Insulation/plaster over brick	Fire House
577007-FH.03	Insulation/plaster over brick	Fire House
577007-FH.04	Insulation/plaster/over brick	Fire House

ATTACHMENT B

CONFIRMED ASBESTOS CONTAINING MATERIALS SUMMARY
OLS UDC BNSF Railroad Complex
2nd Street, Albuquerque, New Mexico

Sample No.	Description	Material Location	Percent Asbestos	Type Asbestos	Classification
577007-NB.SS.2	Window glazing (tan)	Boiler Shop	2%	Chrysotile	Non-Friable
577007-NB.SS.3	Window glazing (tan)	Boiler Shop	2%	Chrysotile	Non-Friable
577007 NTE-WS -1	Transite pipe (grey)	Former Transformer Fenced Area	25% 5%	Chrysotile Crocidolite	Friable
577007-NTE-ES-3	Transite pipe (grey)	Former Transforer Fenced Area	20% 2%	Chrysotile Crocidolite	Friable
577007-NTE-NS-1	Transite pipe (grey)	Former Transformer Fenced Area	25% 3%	Chrysotile Crocidolite	Friable
577007-FH.03	Insulation/plaster over brick	Fire House	4%	Chrysotile	Friable
577007-FH.04	Insulation/plaster over brick	Fire House	5%	Chrysotile	Friable

ANALYTICA SOLUTIONS

Analytica Solutions, Inc.
12189 Pennsylvania Street
Thornton, Colorado 80241
(303) 469-8868
(800) 873-8707
Fax: (303) 469-5254

October 6, 2005

Ms. Victoria Trujillo/Ms. Mary Wells
Terracon, Inc
1630 Hickory Loop, Suite H
Las Cruces, NM 88005-

Re: LGN 351278 Project: 66057007

Dear Ms. Victoria Trujillo/Ms. Mary Wells:

The bulk samples recently submitted to our laboratory have been analyzed by polarized light microscopy (PLM), the EPA-recommended method for identification of fibrous constituents in building materials. The results of these analyses are summarized in the enclosed table. Also enclosed is a copy of documentation submitted with your samples.

If you have any technical questions concerning these analyses, please feel free to call me. All other calls should be directed to our Customer Service Representatives.

Sincerely,

Nikki MacDonald
Laboratory Manager

Enclosures

Analytica Solutions, Inc.
12189 Pennsylvania Street
Thornton, Colorado 80241
(303) 469-8868
(800) 873-8707
Fax: (303) 469-5254

RESULTS OF BULK ASBESTOS SAMPLE ANALYSIS BY POLARIZED LIGHT MICROSCOPY (PLM)

Client: **Terracon, Inc**

LGN: **351278**

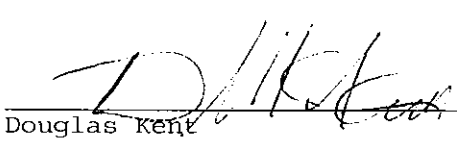
Project ID: **66057007**

Sample Description:

Sample Number	Sample Date	Description
7007.NB.SS.01	09/29/2005	Window glazing [beige]
7007.NB.SS.02	09/29/2005	Window glazing [beige]
7007.NB.SS.03	09/29/2005	Window glazing [beige]
7007.NB.SS.04	09/29/2005	Window glazing [beige]
7007.NB.ES.01	09/29/2005	Window glazing [beige]

Results of PLM Analysis: Visual Area Estimation: Percentages Detected

Sample Number:	7007.NB.SS.01	7007.NB.SS.02	7007.NB.SS.03	7007.NB.SS.04	7007.NB.ES.01
Asbestiform Minerals:					
Amosite					
Anthophyllite					
Chrysotile	Trace <1%	Trace <1%	Trace <1%		Trace <1%
Crocidolite					
Tremolite-Actinolite					
TOTAL ASBESTOS	Trace <1%	Trace <1%	Trace <1%	0	Trace <1%
Other Fibrous Materials:					
Fibrous Glass					
Cellulose					
Synthetics					
Other:					
Percent Nonfibrous Material	99.5	99.5	99.5	100	99.5

Analyst: 
Douglas Kent

Date: 10/06/2005

Analytica Solutions, Inc.
12189 Pennsylvania Street
Thornton, Colorado 80241
(303) 469-8868
(800) 873-8707
Fax: (303) 469-5254

RESULTS OF BULK ASBESTOS SAMPLE ANALYSIS BY POLARIZED LIGHT MICROSCOPY (PLM)

Client: **Terracon, Inc**

LGN: **351278**

Project ID: **66057007**

Sample Description:

Sample Number	Sample Date	Description
7007.NB.ES.02	09/29/2005	Window glazing [beige]
7007.N.O.01	09/29/2005	Outside shingle [red with granules]
7007.N.O.02	09/29/2005	Outside shingle [red with granules]
7007.N.O.03	09/29/2005	Outside shingle [red with granules]
7007.N.O.G.01	09/30/2005	White insulation [sample not received] [Not analyzed]

Results of PLM Analysis: Visual Area Estimation: Percentages Detected

Sample Number:	7007.NB.ES.02	7007.N.O.01	7007.N.O.02	7007.N.O.03	7007.N.O.G.01
Asbestiform Minerals:					Not Analyzed
Amosite					
Anthophyllite					
Chrysotile	Trace <1%				
Crocidolite					
Tremolite-Actinolite					
TOTAL ASBESTOS	Trace <1%	0	0	0	
Other Fibrous Materials:					
Fibrous Glass					
Cellulose		30.0	30.0	30.0	
Synthetics					
Other:					
Percent Nonfibrous Material	99.5	70.0	70.0	70.0	

Analyst: Douglas Kent

Date: 10/06/2005

Analytica Solutions, Inc.
12189 Pennsylvania Street
Thornton, Colorado 80241
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RESULTS OF BULK ASBESTOS SAMPLE ANALYSIS BY POLARIZED LIGHT MICROSCOPY (PLM)

Client: **Terracon, Inc**

LGN: **351278**

Project ID: **66057007**

Sample Description:

Sample Number	Sample Date	Description
7007.N.O.G.02	09/30/2005	White insulation [sample not received] [Not analyzed]
7007.N.O.G.03	09/30/2005	White insulation [sample not received] [Not analyzed]
7007-NTE-NS-1	09/30/2005	Transite pipe [sample not received] [Not analyzed]
7007-NTE-WS-1	09/30/2005	Transite pipe [grey]
7007-NTE-ES-3	09/30/2005	Transite pipe [grey]

Results of PLM Analysis: Visual Area Estimation: Percentages Detected

Sample Number:	7007.N.O.G.02	7007.N.O.G.03	7007-NTE-NS-1	7007-NTE-WS-1	7007-NTE-ES-3
Asbestiform Minerals:	Not Analyzed	Not Analyzed	Not Analyzed		
Amosite					
Anthophyllite					
Chrysotile				25.0	20.0
Crocidolite				5.0	5.0
Tremolite-Actinolite					
TOTAL ASBESTOS				30.0	25.0
Other Fibrous Materials:					
Fibrous Glass					
Cellulose					
Synthetics					
Other:					
Percent Nonfibrous Material				70.0	75.0

Analyst: Douglas Kent

Date: 10/06/2005

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RESULTS OF BULK ASBESTOS SAMPLE ANALYSIS BY POLARIZED LIGHT MICROSCOPY (PLM)

Client: **Terracon, Inc**

LGN: **351278**

Project ID: **66057007**

Sample Description:

Sample Number	Sample Date	Description
7007-NTE-NS-2	/ /	[grey cementitious material (sample received, but not on COC)]
7007.SWB.WW.01	/ /	[beige caulk (sample received, but not on COC)]
7007.SWB.WW.02	/ /	[beige caulk (sample received, but not on COC)]
7007.FH.01	/ /	[yellow fiberglass insulation (sample received, but not on COC)]
7007.FH.02	/ /	[white plaster with paint (sample received, but not on COC)]

Results of PLM Analysis: Visual Area Estimation: Percentages Detected

Sample Number:	7007-NTE-NS-2	7007.SWB.WW.01	7007.SWB.WW.02	7007.FH.01	7007.FH.02
Asbestiform Minerals:					
Amosite					
Anthophyllite					
Chrysotile	25.0	Trace <1%	Trace <1%		
Crocidolite	3.0				
Tremolite-Actinolite					
TOTAL ASBESTOS	28.0	Trace <1%	Trace <1%	0	0
Other Fibrous Materials:					
Fibrous Glass				95.0	
Cellulose					
Synthetics					
Other:					
Percent Nonfibrous Material	72.0	99.5	99.5	5.0	100

Analyst: Douglas Kent

Date: 10/06/2005

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Fax: (303) 469-5254

RESULTS OF BULK ASBESTOS SAMPLE ANALYSIS BY POLARIZED LIGHT MICROSCOPY (PLM)

Client: **Terracon, Inc**

LGN: **351278**

Project ID: **66057007**

Sample Description:

Sample Number	Sample Date	Description
7007.FH.03	/ /	[white mud with paint (sample received, but not on COC)]
7007.FH.04	/ /	[white mud with paint (sample received, but not on COC)]
[1]	/ /	[white/tan insulation (sample received, but not on COC; bag not labeled; labeled [1] for I.D.)]
[2]	/ /	[white/tan insulation (sample received, but not on COC; bag not labeled; labeled [2] for I.D.)]
[3]	/ /	[white/tan insulation (sample received, but not on COC; bag not labeled; labeled [3] for I.D.)]

Results of PLM Analysis: Visual Area Estimation: Percentages Detected

Sample Number:	7007.FH.03	7007.FH.04	[1]	[2]	[3]
Asbestiform Minerals:					
Amosite					
Anthophyllite					
Chrysotile	4.0	5.0			
Crocidolite					
Tremolite-Actinolite					
TOTAL ASBESTOS	4.0	5.0	0	0	0
Other Fibrous Materials:					
Fibrous Glass					
Cellulose			95.0	95.0	95.0
Synthetics					
Other:					
Percent Nonfibrous Material	96.0	95.0	5.0	5.0	5.0

Analyst: Douglas Kent

Date: 10/06/2005

ANALYTICA GROUP

Sample Data Sheet

Analytica Solutions, Inc.
12189 Pennsylvania Street
Thornton, Colorado 80241-3115
(303) 469-8868
FAX: (303) 469-5254
www.analyticagroup.com

LGN: 351278 *(for Analytica internal use only)*

Contact: Victoria Trujillo / Mary Wells
Company: Terracon
Address: 1630 Hickory Loop, Suite H
City: Las Cruces
State: NM Zip: 88005
Phone: 505.527.1700
Fax: 505.527.1092

Project: 66057007
P.O.#:

2-Day TAT per client
M 10/04/05

☐ Same Day ☐ 3 Day
☐ 1 Day ☐ 5 Day
☒ 2 Day ☐ 10 Day (Standard)

☐ EDD (Excel Electronic Data Deliverable) *(additional charges may apply)*

☑ e-mail results to: vvtrujillo@terracon.com *(e-mail address must be clearly specified above)*

(1) Type = A (asbestos) or Pb (lead paint)
(2) Matrix = B (bulk); S (soil); W (wipe); P (paint)

Report Units: ☑ % volume (asbestos) ☐ % weight (lead) ☐ mg/kg or ppm (lead) ☐ mg/cm² or ug/ft² (lead)

↑ FOR PROMPT PROCESSING, PLEASE COMPLETE ALL BOXES ↓

Type (1)	Matrix (2)	Sample Number (maximum 16 characters in length)	Sample Date	Sample Description (maximum 75 characters in length)	Sampling Area in² or cm²
A	B	7007.NB.SS.01	9/29/05	window glazing	
A	B	7007.NB.SS.02	9/29/05	window glazing	
A	B	7007.NB.SS.03	9/29/05	window glazing	
A	B	7007.NB.SS.04	9/29/05	window glazing	
A	B	7007.NB.ES.01	9/29/05	window glazing	
A	B	7007.NB.ES.02	9/29/05	window glazing	
A	B	7007.N.O.01	9/29/05	outside shingle	
A	B	7007.N.O.02	9/29/05	outside shingle	
A	B	7007.N.O.03	9/29/05	outside Shingle	
A	B	7007.N.O.G.01	9/30/05	white insulation	samples not rec'd 10/5/05
A	B	7007.N.O.G.02	9/30/05	white insulation	
A	B	7007.N.O.G.03	9/30/05	white insulation	

Special Instructions or Other Information:

Relinquished by: Victoria Trujillo Date/Time: 9/30/05 Received by: 10/4/05 Date/Time: 8:45am

Relinquished by: _____ Date/Time: _____ Received by: _____ Date/Time: _____

Return samples: ☐ YES ☐ NO

057.01.01

ANALYTICA GROUP

Analytica Solutions, Inc.
12189 Pennsylvania Street
Thornton, Colorado 80241-3115
(303) 469-8868
FAX: (303) 469-5254
www.analyticagroup.com

Sample Data Sheet

LGN: 351278 *(for Analytica internal use only)*

Contact: Victoria Trujillo/Mary Wells
Company: Terracon
Address: 1630 Hickory Loop
City: Las Cruces
State: NM Zip: 88005
Phone: 505.527.1700
Fax: 505.527.1092

Project: 66057007
P.O.#:

☐ Same Day ☐ 3 Day
☐ 1 Day ☐ 5 Day
☐ 2 Day ☐ 10 Day (Standard)

☐ e-mail results to: vvtrujillo@terracon.com
(e-mail address must be clearly specified above)

☐ EDD (Excel Electronic Data Deliverable)
(additional charges may apply)

(1) Type = A (asbestos) or Pb (lead paint)
(2) Matrix = B (bulk); S (soil); W (wipe); P (paint)

Report Units: ☐ % volume (asbestos) ☐ % weight (lead) ☐ mg/kg or ppm (lead) ☐ mg/cm² or ug/ft² (lead)

↑ FOR PROMPT PROCESSING, PLEASE COMPLETE ALL BOXES ↓

Type (1)	Matrix (2)	Sample Number (maximum 16 characters in length)	Sample Date	Sample Description (maximum 75 characters in length)	Sampling Area in² or cm²
A	B	7007-NTE-NS-1	9/30/05	Transite Pipe [sample not rec'd]	10/5/5 20
A	B	7007-NTE-WS-1	9/30/05	Transite Pipe	
A	B	7007-NTE-ES-3	9/30/05	Transite Pipe	
		7007&SUB.WW.01	↑		
		7007.SUB.WW.02	samples	rec'd, but not listed	
		7007-NTE-NS-2	on	COC 10/5/5 20	
		7007.FH.01			
		7007.FH.02			
		7007.FH.03			
		7007.FH.04	↓		
		1 2 3	samples	rec'd, not listed on COC; bags not labeled 10/5/5 20	

Special Instructions or Other Information:

Relinquished by: Victoria Trujillo Date/Time: 9/30/05 Received by: [signature] 10/4/05 Date/Time: 8:45 am

Relinquished by: _____ Date/Time: _____ Received by: _____ Date/Time: _____

Return samples: ☐ YES ☐ NO

057.01.01

ANALYTICA SOLUTIONS
12189 Pennsylvania Street
Thornton, Colorado 80241

POLARIZED LIGHT MICROSCOPY (PLM)
BULK SAMPLE ANALYSIS PROCEDURES

Bulk samples of construction materials are analyzed by a professional mineralogist with a minimum of a Bachelor's Degree in Geology using the July 1993, EPA Test Method, (EPA/600/R-93/116), "Method for the Determination of Asbestos in Bulk Building Materials"[1]. Samples are prepared and analyzed in different Cargille® certified refractive index oils. Estimates of asbestos content are based on visual comparisons using a calibrated graticule. Additional tests and treatments (see below) may also be required for certain samples.

Analytica is accredited by the National Institute of Standards and Technology (Lab Code #101086) under the National Voluntary Laboratory Accreditation Program (NVLAP) for bulk asbestos analysis. Analytica participates in the NVLAP bulk asbestos proficiency testing program *(results available upon request)*. An in-house QA/QC program is maintained on a daily basis that requires, at a minimum, 10% of samples submitted to be re-analyzed and logged into a quality control tracking system. Analytica participates in two round robin QA/QC programs annually with accredited laboratories throughout the United States. Unused portions of samples are archived for six months, then disposed of or returned to the client.

ASHING

Ashing is a procedure in which one half of the sample is placed in a crucible and then set in a furnace at 500° C for one hour or more. Most non-silicate interferants are eliminated, leaving only asbestos undisturbed. The amount of ashed material is compared to the original amount to determine the volume percent lost due to ashing. The sample is then analyzed by PLM for the type and amount of asbestos present. The results shown on the final report are the percentage of asbestos in the original material, not the ashed material, i.e. if 50% of the original material is lost due to ashing and the ashed sample contains 10% asbestos, then the final report would show 5% asbestos in the original material.

POINT COUNTING

As of November 20, 1990, the National Emission Standards for Hazardous Air Pollutants (NESHAP) established rules requiring that friable ACM bulk samples with less than 10% asbestos be analyzed by the point count procedures described in the EPA-600/R-93/116 test method. Analytica does have experienced analysts to perform point counts if needed. **Analytica Solutions, Inc. cannot determine bulk sample friability and cannot assume responsibility for client compliance with the NESHAP rule.**

(1) In January 1994, a NESHAP clarification was issued regarding analysis of multi-layered samples. This clarification requires all layers of a sample must be analyzed and reported separately. On August 1, 1994, EPA issued a notice of advisory adopting a new AHERA policy consistent with the NESHAP policy. When reviewing an Analytica Solutions PLM analysis report, do not use the composite result for the determination of positive (> 1%) ACM. Determination of ACM should be made strictly from the individual layers of each sample.

(2) On August 10, 1994, OSHA ruled that to demonstrate that Potential Asbestos Containing Material (PACM) does not contain asbestos, tests shall include analysis of 3 bulk samples of each homogeneous area of the PACM collected in a randomly distributed manner.

(3) This test report relates only to items tested.

(4) NVLAP policy requires that this report may not be reproduced except in full, without the written approval of the laboratory.

(5) NVLAP policy requires that this report must not be used by the client to claim product endorsement by NVLAP or any agency of the United States Government.

Analytica Solutions, Inc.
12189 Pennsylvania Street
Thornton, Colorado 80241
(303) 469-8868
(800) 873-8707
Fax: (303) 469-5254

September 28, 2005

Ms. Victoria Trujillo
Terracon, Inc
1630 Hickory Loop, Suite H
Las Cruces, NM 88005-

Re: LGN 351232 Project: OLS UDC VRP Asbestos

Dear Ms. Victoria Trujillo:

The bulk samples recently submitted to our laboratory have been analyzed by polarized light microscopy (PLM), the EPA-recommended method for identification of fibrous constituents in building materials. The results of these analyses are summarized in the enclosed table. Also enclosed is a copy of documentation submitted with your samples.

If you have any technical questions concerning these analyses, please feel free to call me. All other calls should be directed to our Customer Service Representatives.

Sincerely,

Nikki MacDonald
Laboratory Manager

Enclosures

Analytica Solutions, Inc.
12189 Pennsylvania Street
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Fax: (303) 469-5254

RESULTS OF BULK ASBESTOS SAMPLE ANALYSIS BY POLARIZED LIGHT MICROSCOPY (PLM)

Client: **Terracon, Inc** LGN: **351232**

Project ID: **OLS UDC VRP Asbestos**

Sample Description:

Sample Number	Sample Date	Description
7007-NB.NS.1	09/21/2005	Silver glaze coating on window pane
7007-NB.NS.2	09/21/2005	Silver glaze coating on window pane
7007-NB.NS.3	09/21/2005	Silver glaze coating on window pane
7007-NB.SS.4	09/21/2005	Green painted window pane
7007-NB.SS.5	09/21/2005	Green painted window pane

Results of PLM Analysis: Visual Area Estimation: Percentages Detected

Sample Number:	7007-NB.NS.1	7007-NB.NS.2	7007-NB.NS.3	7007-NB.SS.4	7007-NB.SS.5
Asbestiform Minerals:					
Amosite					
Anthophyllite					
Chrysotile					
Crocidolite					
Tremolite-Actinolite					
TOTAL ASBESTOS	0	0	0	0	0
Other Fibrous Materials:					
Fibrous Glass				40.0	40.0
Cellulose					
Synthetics					
Other:					
Percent Nonfibrous Material	100	100	100	60.0	60.0

Analyst: Douglas Kent Date: 09/28/2005

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RESULTS OF BULK ASBESTOS SAMPLE ANALYSIS BY POLARIZED LIGHT MICROSCOPY (PLM)

Client: **Terracon, Inc** LGN: 351232

Project ID: **OLS UDC VRP Asbestos**

Sample Description:

Sample Number	Sample Date	Description
7007-NB.SS.6	09/21/2005	Green painted window pane
7007-NB.NS.7	09/21/2005	Silver glaze coating on window pane
7007-NB.NS.8	09/21/2005	Silver glaze coating on window pane
7007-NB.NS.9	09/21/2005	Silver glaze/black spray on w. pane [inseparable (sample bag labeled 7007-NB-WS-9)]
7007-NB.NS.10	09/21/2005	Silver glaze/black spray on w. pane [inseparable (sample bag labeled 7007-NB-WS-10)]

Results of PLM Analysis: Visual Area Estimation: Percentages Detected

Sample Number:	7007-NB.SS.6	7007-NB.NS.7	7007-NB.NS.8	7007-NB.NS.9	7007-NB.NS.10
Asbestiform Minerals:					
Amosite					
Anthophyllite					
Chrysotile					
Crocidolite					
Tremolite-Actinolite					
TOTAL ASBESTOS	0	0	0	0	0
Other Fibrous Materials:					
Fibrous Glass	40.0				
Cellulose					
Synthetics					
Other:					
Percent Nonfibrous Material	60.0	100	100	100	100

Analyst: Douglas Kent Date: 09/28/2005

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RESULTS OF BULK ASBESTOS SAMPLE ANALYSIS BY POLARIZED LIGHT MICROSCOPY (PLM)

Client: **Terracon, Inc** LGN: **351232**

Project ID: **OLS UDC VRP Asbestos**

Sample Description:

Sample Number	Sample Date	Description
7007-NB.NS.11	09/21/2005	Silver glaze/black spray on w. pane [inseparable (sample bag labeled 7007-NB-WS-11)]
7007-SB.SS.F1.1	09/21/2005	Silver glaze coating on window pane [sample bag labeled 7007-SS-I-SS-1]
7007-SB.SS.F1.2	09/21/2005	Glaze coating on window pane [silver/black (sample bag labeled 7007-SS-I-SS-2)]
7007-SB.SS.F1.3	09/21/2005	Glaze coating on window pane [silver (sample bag labeled 7007-SB-I-SS-3)]
7007-SB.SS.F1.4	09/21/2005	Glaze coating on window pane [silver (sample bag labeled 7007-SB-I-SS-4)]

Results of PLM Analysis: Visual Area Estimation: Percentages Detected

Sample Number:	7007-NB.NS.11	7007-SB.SS.F1.1	7007-SB.SS.F1.2	7007-SB.SS.F1.3	7007-SB.SS.F1.4
Asbestiform Minerals:					
Amosite					
Anthophyllite					
Chrysotile					
Crocidolite					
Tremolite-Actinolite					
TOTAL ASBESTOS	0	0	0	0	0
Other Fibrous Materials:					
Fibrous Glass	Trace <1%				
Cellulose					
Synthetics					
Other:					
Percent Nonfibrous Material	99.5	100	100	100	100

Analyst: 
Douglas Kent

Date: 09/28/2005

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RESULTS OF BULK ASBESTOS SAMPLE ANALYSIS BY POLARIZED LIGHT MICROSCOPY (PLM)

Client: **Terracon, Inc** LGN: 351232

Project ID: **OLS UDC VRP Asbestos**

Sample Description:

Sample Number	Sample Date	Description
7007-SB.SS.F1.5	09/21/2005	Glaze coating on window pane [silver (sample bag labeled 7007-SS-I-SS-5)]
7007-SB.SS.F1.6	09/21/2005	Glaze coating on window pane [silver (sample bag labeled 7007-SB-I-SS-6)]
7007-SB.SS.F1.7	09/21/2005	Glaze coating on window pane [silver/green (sample bag labeled 7007-SB-I-SS-7)]
7007-SB.SS.F2.1	09/21/2005	Glaze coating on window pane [beige/grey (sample bag labeled 7007-SB-I-2nd-1)]
7007-SB.SS.F2.2	09/21/2005	Glaze coating on window pane [tan/brown (sample bag labeled 7007-SB-I-2nd-2)]

Results of PLM Analysis: Visual Area Estimation: Percentages Detected

Sample Number:	7007-SB.SS.F1.5	7007-SB.SS.F1.6	7007-SB.SS.F1.7	7007-SB.SS.F2.1	7007-SB.SS.F2.2
Asbestiform Minerals:					
Amosite					
Anthophyllite					
Chrysotile					
Crocidolite					
Tremolite-Actinolite					
TOTAL ASBESTOS	0	0	0	0	0
Other Fibrous Materials:					
Fibrous Glass					
Cellulose					
Synthetics					
Other:				3.0 Talc	
Percent Nonfibrous Material	100	100	100	97.0	100

Analyst: Douglas Kent Date: 09/28/2005

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RESULTS OF BULK ASBESTOS SAMPLE ANALYSIS BY POLARIZED LIGHT MICROSCOPY (PLM)

Client: **Terracon, Inc** LGN: **351232**

Project ID: **OLS UDC VRP Asbestos**

Sample Description:

Sample Number	Sample Date	Description
7007-SB.SS.F2.3	09/21/2005	Glaze coating on window pane [off-white (sample bag labeled 7007-SB-I-2nd-3)]
7007-SB.SS.F2.4	09/21/2005	Glaze coating on window pane [grey/green (sample bag labeled 7007-SB-I-2nd-4)]
7007-SB.SS.F2.5	09/21/2005	Glaze coating on window pane [off-white (sample bag labeled 7007-SB-I-2nd-5)]
7007-SB.SS.F2.6	09/21/2005	Plaster over cc wall [grey, with paint (sample bag labeled 7007-SB-I-2nd-6)]
7007-SB.SS.F2.7	09/21/2005	Plaster over cc wall [grey, with paint (sample bag labeled 7007-SB-I-2nd-7)]

Results of PLM Analysis: Visual Area Estimation: Percentages Detected

Sample Number:	7007-SB.SS.F2.3	7007-SB.SS.F2.4	7007-SB.SS.F2.5	7007-SB.SS.F2.6	7007-SB.SS.F2.7
Asbestiform Minerals:					
Amosite					
Anthophyllite					
Chrysotile					
Crocidolite					
Tremolite-Actinolite					
TOTAL ASBESTOS	0	0	0	0	0
Other Fibrous Materials:					
Fibrous Glass					
Cellulose				Trace <1%	Trace <1%
Synthetics					
Other:		5.0 Talc			
Percent Nonfibrous Material	100	95.0	100	99.5	99.5

Analyst: Douglas Kent Date: 09/28/2005

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RESULTS OF BULK ASBESTOS SAMPLE ANALYSIS BY POLARIZED LIGHT MICROSCOPY (PLM)

Client: **Terracon, Inc**

LGN: **351232**

Project ID: **OLS UDC VRP Asbestos**

Sample Description:

Sample Number	Sample Date	Description
7007-NB.SS.1	09/21/2005	Window glazing [tan]
7007-NB.SS.2	09/21/2005	Window glazing [tan]
7007-NB.SS.3	09/21/2005	Window glazing [tan]

Results of PLM Analysis: Visual Area Estimation: Percentages Detected

Sample Number:	7007-NB.SS.1	7007-NB.SS.2	7007-NB.SS.3		
Asbestiform Minerals:					
Amosite					
Anthophyllite					
Chrysotile	Trace <1%	2.0	2.0		
Crocidolite					
Tremolite-Actinolite					
TOTAL ASBESTOS	Trace <1%	2.0	2.0		
Other Fibrous Materials:					
Fibrous Glass					
Cellulose					
Synthetics					
Other:					
Percent Nonfibrous Material	99.5	98.0	98.0		

Analyst: Douglas Kent

Date: 09/28/2005

ANALYTICA GROUP

Sample Data Sheet

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12189 Pennsylvania Street
Thornton, Colorado 80241-3115
(303) 469-8868
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LGN: 351232 *(for Analytica internal use only)*

Contact: VICTORIA TRUJILLO
Company: TERRACON
Address: 1630 HICKORY LOOP, SUITE H
City: LAS CRUCES
State: NM Zip: 88005
Phone: 505. 527. 1700
Fax: 505. 527. 1092

Project: OLS UDC VRP ASBESTOS
P.O.#:

- [ ] Same Day
- [ ] 1 Day
- [X] 2 Day
- [ ] 3 Day
- [ ] 5 Day
- [ ] 10 Day (Standard)

[X] e-mail results to: VVTRUJILLO@TERRACON.COM
(e-mail address must be clearly specified above)

[ ] EDD (Excel Electronic Data Deliverable)
(additional charges may apply)

(1) **Type** = A (asbestos) or Pb (lead paint)
(2) **Matrix** = B (bulk); S (soil); W (wipe); P (paint)

Report Units: [X] % volume (asbestos) [ ] % weight (lead) [ ] mg/kg or ppm (lead) [ ] mg/cm^2 or ug/ft^2 (lead)

↑ **FOR PROMPT PROCESSING, PLEASE COMPLETE ALL BOXES** ↓

Type (1)	Matrix (2)	Sample Number (maximum 16 characters in length)	Sample Date	Sample Description (maximum 75 characters in length)	Sampling Area In^2 ~~or cm^2~~
A	B	7007-NB.NS.1	9-21-05	SILVER GLAZE COATING ON WINDOW PANE	
"	"	7007-NB.NS.2	"	" " " " " "	
"	"	7007-NB.NS.3	"	" " " " " "	
"	"	7007-NB.SS.4	"	GREEN PAINTED WINDOW PANE	
"	"	7007-NB.SS.5	"	" " " "	
"	"	7007-NB.SS.6	"	" " " "	
"	"	7007-NB.NS.7	"	SILVER GLAZE COATING ON WINDOW PANE	
"	"	7007-NB.NS.8	"	" " " " " "	
"	"	7007-NB.NS.9	"	SILVER GLAZE/BLACK SPRAY ON W. PANE	
"	"	7007-NB.NS.10	"	" " " " " "	
"	"	7007-NB.NS.11	"	" " " " " "	
"	"	7007-SB.SS.F1.1	"	SILVER GLAZE COATING ON WINDOW PANE	

Samples Labeled:
7007-NB-WS-9
7007-NB-WS-10
7007-NB-WS-11
7007-SS-I-SS-1

Special Instructions or Other Information:

N 09-2805

Relinquished by: Victoria Trujillo Date/Time: 9/23/05 Received by: 9/26/05 Date/Time: 9:45 am

Relinquished by: _____ Date/Time: _____ Received by: _____ Date/Time: _____

Return samples: [ ] YES [ ] NO

057.01.01

ANALYTICA GROUP

Sample Data Sheet

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LGN: 351232 *(for Analytica internal use only)*

Contact: VICTORIA TRUJILLO
Company: TERRACON
Address: 1630 HICKORY LOOP, SUITE H
City: LAS CRUCES
State: NM Zip: 88005
Phone: 505. 527. 1700
Fax: 505. 527. 1092

Project: OLS UDC VRP ASBESTOS
P.O.#:

- [ ] Same Day
- [ ] 1 Day
- [X] 2 Day
- [ ] 3 Day
- [ ] 5 Day
- [ ] 10 Day (Standard)

[X] e-mail results to: VVTRUJILLO@TERRACON.COM *(e-mail address must be clearly specified above)*

[ ] EDD (Excel Electronic Data Deliverable) *(additional charges may apply)*

(1) Type = A (asbestos) or Pb (lead paint)
(2) Matrix = B (bulk); S (soil); W (wipe); P (paint)

Report Units: [X] % volume (asbestos) [ ] % weight (lead) [ ] mg/kg or ppm (lead) [ ] mg/cm² or ug/ft² (lead)

↑ FOR PROMPT PROCESSING, PLEASE COMPLETE ALL BOXES ↓

Type (1)	Matrix (2)	Sample Number (maximum 16 characters in length)	Sample Date	Sample Description (maximum 75 characters in length)	Sampling Area in² or cm²
		Samples labeled:			
A	B	7007-SB.SS.F1.2	7007-SS-I-SS-2 9-21-05	GLAZE ON WINDOW PANE (CORTING)	
"	"	7007-SB.SS.F1.3	7007-SB-I-SS-3	" " " " "	
"	"	7007-SB.SS.F1.4	7007-SB-I-SS-4	" " " " "	
"	"	7007-SB.SS.F1.5	7007-SS-I-SS-5	" " " " "	
"	"	7007-SB.SS.F1.6	7007-SB-I-SS-6	" " " " "	
"	"	7007-SB.SS.F1.7	7007-SB-I-SS-7	" " " " "	
"	"	7007-SB.SS.F2.1	7007-SB-I-2nd-1	" " " " "	
"	"	7007-SB.SS.F2.2	7007-SB-I-2nd-2	" " " " "	
"	"	7007-SB.SS.F2.3	7007-SB-I-2nd-3	" " " " "	
"	"	7007-SB.SS.F2.4	7007-SB-I-2nd-4	" " " " "	
"	"	7007-SB.SS.F2.5	7007-SB-I-2nd-5	" " " " "	
"	"	7007-SB.SS.F2.6	7007-SB-I-2nd-6	PLASTER OVER CONC. WALL	

Special Instructions or Other Information:

NVLAP 04-2805

Relinquished by: Victoria Trujillo Date/Time: 9/23/05 Received by: 9/26/05 Date/Time: 9:45 am

Relinquished by: _____ Date/Time: _____ Received by: _____ Date/Time: _____

Return samples: [ ] YES [ ] NO

057.01.01

ANALYTICA GROUP

Sample Data Sheet

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Project: OLS UDC VRP ASBESTOS
P.O.#:

- [ ] Same Day
- [ ] 1 Day
- [X] 2 Day
- [ ] 3 Day
- [ ] 5 Day
- [ ] 10 Day (Standard)

[X] e-mail results to: VVTRUJILLO@TERRACON.COM
(e-mail address must be clearly specified above)

[ ] EDD (Excel Electronic Data Deliverable)
(additional charges may apply)

(1) Type = A (asbestos) or Pb (lead paint)
(2) Matrix = B (bulk); S (soil); W (wipe); P (paint)

Report Units: [X] % volume (asbestos) [ ] % weight (lead) [ ] mg/kg or ppm (lead) [ ] mg/cm² or ug/ft² (lead)

↑ FOR PROMPT PROCESSING, PLEASE COMPLETE ALL BOXES ↓

Type (1)	Matrix (2)	Sample Number (maximum 16 characters in length)	Sample Date	Sample Description (maximum 75 characters in length)	Sampling Area in² or cm²
A	B	7007-SB.SS.F2.7	9-21-05	PLASTER over cc INSUL	
"	"	7007-NB.SS.1	"	WINDOW GLAZING	
"	"	7007-NB.SS.2	"	" "	
"	"	7007-NB.SS.3	"	" "	
"	"				
"	"				
"	"				
"	"				
"	"				
"	"				
"	"				
"	"				
"	"				

Sample labelled: 7007-SB-I-2nd-7

09-28-05

Special Instructions or Other Information:

Relinquished by: Victoria Trujillo Date/Time: 9/23/05 Received by: 9/26/05 Date/Time: 9:45am

Relinquished by: _____ Date/Time: _____ Received by: _____ Date/Time: _____

Return samples: [ ] YES [ ] NO

057.01.01

ANALYTICA SOLUTIONS, INC.
12189 Pennsylvania Street
Thornton, Colorado 80241-3115
(800) 873-8707

SHIPPING, LABELING & CHAIN OF CUSTODY INSTRUCTIONS
[ASBESTOS CONTAINING MATERIAL]

The following instructions are a review of the proper techniques in labeling and packaging of Asbestos Containing Material (ACM) and the proper completion of Chain of Custody (COC) documentation submitted with ACM samples. Compliance with EPA, OSHA, and DOT regulations will limit your exposure to federal regulation violation and contributes to the safety of Analytica employees. When properly followed, these instructions will allow the samples to be processed correctly and without delay.

SAMPLE IDENTIFICATION AND LABELING

Affix or mark the sample container with a unique identification code or label. Use a permanent marker or label that will not smear, run or be removed easily. MAKE SURE EACH IDENTIFICATION CODE IS UNIQUE FROM ALL OTHER IDENTIFICATION CODES WITHIN ANY GROUP OF SAMPLES LISTED ON THE SAMPLE DOCUMENTATION AND IS CLEARLY READABLE. Prompt processing of samples will be delayed if any portion of the sample identification code or any other information supplied on the COC is not legible. When copying the unique sample ID to the COC, double check to assure it is properly copied. ALL NUMBERS AND LETTERS OF THE CODE ON THE SAMPLE CONTAINER MUST EXACTLY MATCH THE COC. *Keep all samples listed on a specific COC grouped with that COC in an organized manner but do not allow the suspected asbestos material to contact the documentation.* Any variations will need verification and may cause a delay.

PACKAGING & SHIPPING OF ASBESTOS CONTAINING MATERIAL [1]

Based on potential health risks as defined by EPA, OSHA and DOT, samples must be packaged to "survive" any one of a series of performance tests. The DOT Hazardous Materials Regulations (HMR) clearly states friable, "small quantity" bulk samples must be packed in sealed containers which are protected by packing material. Each bulk sample must weigh less than 30 grams (1 ounce) and be securely sealed within a sample container. Samples can be placed in plastic bags or vials, glass, metal or earthenware containers and sealed or secured with a lid that will not open in transit. The sample must be securely sealed within an individual container of at least 0.2 mm (8 mil) thickness prior to placement in a shipping container. Standard kitchen variety Zip-Lock® bags do not meet DOT regulations and should not be used. The final shipping container is limited to a total of 64 pounds. HMR exempts PCM and TEM air cassette samples from its regulations. To prevent these samples from cross contamination, package them so the end plugs do not jar loose. Air cassettes should be placed in separate, sealed containers within a shipping container. DO NOT SEND BULK SAMPLES IN THE SAME CONTAINER WITH AIR CASSETTES. OSHA does not recommend (29 CFR 1910.1001, Appendix J, Non-Mandatory) the use of envelopes, plastic or paper bags of any kind to collect samples. OSHA suggests the use of glass vials shipped by certified mail, overnight express or hand-carried to the laboratory.

Shipment of the above described samples can be performed by overnight express carriers such as Federal Express as well as via U.S. Mail. When using U.S. Mail, send the package Certified and mark the outside of the package; *"Contents: Samples of Potential Asbestos Containing Material"* or a similar statement indicating the contents of the package. All samples and packages must be properly packaged to prevent any accidental opening of any container during transit. DO NOT STAPLE, PAPER CLIP OR ATTACH ANY SAMPLE CONTAINERS TOGETHER AND DO NOT ATTACH, IN ANY MANNER, THE COC TO ANY SAMPLE CONTAINER!

CHAIN OF CUSTODY DOCUMENTATION

The Chain of Custody (COC) is "married" or "joined" to the sample(s) upon arrival at the laboratory and remains with the sample(s). The COC document is for legal/civic protection as well as sample traceability. The COC is necessary if there is any possibility the analytical data or conclusions based upon the data will be used in litigation. Properly completing the COC will eliminate any delays in the processing of samples. The top copy (white) of Analytica's carbonless forms or the original of the COC must be sent with the samples. We cannot change any sample data or any numerical value without written authorization. A revised copy of the COC and a letter indicating there has been changes to the original COC must be mailed or sent by facsimile. Legal protocol prevents Analytica from releasing the original COC unless it is accompanied by the sample(s). Analytica does provide a copy of the submitted COC with every report.

[1] Federal Register, 49 CFR, Parts 171-180, October, 1992; Federal Register, 29 CFR Parts 1910, et al., August, 1994; "Environmental Choices", March/April, 1993

THANK YOU FOR YOUR COOPERATION AND COMPLIANCE

ANALYTICA SOLUTIONS
12189 Pennsylvania Street
Thornton, Colorado 80241

POLARIZED LIGHT MICROSCOPY (PLM)
BULK SAMPLE ANALYSIS PROCEDURES

Bulk samples of construction materials are analyzed by a professional mineralogist with a minimum of a Bachelor's Degree in Geology using the July 1993, EPA Test Method, (EPA/600/R-93/116), "Method for the Determination of Asbestos in Bulk Building Materials"[1]. Samples are prepared and analyzed in different Cargille® certified refractive index oils. Estimates of asbestos content are based on visual comparisons using a calibrated graticule. Additional tests and treatments (see below) may also be required for certain samples.

Analytica is accredited by the National Institute of Standards and Technology (Lab Code #101086) under the National Voluntary Laboratory Accreditation Program (NVLAP) for bulk asbestos analysis. Analytica participates in the NVLAP bulk asbestos proficiency testing program *(results available upon request)*. An in-house QA/QC program is maintained on a daily basis that requires, at a minimum, 10% of samples submitted to be re-analyzed and logged into a quality control tracking system. Analytica participates in two round robin QA/QC programs annually with accredited laboratories throughout the United States. Unused portions of samples are archived for six months, then disposed of or returned to the client.

ASHING

Ashing is a procedure in which one half of the sample is placed in a crucible and then set in a furnace at 500° C for one hour or more. Most non-silicate interferants are eliminated, leaving only asbestos undisturbed. The amount of ashed material is compared to the original amount to determine the volume percent lost due to ashing. The sample is then analyzed by PLM for the type and amount of asbestos present. The results shown on the final report are the percentage of asbestos in the original material, not the ashed material, i.e. if 50% of the original material is lost due to ashing and the ashed sample contains 10% asbestos, then the final report would show 5% asbestos in the original material.

POINT COUNTING

As of November 20, 1990, the National Emission Standards for Hazardous Air Pollutants (NESHAP) established rules requiring that friable ACM bulk samples with less than 10% asbestos be analyzed by the point count procedures described in the EPA-600/R-93/116 test method. Analytica does have experienced analysts to perform point counts if needed. **Analytica Solutions, Inc. cannot determine bulk sample friability and cannot assume responsibility for client compliance with the NESHAP rule.**

(1) In January 1994, a NESHAP clarification was issued regarding analysis of multi-layered samples. This clarification requires all layers of a sample must be analyzed and reported separately. On August 1, 1994, EPA issued a notice of advisory adopting a new AHERA policy consistent with the NESHAP policy. When reviewing an Analytica Solutions PLM analysis report, do not use the composite result for the determination of positive (> 1%) ACM. Determination of ACM should be made strictly from the individual layers of each sample.

(2) On August 10, 1994, OSHA ruled that to demonstrate that Potential Asbestos Containing Material (PACM) does not contain asbestos, tests shall include analysis of 3 bulk samples of each homogeneous area of the PACM collected in a randomly distributed manner.

(3) This test report relates only to items tested.

(4) NVLAP policy requires that this report may not be reproduced except in full, without the written approval of the laboratory.

(5) NVLAP policy requires that this report must not be used by the client to claim product endorsement by NVLAP or any agency of the United States Government.

APPENDIX F CONTINGENCY AND SOIL MANAGEMENT PLAN

CONTINGENCY AND SOIL MANAGEMENT PLAN: Former AT&SF/BNSF Co. CWE Facility

New Mexico Voluntary Remediation Program
Albuquerque, Bernalillo County, New Mexico

Prepared for

OLD LOCOMOTIVE SHOPS, LLC
ALBUQUERQUE, NEW MEXICO

And

UNION DEVELOPMENT CORPORATION
ALBUQUERQUE, NEW MEXICO

Prepared by

TERRACON
Las Cruces, New Mexico
Reference No. 66057007

October 31, 2005

October 31, 2005

Ed Casebier
Old Locomotive Shops
100 East 15th Street, Suite 630
Fort Worth, Texas 76102

James K. Trump, Jr.
Union Development Corporation
1110 Pennsylvania NE, Suite A
Albuquerque, New Mexico

Re: Contingency and Soil Remediation Plan
Redevelopment of Former AT&SF/BNSF Co. CWE Facility
Albuquerque, Bernalillo County, New Mexico
Terracon Project No. 6657007

Gentlemen:

Terracon, Inc. presents this Contingency and Soil Management Plan (CSMP). The CSMP is in support of the recommendations given by the New Mexico Environment Department (NMED) for the Preliminary Voluntary Remediation Work Plan letter for the former AT&SF/BNSF Co. CWE Facility in Albuquerque, New Mexico. The NMED issued the letter on March 14, 2005. This property will be restored as part of the Voluntary Remediation Program, whose purpose has been to bring back to New Mexico communities properties previously hindered by real or perceived environmental impairment.

This CSMP cannot be all inclusive nor anticipate every future condition involving workers or construction for on-site activity involving soil/fills. Rather, the CSMP acts as a risk management advisory to persons and contractors involved with this property. The CSMP attempts to instill a sense of total risk management to maintain the conditions which originally allowed closure and protection of public health and the environment. The CSMP recommends the workers on how to proceed if unexpected artifacts are found during construction activities.

The CSMP and supporting information is based upon data obtained from field activities and from other information discussed in this plan and as referenced. This report does not reflect any which may occur between borings or across the site. Actual subsurface conditions may vary. This report is prepared for the exclusive use of our client for the specific application to the project discussed and has been prepared in accordance with generally accepted environmental engineering practices. No warranties, either express or implied are intended or made.

In the event any changes in nature or location of subsurface conditions as outlined in this report are observed, the conclusions contained in this report cannot be considered valid unless the changes are reviewed and the conclusions of this report are modified or verified in writing by the environmental engineer.

Sincerely,
TERRACON, Inc.

Mary E. Wells, P.E.
Las Cruces Manager

Kevin Scott, P. E.
Albuquerque Manager

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INTRODUCTION

The property consists of the former Centralized Work Equipment (CWF) facility that is situated in the downtown area of Albuquerque, New Mexico and has been evaluated for environment impairment. Although site characterization activities have been taking place at the property since the year 1988, the contaminated areas have not been completely abated. The contamination in the property is the result of the mechanical repair and locomotive transportation activities. The property was formerly used as a Centralized Work Equipment Facility (CWE). The facility was operational between the 1880s and the early 1990s and was operated by Atchison Topeka and Santa Fe Railway. The site has many small and large structures scattered across the site including: the transfer table; main machine, CWE, boiler, heavy equipment and machine shops; and CWE storage sheds. The roundhouse was closed in the 1960s (DBS, 2000) and the exterior structure was subsequently demolished in 1990; however, the turn table remains in place and is still used occasionally. The impacts caused by the contamination have been evaluated for protection of public health and guidance of the New Mexico Environment Department.

INTENT OF PLAN

The Voluntary Remediation Program includes a post-closure risk management assessment in the form of a construction worker caution regarding residual contaminants in the soils/fills of this property. Risk management will consist of a worker caution in the form of the soils management plan for this site.

Residual chemicals exist in resident soils of the site. Elevated concentrations of Lead (Pb), Total Petroleum Hydrocarbons (TPH) and Asbestos Containing Materials (ACM), were found in the property. The residual chemical concentrations may be above the commercial\industrial Soil Screening Levels (SSL) established by the New Mexico Environment Department.

This plan serves as that educational document to owners and workers involved with soils on this property. The plan is intended to instill in the mind of the reader the concept and value of soil management. The plan intends to provide the public and contractors with knowledge. The plan provides an awareness of the conditions of the property observed during VRP sampling and testing as requested by Old Locomotive Shops, LLC (OLS) and Union Development Corporation (UDC).

The plan provides contractors involved in construction activities with information for use in executing employer obligations for employee-right-to-know and responsibilities for worker safety supplemental to other programs of regulation. The plan provides general guidelines for minimization of potential exposures of occupants or workers to soils having chemical impact.

The plan provides for a process of observation and recognition to identify if conditions during construction differ significantly from those observed during testing and sampling. The plan provides a process for qualitatively and quantitatively identifying if the changed condition presents a potential hazard condition different from conditions evaluated for closure.

The plan is not intended for direct, unmodified use by employers to protect workers. Rather this plan intends to provide general considerations and procedures for modification and incorporation by employers into their existing worker safety programs.

REQUIREMENTS OF THE PLAN

To satisfy the requirement for agency closure and support prudent property management beyond the Voluntary Remediation Program work plan evaluation, the CWE Facility has been attached with a restrictive covenant to serve as a construction worker warning. The owner/operator of the site to develop shall maintain and have available the Contingency and Soil Management Plan (CSMP) to notify future contractors, construction workers, utility companies and facility maintenance workers of site conditions. The Contingency and Soil Management Plan will be kept on-file at the facility maintenance/utilities center and the location of the owner's maintenance group for future construction, or equivalents to said locations and at locations of designated authority.

In addition to on-site availability by future owners after construction, the following are designated as locations of designated authority for filing of the Contingency and Soil Management Plan;

New Mexico Environment Department
Ground Water Quality Bureau
Harold Runnels Building
1190 Francis Drive, P.O. Box 26110
Santa Fe, NM 87502-6110

City of Albuquerque
Municipal Development
City/County Building
7th Floor
Albuquerque, NM 87103

City of Albuquerque
Planning Department
600 2nd Street, NW
Albuquerque, NM 87103

TERRACON, Inc.
4905 Hawins, NE
Albuquerque, NM 87109

TERRACON, Inc.
1605 Hickory Rd. Suite H
Las Cruces, NM 88005

The covenant requires that the plan be developed and made available, it is not required that the NMED VRP, the City of Albuquerque or plan developers or holders be responsible to deliver the plan to future owners or contractors at the former AT&SF/BNSF Co. CWE Facility. The deed filing and covenant serves as public notice to direct parties to the Contingency and Soil Management Plan. It is the responsibility of contractors as employers to integrate the information of the Contingency and Soil Management Plan into their specific and individual programs for worker safety.

SITE CONDITIONS AT CLOSURE

The NMED will issue a certificate of completion to the VRP participants after completing all voluntary remediation activities. In order to achieve closure, NMED requires further remediation activities for the contaminated area that have not been abated yet, such as the lead in surface soils, recoverable petroleum hydrocarbons in subsurface soils, including an assessment of potential for leaching to ground water from the subsurface soils, and completion of ground water sampling.

"Clean" is defined in the VRP investigation and closure as soils having less than either a commercial\industrial SSL(s) objective or other site-specific objective approved by the NMED VRP.

The contaminated soils are encountered at depth ranging from the ground surface elevation to the maximum depth sampled of 32 feet. Some of the contaminated soils will be excavated and disposed of at and approved facility, while the soils with lower concentrations or at greater depths will not be removed. Nevertheless, these contaminated soils will be cap within the proposed structures and concrete parking areas at the site. However, construction will initially disturb the soil conditions on this site. Future maintenance may also disturb soil conditions on this site. The contractor and worker must work to maintain or restore soil conditions consistent with VRP through sound management.

The VRP is a relatively new program that has been established by the New Mexico Environment Department (NMED) for the purpose of promoting voluntary cleanup of contaminated sites providing a streamline, non-punitive remediation process. The program is intended for the sites that are not under active enforcement and for applicants that do not have a history of non-compliance with environmental laws. The following are general and technical summaries of the conditions found and evaluated under the VRP. The information was obtained from different reports prepared to the NMED, the property owner and potential buyers.

General Summary

BNSF submitted and application for the Voluntary Remediation Program to the New Mexico Environment Department. The site satisfied legal eligibility and was assigned with the

identification number S3011002.

The document prepared by Daniel B. Stephens & Associates (DBS&A) on October 6, 2000 indicated that the NMED, formerly known as New Mexico Improvement Board, sampled surface soils at the CWE and installed two off-site monitoring wells in the year 1988.

Subsequently, the former Atchison, Topeka, and Santa Fe Railway Company (ATSF) and DBS&A conducted a Phase I Environmental Site Assessment and prepare a work plan for a Phase II Investigation at the CWE facility in the year 1995. The Phase II consisted on sampling and analysis of surface soils, subsurface soils, and groundwater.

Once the Phase II activities concluded, in October 1995 new abatement regulations were implemented by the New Mexico Water Quality Control Commission (NMWQCC). At the same time the ATSF merged with Burlington Northern and became BNSF. In the years 1996 and 1997, BNSF continued with the Stage 1 Abatement Activities at the site. BNSF, voluntarily, continued monitoring the groundwater quality of the area in the years 1998 and 1999.

In the year 2000, the Urban Council of Albuquerque was interested on purchasing the CWE facility. Therefore, the Urban Council of Albuquerque was allowed to performed soil and groundwater monitoring and sampling at the site.

The NMED Ground Water Quality Bureau sent a letter to Urban Council of Albuquerque in March 14, 2005. The correspondence stated that the assessment and remediation activities at the site had to be completed within a reasonable time to continue within the VRP.

Site Conditions

The property was formerly owned by AT&SF/BNSF Co. CWE Facility. The property was used as as Centralized Work Equipment Facility (CWE). The facility was operational between the 1880s and early 1990s and was operated by Atchison Topeka and Santa Fe Railway. The approximate 27-acre site is located within the Town of Albuquerque Grant, within Sections 20 and 29, Township 10 North, Range 3 East, New Mexico Principal Meridian, Albuquerque, Bernalillo County, New Mexico. OLS and UDC are purchasing the subject property and proposing the construction of studio complex consisting of a studio support center, an indoor backlot, a digital

medial center, a museum, office areas, parking and landscaping areas.

Prior to any construction activities, the site had to be properly characterized as suggested in the correspondence sent by Rick Shean, Environmental Scientist for the NMED Ground Water Quality Bureau, dated on March 14, 2005. The site investigation was conducted by our office, Terracon, during the months of September and October of the current year. The following chemicals of concern (COC) were determined, as discussed in the Voluntary Remediation Site Characterization Report dated October 31, 2005 by Terracon:

- Asbestos in the roofing materials in the on-site structures, window glazing of the Main Machine and Boiler Shop windows, transite pipe pieces on the ground on the southern portion of the property and in the plaster on the interior walls of the fire house;
- Lead present in paint throughout the site structures;
- Lead present in site soils in the former battery storage area, the former sandblasting area and in the roundhouse; and
- Diesel and motor oil impacted soils in the area southeast and south of the former roundhouse structure.

The lead impacted areas on the site are limited to shallow subsurface soils. The total lead impacts to soils appear to have resulted primarily from particulates (e.g., paint from sand blasting). Results of TCLP analysis indicate that the lead is not leachable. The total lead in the roundhouse area is most likely tied up in the clinker materials. The remainder of the lead impacted soil does not appear to extend beyond a depth of approximately 5 feet bgs.

The outside petroleum impacted areas appear to be the result of many small leaks over time from former oil cellars, the former fuel AST, and spills from the locomotives. Soils saturated by diesel and motor oil are present in the area directly south southeast of the former roundhouse. The petroleum appears to be confined by intermittent clay layers. The Main Machine and Boiler shops have localized areas of hydrocarbon impacted soils most likely the result of small leaks from locomotives being serviced.

An asbestos survey was conducted at the site in the buildings not previously sampled and was limited to accessible areas within the subject buildings. The window glazing in the machine shop and boiler shop, contains ACM ranging from less than one percent to 2 percent chrysotile asbestos, was used extensively in both buildings. Approximately 35 percent of the windows in

these two buildings appear to need replacement. Putty used to seal and secure the windows in the east CWE building did not contain asbestos. The transite pipe material found in the fenced enclosure of the old transformers contained from 25 percent to 30 percent chrysotile asbestos and appears to be the remnant of water (hot and/or cold) piping used throughout the main buildings. The pipe material was intact and difficult to break. The drywall/plaster material collected from the old fire house contained 4 to 5 percent asbestos and comprised most of the interior walls, approximately 300 square feet.

Problems Mitigated

The Voluntary Remediation Site Characterization Report explained the majority of lead impacted soils have been excavated; however, additional removal will be required in the battery storage area and in the roundhouse area. Approximately 300 cubic yards of petroleum impacted soil has been excavated from the former oil cellar/AST area south southeast of the former roundhouse. A sump has been installed to facilitate the removal of the free product that is perched on the clay layer. Additional excavation will be required in this area and in the area of the former transformers. The excavated areas will be filled with clean soil.

On the other hand, soils with low concentrations of TPH and lead will not be removed. However, these areas will be captured by the proposed development. The contaminated areas will be captured by asphalt and concrete paved areas, as well as by the planned buildings. Therefore, the soils will not constitute a public exposure pathway for soil ingestion.

Anticipated Post-Closure Land Use

The proposed project consists on the construction of a studio complex. It will have several buildings for different purposes, such as a Studio Support, a historical building, an indoor backlot, a digital media center, and a museum, the project will include asphalt-paved parking and driveway areas and will include some landscape areas; however, the landscaped areas will be limited to areas not identified as containing lead (Pb) or hydrocarbons.

Approximately thirty percent (30%) of the redeveloped CWE facility will be covered by permanent structures. Approximately sixty percent (60%) of redeveloped CWE facility will be covered permanently by roadway paving and parking sites of asphalt or concrete. Landscaping

consisting of sod, grasses, and or shrubbery will cover the remainder. Most of the current buildings at the site will be subject to renovation.

Special Soil Conditions of Closure

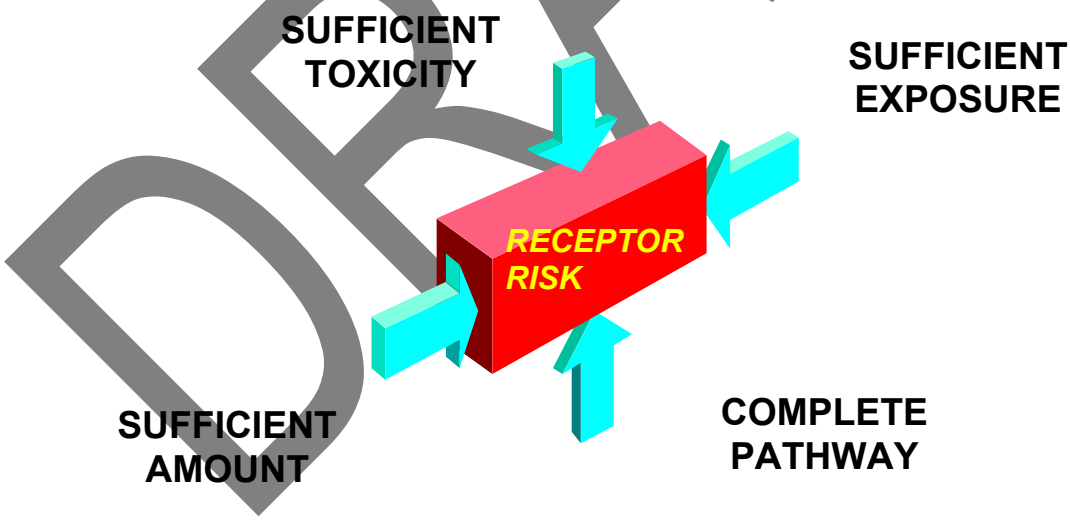
The replacement of clean soil in the excavated contaminated areas and the development of permanent structures and asphalt and concrete parking and driveways will cap the low concentration contaminated soils of the site.

CHEMICAL RISK IN SIMPLER TERMS

We tend to think of "chemicals" as man-made, as being solvents or fuels made by man. Actually, chemical compounds make up everything physical in our lives. Most occur naturally, with thousands of man-made chemical compounds merely being manufactured or combined versions of natural chemical elements.

We are exposed to thousands of natural and man-made chemicals every day. They are in the water we drink, the air we breathe and in the materials and equipment we use daily in our personal and working lives. All of these chemicals could possibly cause us harm if they were encountered in sufficient amounts, if sufficient exposure occurred and if enough material entered the body to produce a negative effect.

Excess public and personal chemical risk requires all of four (4) elements to occur to produce excess, or unacceptable, chemical risk to the public.



1. A chemical must be of sufficient toxicity to cause harm
2. A sufficient amount of the chemical to be toxic
3. A sufficient amount of exposure to allow toxic effect to happen
4. A pathway by which the exposure can occur at a duration and frequency to cause harm

Chemical Toxicity

When the amount of material helps (as in the case of medicines, most of which are chemicals)

or does not harm the body, a condition of acceptable chemical risk is felt to exist. When a chemical exceeds the amount where it can begin to do harm immediately or over a long period, a condition of unacceptable risk is felt to exist. It is at this point of unacceptable risk where a chemical is felt to become harmful, or toxic. A chemical becomes toxic when the amount of material which enters the body begins to produce harm. If the harm is realized in a relatively short period – say minutes, days or weeks – the material is said to have an acute toxicity. If harm is realized over a relatively long period – say years, decades or a person's lifetime – the material has a chronic toxicity.

For example, a chemical used as a pain killer in medicine;

- In proper doses and short periods of exposure it has a beneficial medicinal effect.
- Used improperly in small doses over time, it has a negative chronic effect – addiction.
- Used improperly in large doses it has a negative acute effect – overdose, possibly death.

NMED does not make its own studies to determine a chemical's toxicity. The NMED relies on the same chemistry and toxicity studies conducted by the United States Environmental Protection Agency used to set national levels of protection for our air and drinking water. These were used to calculate the SSL that were used to evaluate the site.

For chemicals in New Mexico the target risk for a chemical is to produce cancer effects as less than one additional cancer occurrence in one hundred, or 1-in-100,000. In comparison, workplace standards to protect workers from chemical exposure are often calculated using 1-in-10,000 risk levels. For chemicals which might produce other non-cancer health effects, the commercial\industrial SSLs are calculated to be protective of no ill effect over an average person's lifetime.

Exposure

Exposure is the manner in which a chemical encounters a body. Exposure consists of 3 basic parts;

1. The physical material, or media, that carries the chemical to the body. For the property this was determined to be soils/fills with chemical impact above Soil Screening Levels established by the New Mexico Environment Department.

2. The period of time, or duration, that the body occupies the site impacted by the chemical. In the New Mexico Voluntary Remediation Program, this assumes 25 years residential

occupancy of a site, 25 years for commercial occupancy and 1 year for construction worker occupancy.

3. The number of times that the contact and chemical delivery might occur occurs during occupancy is known as the frequency. In the New Mexico Voluntary Remediation Program, exposure frequency is assumed to occur 250 days per year for residential occupants, 225 days per year for commercial occupants over a period of 25 years and 250 days per year for construction workers. A day is considered 24 hours.

In comparing to the commercial\industrial SSLs it was assumed that the person is theoretically exposed to the maximum amount of chemical measured on site is everywhere in soils on the property.

Completing Exposure Pathways

An exposure pathway is the physical manner in which the chemical moves from its source to enter the body to do harm. An exposure pathway for this site was complete if the soils with chemicals are actually available to a person or if there is a likelihood in the future that this condition could occur. Basic VRP considerations in determining pathway completions for this site were;

- Soils with impact below 2 feet from the surface are not available for exposure to residential or commercial occupants through ingestion or skin contact.
- Soils beneath permanent buildings, pavement or other physical structures are not available for exposure to residential or commercial occupants through ingestion or inhalation.
- Soils at all depths with chemical impact could be available for exposure to construction workers or maintenance workers disturbing soils in the course of construction or repairs, although individual exposures will likely be less than the 250 days for one year, 24 hours per day assumed for commercial\industrial SSLs.

SOIL MANAGEMENT OPERATIONS

The contingency and soil management plan (CSMP) recognizes that initial and future construction must necessarily disturb soils on this site. The CSMP recognizes that unplanned or yet unknown maintenance might expose workers to soils. The CSMP tries to manage future site conditions to remain as close as possible to conditions as they were at the time of evaluation. The site investigations conducted to date for the site have been extensive, but no testing and analysis program can test everywhere. There always exists the possibility that unknown conditions could occur between testing locations. The CSMP must also provide workers with precautionary measures to recognize and address potential new discoveries on this site.

Contingency and Soil management for this site is simple;

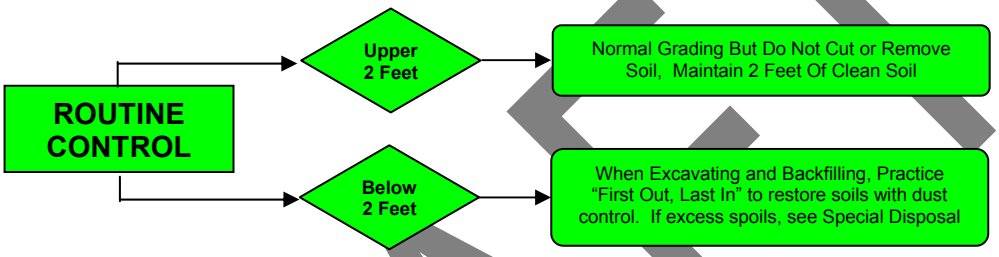
- Avoid disturbing soils and moving them from their original depths and areas.
- If disturbing soils, return them as close as possible to original depths and areas.
- If disturbing soils, minimize dust and use standard industry safety precautions.
- If disturbing soils, understand how to identify discovery of changed conditions.
- If a new discovery occurs, understand how to isolate and evaluate the conditions.
- If a new discovery is a new condition, understand how to contain and seek assistance.
- If soils must be removed from the site, use special procedures for disposal.
- After excavating contaminated soils, dispose them in a licensed landfill.

The CSMP contains general discussion, vendor information and examples in this plan of industry technology or methods available to contractors or owners. These discussions or references do not represent any endorsement, certification or testimonial as to accuracy or quality by Old Locomotive Shops, LLC, Union Development Corporations, Urban Council of Albuquerque, Terracon, Inc. or the New Mexico Environment Department.

Routine Control

Critical to the evaluation is the presence of at least 2 feet of material at surface over this site which does not have chemical impacts above commercial/industrial SSLs essentially the soils/fills are considered “clean”.

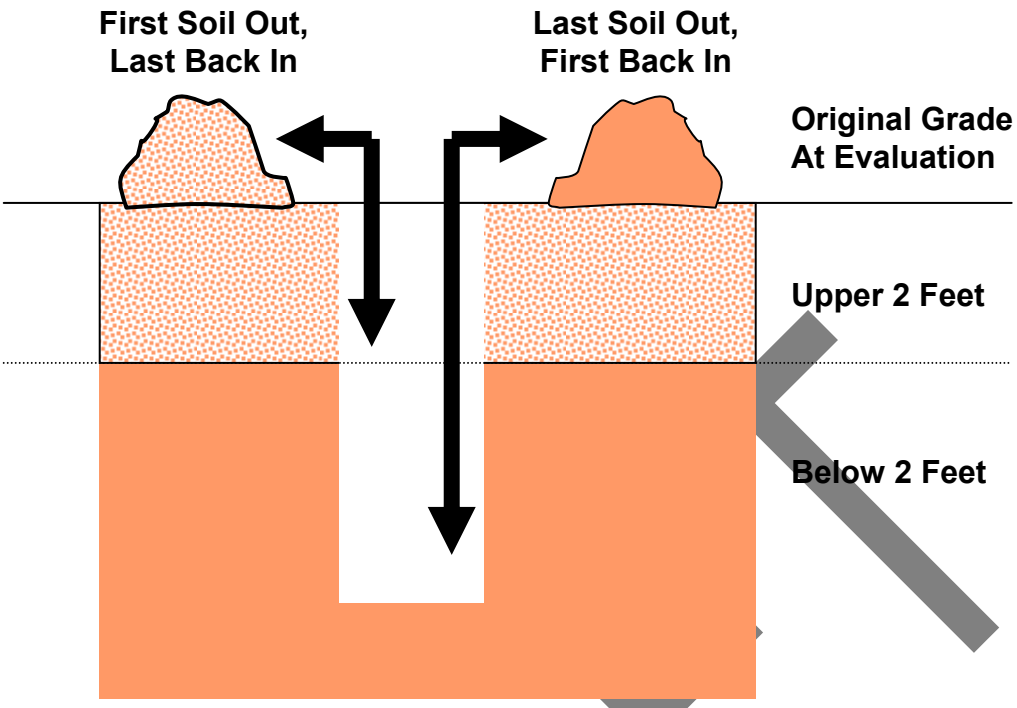
The discussions of "upper 2 feet" and "below 2 feet" refer to these grade elevations. After site reconstruction begins, these terms do not necessarily refer to distance from the ground surface you see at current construction, but refer to the surface elevation at the time of original assessment. The worker or contractor must have a physical method of measuring and monitoring horizontal and vertical control when disturbing soils on this site to maintain and observe the protective conditions of closure. Use of an engineer's level or other survey equipment will be necessary. The contractor will have to establish an on-site benchmark to identify the original surface elevations of assessment for consistency between work projects.



During routine operations involving soils on this site, the worker should use normal construction safety apparel of their respective contractor's safety program, augmented with gloves to reduce soil contact. For purposes of this plan, this is referred to as Level 1 Safety.

Dust Control

Dust generation is to be avoided at all times. If soils are dry and the potential for soils is increased, standard construction procedures for dust control should be used. This usually takes the form of a light application of water periodically to moisten soils. In case of visible dust and before dust controls are in place, workers should make use of disposable dust masks as a precautionary measure.



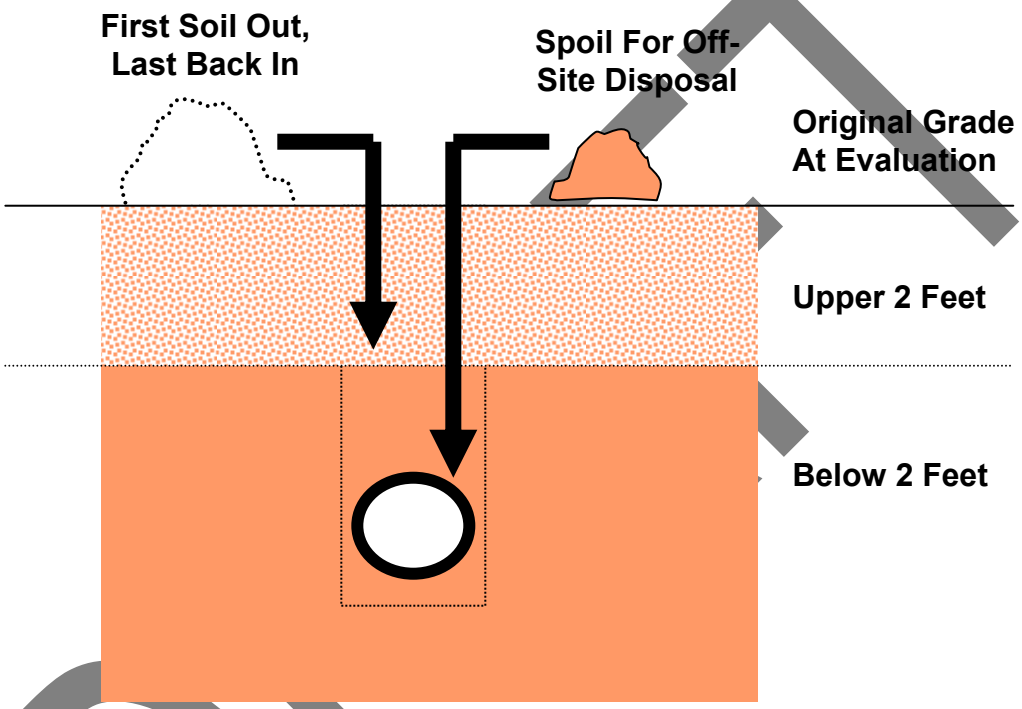
Surface Grading

Contractors will plan their work to account for minimal soil movement and to adapt types and application of grading equipment to this end. Unless specifically addressed by an environmental engineer involved in the original VRP evaluation, "cut" from one area cannot be used as "fill" in raising grade at other locations on the site.

Minor surface disturbances such as rutting should be repaired immediately by localized leveling. Contractors involved in grading should not level the surface through back-dragging of the surface until imported fills have been placed. The CSMP recognizes that absolute restoration of materials to original locations is difficult. However, workers should attempt to restore soils to original conditions as is practical.

Underground Excavation and Trenching

Vertical control of soils is critical. Below 2 feet of the original surface elevations shown in Appendix C are chemical impacts to soils that do not exceed the commercial occupancy or worker safety levels, but should not be moved to the surface for residential exposures having 30 years of possible occupancy. The CSMP recognizes that these soils will at times need to be



disturbed for the construction of utilities or other structures. The general rule will be to remove and stockpile soils so that a "last out, first in" process occurs. During excavation soils in the upper 2 feet should be stockpiled to one side and are the first materials removed. These soil/fills are the last returned to the excavation during backfill. Similarly soils should be removed from below 2 feet, and replaced first. Furthermore, the disturbed contaminated soils will be minimized by limiting the area of subsurface utilities easements.

Concerns and methods for environmental handling of soils due not preclude nor modify any of the Occupational Safety and Health Administration (OSHA) requirements for worker safety incumbent upon contractors for regular site safety and trenching/excavation activities. OSHA requirements will dictate adjustment of the soil management method where necessary.

The CSMP recognizes that soils "bulk" or expand in volume when disturbed during excavation. The contractor will compact these materials into place according to the compaction requirements of construction design. If no specifications for compacted fill exist, the contractor will tamp the materials in place using the mechanical excavator or equivalent. Utilities or structures will replace volumes of soils in these zones, resulting in excess soils as excavation spoils. The contractor will always replace the upper 2 feet material in the respective original zone of elevation.

Excess spoils from excavations below the upper 2 feet zone of original grade will be disposed of off-site to a Subtitle D sanitary landfill. See discussion later on Special Disposal.

Discovery Or Changed Conditions

As stated, the best investigation cannot sample and test everywhere. There exists the possibility that materials of unknown type could exist between sample locations. The worker and contractor must be able to recognize when conditions change. Field staff must be able to identify if a new discovery of changed chemical conditions has occurred, and if so, if it is significant.

Constant Observation

The worker or contractor should be alert during earthwork for 3 indicators which will trigger the possible identification of a new chemical condition not addressed by the VRP investigation and evaluation. During soil disturbance, the worker or contractor should observe soils for unique color changes that are unlike surrounding soils/fills and unlike conditions of the original assessment. The soils/fills identified during the VRP investigation and testing are varied in color and composition, ranging from browns through grays and dark grays to almost black. No artificial greens, blues, reds or other distinct colors associated with paints or other materials were observed in this area.

In observing soils, some may be more saturated than others depending on recent rainfall or perched water zones on the intermittent clay layers. Moist soils tend to appear darker. The worker or contractor should observe closely dark, moist soils for signs of saturation by other than water. Oddly colored soils or those saturated by free oil or other material is indicative of a changed condition.

Secondly, soils observed during the exploration had no chemical associated with impacts measured in the laboratory with the exception of the petroleum impact area south southeast of the roundhouse. In general, the compounds on this site do not exhibit odors even in high lead concentrations above those measured to date. Soils may often have a “musty” or “rotting” odor if found mixed with vegetation or dark organic soils. Strong fuel, solvent or chemical odors in soils are indicative of a changed condition.

Thirdly, soils/fills observed during exploration did not contain whole or crushed drums or other metal, plastic or glass bulk containers mixed into the fills. However, the fills were historically placed on this site from former railroad related areas and routinely contain fragments of metal, wood (ties and blocks), concrete, brick, an clinker material. Varying amounts of sand and gravel mixed with soils were common. The worker and contractor should be alert to man-made containers or remnants of containers of any material. The presence of whole or crushed drums or containers in excess of 1 gallon in the soils/fills in combination with odor or unique color changes which may be indicative of a changed condition.

If a changed condition is triggered by any of the 3 observations, soils/fills should be isolated and workers should upgrade to a Level 2 Safety clothing.

Isolate Suspect Soils

The worker should upgrade his normal construction safety attire with rubber gloves, and in the case of odors, provide sufficient open air ventilation consistent with his employer's safety plan. For purposes of this plan, this will be referred to as Level 2 Safety.

The suspect soils should be isolated as soon as possible from contact and disturbance by rain and wind until screening identification can be made. Covering the soils with plastic sheeting and weighting the covering with planks or sandbags can do this. Do not remove the soils from the excavated area unless they are placed in a container with total enclosure, such as a waste dumpster.

Until the spoils are covered, construction flagging tape attached to stakes can be used to prevent accidental movement of the soils by earthwork operations.

Preliminary Screening Identification

The soils should be screened for 2 chemical groups of concern; lead and organic hydrocarbons. All screening procedures must be carried out if any of the 3 observation triggers indicates a possible new discovery.

The screening can be done by the contractor or by contacting a qualified environmental engineer to conduct these services. The contractor may alternatively go directly to laboratory measurement for identification purposes.

Screening tests can be conducted on site and will produce preliminary results in a short period. The field test does not produce a precise measurement of the amount of contaminant found in the soils/fills, but indicates through a color change that contaminants are likely present above closure objectives and warrants further caution and actual measurement.

In general, a small amount of the soil is placed in a sealed container with a chemical indicator for lead. The soil/fills react with the indicator and provide a visual color change, usually in less than an hour depending on the type of field test kit used. As a rule-of-thumb, no less than 1 screening test per 2 cubic yards of soil/fill should be conducted in screening soils.

There are a number of field testing methods available in the industry. Examples of cost-effective, simple-to-use soil tests methods are attached as Appendices D and E. This information is provided as general examples of industry availability and does not constitute an endorsement, recommendation or warranty by Terracon, Inc. or the New Mexico Environment Department. Contractors or users should contact manufacturer's representatives for final suitability, application, and ability to appropriately measure contaminants in soil, training and costs.

If screening does not indicate a changed condition, the material may be handled consistent with Routine Control.

A color or other change consistent with the screening method is a qualitative, preliminary result. This may mean a changed condition has been discovered or that possible site contaminants could be elevated and warrants further caution and measurement. The result does not mean that soil conditions pose an immediate excess chemical risk to workers.

MEASUREMENT OF CHANGED CONDITION

When preliminary screening indicates a changed condition may be present, it is necessary to make more detailed chemical measurements to determine if chemicals in soil actually pose an excess chemical risk. This requires testing in the laboratory. Laboratory testing requires time. The amount of time varies depending on the type of test. In general, the lead testing is a matter of a few days. Hydrocarbon testing can take on the order of 2-3 weeks unless special arrangements are made with the laboratory for more expensive "RUSH" results.

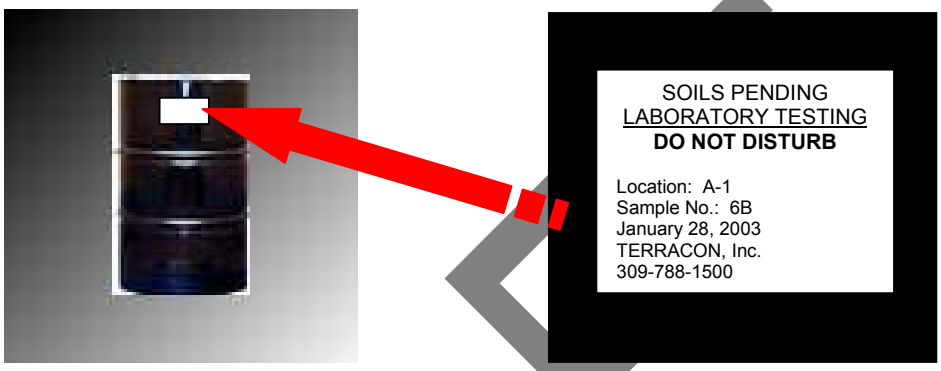
The soils/fills should be further isolated from worker and public exposure. Special handling and care must be taken in sampling and transporting soils for the laboratory tests to be accurate. The workers or contractor conducting the sampling and handling of soils/fills beyond screening should upgrade to Level 3 Safety consistent with the contractor's safety and health plan. The workers in physical contact with soil/fills should have training consistent with 29 OSHA 1910.120.

Alternatively, the contractor may elect to contact the environmental engineering firm with these people on staff to assist his operating engineers and equipment operators in containment and

sampling activities. The contractor may contact the environmental engineer of the SRP closure with questions.

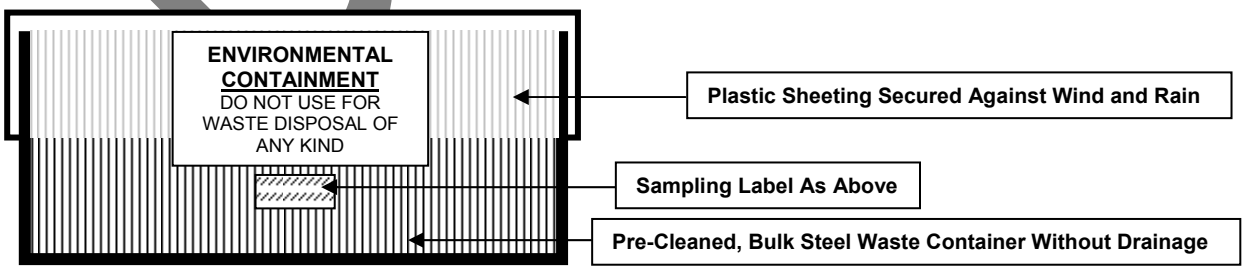
Increased Isolation From Exposure

During the period of laboratory testing, the soil/fills should be further isolated from public



exposure and to prevent weather and construction activity from distributing these potentially contaminated materials to other portions of the site. This can be done in a number of ways, usually depending on the quantity of suspect soils/fills. For small volumes, the soil can be placed temporarily in steel open-top drums with bolt-on lids. After sealing, the drum should be clearly labeled "SOILS PENDING LABORATORY TESTING – DO NOT DISTURB, [Insert Elevations], SAMPLE NO. [Insert #], [Insert Date], [Insert Name of Sampler and Phone Number]". The drums should be placed in an on-site area protected from general traffic.

For larger volumes, it can be effective to place the soils/fills into commercial drop or roll-off dumpsters which have been previously washed and cleaned of residues. The containers will not be of free-draining bottom construction. The tops will then be covered with multiple plastic



sheeting and secured against wind and rain. The commercial containers should be placarded on both sides with information similar to the above. In addition, each container should be clearly marked on every side with a highly visible sign as "ENVIRONMENTAL CONTAINMENT - DO NOT USE FOR WASTE DISPOSAL OF ANY KIND".

Sampling

Soils were collected in laboratory-approved containers of sufficient volume to conduct the

requisite tests. The containers will be prepared to laboratory instructions consistent with the necessary tests.

Laboratory testing for chemical compound groups can be expensive. A minimum of one sample for every 50 cubic yards of soil will be collected. Suggested methods for collecting samples are attached in Appendix E.

.

As an alternative to conducting sampling and containment activities by in-house trained workers, the contractor may wish to seek assistance by contacting the environmental engineer for guidance on sampling and laboratory testing.

Laboratory Testing

Suspect soils were tested for 3 groups of compounds; lead, PCBs and organic hydrocarbon compounds. Acceptable detection limits for measurement were set according to the Soil Screening Levels (SSL) established by the New Mexico Environment Department.

Lead was the common chemical of concern identified by the investigation. In measuring potential changed conditions in suspect soils, the samples will be tested for lead by EPA Method 6010B and compared with the commercial\industrial SSL for lead.

Samples will be tested for hydrocarbon compounds as was done in the original investigation. Testing of organic hydrocarbons will make use of comparison for by EPA Test Method 8015M.

Any commercial laboratory can test samples with credentials demonstrating the capability of conducting the requisite environmental tests. Although not required, it is suggested the contractor consider the value of consistency in using the original laboratory which conducted the testing during the VRP investigation for NMED closure. The original laboratory and corresponding project testing reference for the VRP investigation was;

Analytica Solutions Inc.
12189 Pennsylvania Street
Thornton, Colorado 80241
(303) 469-8868
(800) 873-8707
(303) 469-5254 Fax

Environmental Science Corp.
12065 Lebanon Road
Mt. Juliet, TN 37122
(615) 758-5858
(800) 767-5859
(615) 758-5859

Hall Environmental Analysis Lab
4901 Hawkins, Suite D
Albuquerque, New Mexico 87109
(505) 345-3975
(303) 345-3107

Comparison

Soils/fills may be returned to their respective locations of depth and location using Routine Control if the parameters of testing do not exceed commercial/industrial SSLs.

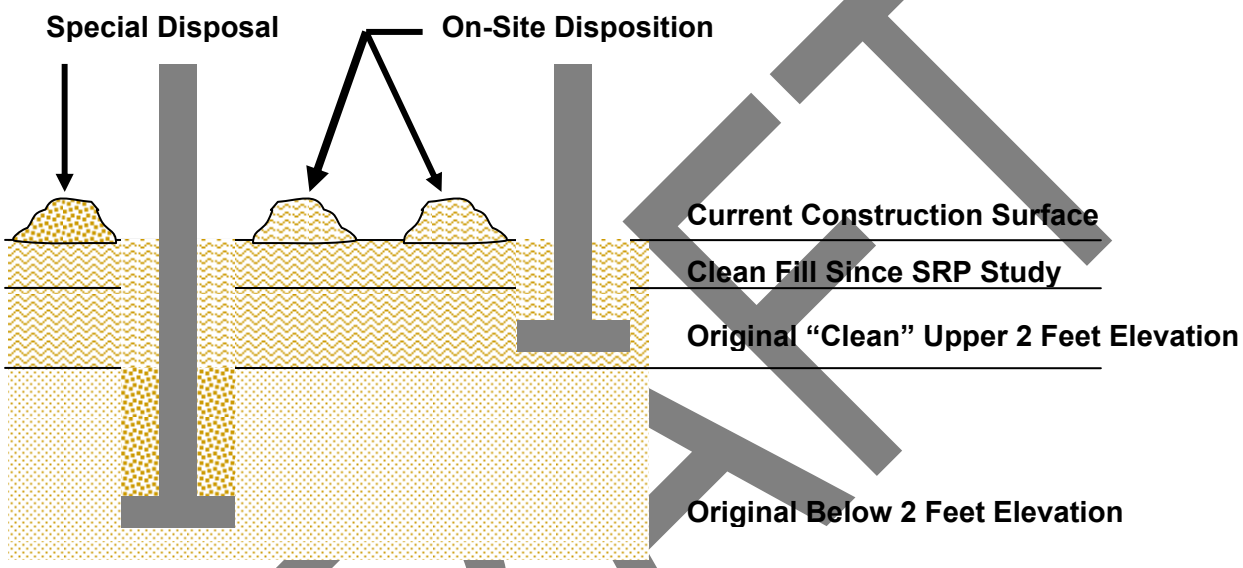
Chemical of Potential Concern	Site-Specific Soil Remediation Objective (mg/kg)
Lead	750
Diesel	2200
Motor Oil	5000

The tables are updated as new toxicity and policy information is evaluated. A current copy of the SSLs and supporting documentation published by the NMED are included as Appendix B.

If the suspect soil/fill materials exceed site-specific objectives on the basis of laboratory chemistry, the soils/fills will require special disposal and should not be returned to the facility with other soils. The contractor should notify the owner and OLS and UDC. Thereafter the contractor may wish to consult with the environmental project engineer regarding consistency of findings with original assessment and closure. If soil/fills are indeed new discovery, inconsistent with those chemicals and concentrations evaluated in the VRP Site Characterization Report, the NFR letter requires that the NMED be notified of said conditions as set forth in Appendix B.

DISPOSITION OF EXCESS SOIL/FILL SPOILS

Soils on the property have varying degrees of chemical impacts, ranging from no measurement to elevated concentrations of chemicals of concern. In the locations and at conditions of exposure evaluated by the VRP study, these chemical impacts do not pose excess chemical risk as determined by the NMED Voluntary Remediation program. If soils/fills leave their original locations, the on-site conditions which allow control of exposures and risk management



may no longer apply. If excess soils/fills are produced from excavation as spoils which cannot be restored to original depths through the process of "first out, last in", they must be handled with special care.

The worker and contractor should plan from onset of construction to maintain physical segregation of the "upper 2 feet"[1] of soils and "below 2 feet"[2] soils during excavation activity. The worker or contractor must exercise care in documenting and recording the location and original elevations of the source of soils relative to site benchmarks and the original site boundaries. This is very important in properly handling soils at this site.

Soils which can be documented as removed from the original study's upper 2 feet of "clean" soil and acting as the site's original engineered barrier can be redistributed on the site as with any other fill material. Do not distribute the soil/fill material off-site. The contractor should document to permanent construction records where and how much of this "clean" material was

[1] REMINDER: This term is tied to the original surface elevation at the time of assessment, not depth as determined from current construction grades, which may have been altered.

redistributed. Copies of the site map in Appendix A marked with this information can be used to record and file information.

Soils from the "below 2 feet" zone may not be distributed across the site without further special handling. These excess soils produced by excavation and construction must be handled for Special Disposal.

SPECIAL DISPOSAL

All soils/fills located in the "below 2 feet" zone of the original VRP studies is not actually impacted by chemicals. All impacted soils/fills in this zone are not actually above remediation objectives. The SSLs comparison is conservative and assumes that the materials in this zone are represented by the "worse case" condition measured, to be protective of the public and future workers.

On-Site Disposition

Excess soil/fills generated, isolated or contained as excavation spoils from the "below 2 feet" zone will require testing consistent with that described for Measurement above. If the laboratory testing indicates that chemicals are actually less than commercial\industrial SSLs objectives, the material becomes "clean" soil under the VRP project definition. The materials may be redistributed on the site as with any other fill material.

Off-Site Removal

Soil/fills which are not eligible for on-site redistribution and must be removed from this property will require special evaluation and documentation in addition to that previously discussed. The contractor should isolate, and preferably contain, these soil/fills for testing as done for suspect soils of new discovery. The contractor should seek assistance in these efforts from an environmental consultant relative to proper disposal of soil/fills off the property. This will require coordination with the project environmental engineer, and possibly approval by NMED, for with consistency with the requirements of the VRP.

Some alternative reuse relative to construction (i.e., landscaped berms, fill under roadways) might be coordinated for the project between the environmental engineer and NMED consistent

with the VRP work plan. However, this would not be a fast process and would require considerable pre-planning. The routine removal and off-site disposal of soil/fills should be considered and planned for as transport and disposal to a landfill facility. Soils/fills identified to date with chemical impact should be allowed for disposal at a local sanitary landfill permitted for waste disposal, known as a Subtitle D solid waste facility.

The landfill may require additional laboratory testing prior to accepting the soil/fill material for disposal to demonstrate the material is not a hazardous waste. The landfill may allow disposal on the basis of the VRP testing conducted previously for the VRP Site Characterization Report if the source and elevations have been carefully documented as described in the CSMP. Only the landfill can make this decision. The contractor must contact the landfill for the required procedures and tests.

SUMMARY

The worker or contractor involved with soil/fills on the subject property should recognize that chemical impacts have occurred to some soils. The maximum measured concentrations of chemicals have been found to pose excess chemical risk to the public, occupants or workers on the site providing the materials are managed to maintain and, if disturbed, restore the soil/fills as close as possible to original location and elevations.

In simplest terms the worker and contractor are advised;

- Don't disturb soils unless necessary. Restore soils as close as possible to original conditions when they must be disturbed.
- Incorporate the concepts of this Soil Management Plan in planning earthwork activity.
- Practice the concepts of this Soil Management Plan in conducting earthwork activity.
- Practice sound horizontal and vertical control with documentation consistent with this Plan in conducting earthwork activity.
- Incorporate safety with the requisite contractor program to protect employees, prudently avoid contact with soils and dust whenever possible.

A	Sump
B	Former Oil Cellar
C	Former Oil Tank
D	New Transformer
E	Former Transformer Area
F	Northern Petroleum Area
⊕	Approximate Boring Location
◇	Approximate Monitoring Well Location

DIAGRAM IS FOR GENERAL LOCATION ONLY, AND IS NOT INTENDED FOR CONSTRUCTION PURPOSES.

SOURCE: http://terraserver-usa.com/ USGS Aerial Photographs, Albuquerque, New Mexico, dated 2002

SITE DIAGRAM
FORMER AT&SF/ BNSF CO. CWE FACILITY
2ND STREET
ALBUQUERQUE, BERNALILLO COUNTY, NEW MEXICO
Old Locomotive Shops, LLC Option

Project Mngr: MEW	Terracon	Project No. 68057001
Designed By: OTHER		Scale: NTS
Checked By: MEW	1630 Hickory Loop, Suite H Las Cruces, New Mexico 88005 505.527.1700 Fax: 505.527.1092	Date: 04/19/2005
Approved By: MEW		Drawn By: VVT (68)
File Name: \68057001\Figure 3.dwg		Figure No. 2

NEW MEXICO ENVIRONMENT DEPARTMENT

Hazardous Waste Bureau
Ground Water Quality Bureau
and
Voluntary Remediation Program

TECHNICAL BACKGROUND DOCUMENT FOR DEVELOPMENT OF SOIL SCREENING LEVELS
REVISION 2.0

February 2004

Volume 1

TIER 1: SOIL SCREENING GUIDANCE TECHNICAL BACKGROUND DOCUMENT

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VOLUME 1 TIER 1: SOIL SCREENING GUIDANCE TECHNICAL BACKGROUND DOCUMENT

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VOLUME 2 TIER 1: SCREENING-LEVEL ECOLOGICAL RISK ASSESSMENT PHASE I SCOPING ASSESSMENT

LIST OF ACRONYMS

ASTDR	Agency for Toxic Substances and Disease Registry
CMTP	Composite Model for Leachate Migration with Transformation Products
COPC	Contaminants of Potential Concern
CSM	Conceptual Site Model
DAF	Dilution Attenuation Factor
DQO	Data Quality Objectives
EPA/ORD	Environmental Protection Agency Office of Research and Development
GWQB	Groundwater Quality Bureau
HEAST	Health Effects Assessment Summary Tables
HWB	Hazardous Waste Bureau
IEUBK	Integrated Exposure Uptake Biokinetic
IRIS	Integrated Risk Information System
MCL	Maximum Contaminant Level
MCLG	Nonzero Maximum Contaminant Level
MRL	Minimum Risk Level
NAPL	Non-aqueous Phase Liquid
NCEA	National Center for Environmental Assessment
NMAC	New Mexico Administrative Code
NMED	New Mexico Environment Department
NRCS	National Resource Conservation Service
PEF	Particulate Emission Factor
PRG	Preliminary Remediation Goal
RCRA	Resource Conservation and Recovery Act
RfC	Reference Concentration
RfD	Reference Dose
SCEM	Site Conceptual Exposure Model
SF	Slope Factor
SSG	Soil Screening Guidance
SSL	Soil Screening Level
SVOC	Semi-volatile Organic Compound
UCL	Upper Confidence Limit
URF	Unit Risk Factor
USEPA	United States Environmental Protection Agency
VF	Volatilization Factor
VOC	Volatile Organic Compound
WQCC	Water Quality Control Commission

1. Introduction

The New Mexico Environment Department (NMED) Hazardous Waste Bureau (HWB) and the Ground Water Quality Bureau (GWQB) have developed this soil screening guidance (SSG) for internal department use for corrective action programs. The SSG discusses the methodology used to derive chemical-specific soil screening levels (SSLs). In addition, guidance is provided to assist in identifying and evaluating appropriate exposure pathways and receptors. Finally, this document provides generic SSLs for chemicals commonly found at contaminated sites based on default exposure parameters under residential and non-residential land-use scenarios.

The SSG provides site managers with a framework for developing and applying the SSLs, and is likely to be most useful for determining whether areas or entire sites are contaminated to an extent that warrants further investigation. It is intended to assist and streamline the site investigation and corrective action process by focusing resources on those sites or areas that pose the greatest risk to human health and the environment. Implementation of the methodologies outlined within this SSG may significantly reduce the time necessary to complete site investigations and cleanup actions at certain sites, as well as improve the consistency of these investigations.

Between various sites there can exist a wide spectrum of contaminant types and concentrations. The level of concern associated with those concentrations depends on several factors, including the likelihood of exposure to levels of potential concern to human health or to ecological receptors. At one end of the spectrum are levels that clearly warrant a response action; at the other end are levels that are below regulatory concern. Appropriate cleanup goals for a site may fall anywhere within this range depending on site-specific conditions. It is important to note that SSLs do not in themselves represent cleanup standards, and the SSLs alone do not trigger the need for a response action or define "unacceptable" levels of contamination in soil. Screening levels such as SSLs identify the lower end of this spectrum – levels below which there is generally no need for further concern—provided the conditions associated with the development of the SSLs are consistent.

1.1 Organization of the Document

The NMED SSG is organized into five major sections with supporting appendices. The remainder of Section 1 addresses the purpose of the NMED SSLs and outlines the scope of the document. Section 2 outlines the receptors, exposure pathways, and exposure assumptions used in calculating the NMED SSLs. It also discusses the risk levels on which the SSLs are predicated and presents the SSL model assumptions. Finally, Section 2 discusses site assessment/characterization activities that should be completed prior to comparing site contaminant concentrations with SSLs. These activities include development of data quality objectives, conducting site sampling, preparation of a preliminary conceptual site model (CSM), and identification of contaminants of potential concern (COPCs). Section 3 provides a detailed description of the process used to develop pathway-specific SSLs. Included in this section is a discussion of the human health basis for the SSLs, additive risk, and acute exposures. Additional topics discussed in Section 3 include chemical specific parameters used to develop the SSLs and calculating volatilization factors, particulate emission factors and soil saturation limits. Section 4 presents methodologies for assessing the potential for migration of contaminants to groundwater from contaminated soil in concert with generic and site-specific leaching models. Finally, Section 5 addresses special use considerations for addressing contaminant

concentrations in soil and notes specific problems that can arise when applying the SSLs to specific sites. Generic SSLs for contaminants that have Water Quality Control Commission (WQCC) Standards for ground water in the State of New Mexico are presented in Table A-1 of Appendix A. In addition, Table A-1 also includes additional compounds, which are some of the Resource Conservation and Recovery Act (RCRA) regulated constituents. Table A-2 of Appendix A presents the default exposure factor values used in the generation of the NMED SSLs. Physical-chemical values in the calculation of the SSLs are presented in Table B-1 of Appendix B. Toxicity criteria are presented in Table C-1 of Appendix C.

1.2 SCOPE OF THE SOIL SCREENING GUIDANCE

The SSG incorporates readily obtainable site data and utilizes methods from various United States Environmental Protection Agency (US EPA) risk assessment guidance and derives site-specific screening levels for selected contaminants and exposure pathways. Key attributes of the SSG include default values for generic SSLs where site-specific information is unavailable, and the identification of parameters for which site-specific information is needed for the development of site-specific SSLs. The goal of the SSG is to provide a consistent approach for developing site-specific SSLs for evaluating facilities under the auspices of the corrective action process within NMED.

The NMED SSLs are generally based on a 1E-05 target risk for carcinogens, or a hazard quotient of 1 for noncarcinogens. In instances where an individual contaminant has the capacity to elicit both types of responses, the SSLs preferentially report the screening value representative of the lowest (most stringent) contaminant concentration in environmental media. SSLs for migration to groundwater are based on (in order of preference): State of New Mexico WQCC standards (NMAC 2002), US EPA Region 9 Preliminary Remediation Goals (PRGs) for tap water (USEPA 2002a), maximum contaminant levels (MCL), and nonzero maximum contaminant level goals (MCLG) (USEPA 2003b). As such, the NMED SSLs serve as a generic benchmark for screening level comparisons of contaminant concentrations in soil. NMED anticipates that the SSLs will be used as a tool to facilitate prompt identification of those contaminants and areas that represent the greatest risks to human health and the environment. While concentrations above the NMED SSLs presented in this document do not automatically designate a site as "contaminated" or trigger the need for a response action, detected concentrations in site soils exceeding screening levels suggest that further evaluation is appropriate. Further evaluation may include additional sampling to further characterize the nature and extent of contamination, consideration of background levels, reevaluation of COPCs or associated risk and hazard using site-specific parameters, and/or a reassessment of the assumptions associated with the generic SSLs (e.g., appropriateness of route-to-route extrapolations, use of chronic toxicity values to evaluate childhood and construction-worker exposures).

1.2.1 Exposure Pathways

A complete exposure pathway consists of (1) a source, (2) a mechanism of contaminant release, (3) a receiving or contact medium, (4) a potential receptor population, and (5) an exposure route. All five elements must be present for the exposure pathway to be considered complete.

SSLs have been developed for use in evaluating three discrete exposure scenarios representing a

variety of potential land uses: residential, commercial/industrial, and construction. The SSG presents lists of potential pathways for each scenario, though these lists are not intended to be exhaustive. Instead, each list represents a set of typical exposure pathways likely to account for the majority of exposure to contaminants in soil at a given site. These include:

- Direct (or incidental) ingestion of soil
- Dermal contact with soil
- Inhalation of volatiles and fugitive dusts from contaminated soil
- Migration of chemicals through soil to an underlying potable aquifer or water-bearing unit

Under some site-specific situations, additional complete exposure pathways may be identified. In these cases, a site-specific evaluation of risk is warranted in which additional exposure pathways can be considered. If other land uses and exposure scenarios are determined to be more appropriate for a site (e.g., Native American land use), the exposure pathways addressed in this document should be modified accordingly or a site-specific risk assessment should be conducted. Early identification of the need for additional information is important because it facilitates development of a defensible sampling and analysis strategy.

The exposure pathways evaluated, by land-use scenario, are presented in Table 1-1.

Table 1-1

Exposure Pathways Evaluated in Soil Screening Guidance			
Potential Exposure Pathway	**Residential**	**Commercial/industrial**	**Construction**
Direct ingestion	✓	✓	✓
Dermal contact	✓	✓	✓
Inhalation of volatiles outdoors	✓	✓	✓
Inhalation of fugitive dusts outdoors	✓	✓	✓
Inhalation of volatiles indoors	✓		

1.2.2 Exposure Assumptions

SSLs represent risk-based concentrations in soil derived from equations combining exposure assumptions with toxicity criteria developed by US EPA (US EPA 2003a and 1997a) and the National Center for Environmental Assessment (NCEA) (USEPA 2003c). The models and assumptions used were developed to be consistent with the Superfund concept of "reasonable maximum exposure" (US EPA 1989). This is intended to provide an upper-bound estimate of chronic exposure by combining both average and conservative (i.e., 90th to 95th percentile) values in the calculations. The default intake and duration assumptions presented here are intended to be protective of all potentially exposed populations for each land use consideration. Exposure point concentrations in soil should reflect either directly measured or estimated values using fate and transport models. An average concentration is typically used where the focus is on estimating long-term, chronic exposures and there are sufficient site data to allow for an accurate estimation of the mean. Where the potential for acute toxicity may be of concern, estimates based on the maximum exposure may be more appropriate.

The resulting estimate of exposure is then compared with chemical-specific toxicity criteria. To calculate the SSLs, the exposure equations and pathway models are rearranged to backcalculate an "acceptable level" of a contaminant in soil corresponding to a specific level of target risk or hazard.

1.2.3 Target Risk and Hazard

Target risk and hazard levels for human health are risk management-based criteria for carcinogenic and non-carcinogenic responses, respectively, to determine (1) whether site-related contamination poses an unacceptable risk to human health and requires corrective action or (2) whether implemented corrective action(s) sufficiently protects human health. If an estimated risk or hazard falls within the target range, the risk manager may conclude that a site does not pose an unacceptable risk. This decision should take into account the degree of inherent conservatism or level of uncertainty associated with the site-specific estimates of risk and hazard. An estimated risk that exceeds these targets, however, does not necessarily indicate that the current conditions are not safe or that they present an unacceptable risk. Rather, a site risk calculation that exceeds a target value may simply indicate the need for further evaluation or refinement of the exposure model.

For cumulative exposure via the ingestion, inhalation, and dermal pathways, toxicity criteria are used to calculate an acceptable level of contamination in soil. SSLs are based on a carcinogenic risk level of one-in-one-hundred thousand (1E-05) and a non-carcinogenic hazard quotient of 1. A carcinogenic risk level is defined as the incremental probability of an individual developing cancer over a lifetime as a result of exposure to a potential carcinogen. The non-carcinogenic hazard quotient assumes that there is a level of exposure below which it is unlikely for even sensitive populations to experience adverse health effects.

1.2.4 SSL Model Assumptions

The models used to calculate inhalation exposure and protection of groundwater based on potential migration of contaminants in soil are intended to be utilized at an early stage in the site investigation process when information regarding the site may be limited. For this reason, the models incorporate a number of simplifying assumptions. For instance, the models assume an infinite contaminant source, i.e. a constant concentration is maintained for the duration of the exposure period. Although this is a highly conservative assumption, finite source models require accurate data regarding source size and volume. Such data are unlikely to be available from limited sampling efforts. The models also assume that contamination is homogeneous throughout the source and that no biological or chemical degradation occurs. Where sufficient site-specific data are available, more-detailed finite-source models may be used in place of the default assumptions presented in this SSG.

2. Development of Pathway Specific Soil Screening Levels

The following sections present the technical basis and limitations used to calculate SSLs for residential, commercial/industrial, and construction land use scenarios. The equations used to evaluate inhalation and migration to groundwater include a number of easily obtainable site-specific input parameters. Where site-specific data are not available, conservative default values are presented. The equations used are presented in Sections 2.2 and 2.3. Generic SSLs calculated for 206 chemicals, using these default values, are presented in Table A-1 of Appendix A.

2.1 HUMAN HEALTH BASIS

The toxicity criteria used for calculating the SSLs are presented in Table C-1 of Appendix C. The

primary sources for the human health benchmarks are US EPA's Integrated Risk Information System (IRIS) (US EPA 2003a), US EPA's NCEA (USEPA 2003c), and the Health Effects Assessment Summary Tables (HEAST) (US EPA 1997a). Additional sources include the minimal risk levels (MRLs) developed by the Agency for Toxic Substances and Disease Registry (ATSDR). For soil ingestion, inhalation of volatile organic compounds (VOCs) and fugitive dusts, and dermal contact, the NMED SSLs correspond to a 1E-05 level for carcinogens and/or a hazard quotient of 1 for noncarcinogens, whichever is lower (i.e., more protective).

2.1.1 Additive Risk

It is important to note that no consideration is provided in the calculation of individual NMED SSLs for additive risk when exposures to multiple chemicals occur. The SSG addresses this issue in Section 5. Because the NMED SSLs for carcinogenic effects correspond to a 1E-05 risk level individually, exposure to multiple contaminants may result in a cumulative site risk that is above the anticipated risk management range. While carcinogenic risks of multiple chemicals are simply added together, the issue of additive hazard is more complex for noncarcinogens because of the theory that a threshold exists for noncarcinogenic effects. This threshold is defined as the level below which adverse effects are not expected to occur, and represents the basis for the reference dose (RfD) and reference concentration (RfC). Since adverse effects are not expected to occur at the RfD or RfC and the SSLs are derived by setting the potential exposure dose to the RfD or RfC, the SSLs do not address the risk of exposure to multiple chemicals at levels where the individual chemicals alone would not be expected to cause any adverse effects. In such cases, the SSLs may not provide an accurate indicator for the likelihood of harmful effects. However, noncarcinogenic effects should only be considered additive for those chemicals with the same toxic endpoint and/or mechanism of action. The sources provided in Section 2.1 should be consulted to determine the endpoint and/or target organ system prior to attempting to evaluate the additive health effects resulting from simultaneous exposure to multiple contaminants.

Additivity of the SSLs is further complicated by the fact that not all of the SSLs are based on toxicity. SSLs for certain volatile chemicals are determined based on a ceiling limit concentration termed the soil saturation limit (and denoted as C_{sat}) above which these chemicals may occur as nonaqueous phase liquids (NAPLs) in soil. This is discussed further in Section 3.2. Further, for certain inorganic and semivolatile organic compounds (SVOCs) that exhibit relatively low toxicity, a non risk-based maximum concentration of 10^5 mg/kg is given when the risk-based SSL exceeds that level. These are noted as "max" in the tables.

2.1.2 Acute Exposures

The exposure assumptions used to develop the SSLs are based on a chronic exposure scenario and do not account for situations where high-level exposures may result in acute toxic effects. Such situations may arise when contaminant concentrations are very high, or may result from specific site-related conditions and/or behavioral patterns (i.e., pica behavior in children). Such exposures may be of concern for those contaminants that primarily exhibit acute health effects. Toxicological information regarding cyanide and phenol indicate that acute effects may be of concern for children exhibiting pica behavior. Pica is typically described as a compulsive craving to ingest non-food items (such as clay or paint). Although it can be exhibited by adults as well, it is typically of greatest concern in children because they often exhibit behavior (e.g., outdoor play activities and greater

hand-to-mouth contact) that results in greater exposure to soil than for a typical adult. In addition, children also have a lower overall body weight relative to the predicted intake.

2.1.3 Route-to-Route Extrapolation

As of January 1991, IRIS and NCEA databases no longer present RfDs or SFs for the inhalation route. These criteria have been replaced with RfCs for noncarcinogenic effects and unit risk factors (URFs) for carcinogenic effects. However, for the purposes of estimating risk and calculating risk-based concentrations, inhalation reference doses (RfD_i) and inhalation slope factors (SF_i) are preferred. Route-to-route extrapolations were also frequently used when there were no toxicity values available for a given route of exposure. However, route extrapolations were not performed for inorganics due to portal of entry effects and known differences in absorption efficiency between the oral and dermal routes of exposure. To calculate an RfD_i from an RfC, the following equation and assumptions may be used for most chemicals:

$$RfD_i \ \frac{mg}{(kg - day)} = RfC\,(mg/m^3) \times \frac{20m^3}{day} \times \frac{1}{70kg}$$

The SF_i was calculated from the URF using the following equation and assumptions:

$$SF_i \ \frac{(kg - day)}{(mg)} = URF\left(m^3/mg\right) \times \frac{day}{20m^3} \times 70kg \times \frac{10^3\ ug}{mg}$$

An additional route extrapolation is the use of oral toxicity values for evaluating dermal exposures. Because no toxicity data are presently available for evaluating dermal exposure to contaminants, US EPA has developed a methodology for use in dermal assessments. Most oral RfDs and cancer slope factors are based on an administered dose while dermal equations estimate an absorbed dose. Gastrointestinal and pulmonary absorption of many chemicals is typically much greater than absorption through intact skin. Thus, for evaluating the effects of dermal exposure to contaminants in soil, the oral toxicity value should be adjusted from an administered dose to an absorbed dose by accounting for the absorption efficiency of the chemical. Assuming 100 percent absorption via the oral exposure route may result in an overestimation of the absorbed dose, resulting in an overestimation of the dose at the site of toxic injury and underestimating the actual potency of the chemical to exert an observed effect. The magnitude of the underestimation is inversely proportional to the true oral absorption of the compound. Based on the current guidance (US EPA 2000a), the only chemical for which an adjustment is recommended is cadmium. An oral absorption efficiency of five (5) percent is assumed for cadmium, which leads to an estimated dermal reference dose (RfD_d) of 2.5E-05 mg/kg-day.

2.1.4 Direct Ingestion

Exposure to contaminants through incidental ingestion of soil can result from the inadvertent consumption of soils adhering to the hands, food items, or objects that are placed into the mouth. It can also result from swallowing dust particles that have been inhaled and deposited in the mouth and subsequently swallowed. Commercial/industrial and construction workers and residential

receptors may inadvertently ingest soil that adheres to their hands while involved in work- or recreation-related activities. Calculation of SSLs for direct ingestion are based on the methodology presented in US EPA's *Risk Assessment Guidance for Superfund (RAGS): Volume I - Human Health Evaluation Manual (Part B, Development of Risk-Based Preliminary Remediation Goals), Interim* (US EPA 1991 2001), *Soil Screening Guidance: Technical Background Document* (US EPA 1996a), and *Supplemental Guidance for Developing Soil Screening Levels for Superfund Sites* (US EPA 2001a).

2.1.5 Dermal Absorption

Exposure to soil contaminants may result from dermal contact with contaminated soil and the subsequent absorption of contaminants through the skin. Contact with soil is most likely to occur as a result of digging, gardening, landscaping, or outdoor recreation activities. Excavation activities may also be a potential source of exposure to contaminants, particularly for construction workers. Calculation of the screening levels for ingestion of soil under the residential exposure scenario is based on the methodology presented in EPA's *Risk Assessment Guidance for Superfund: Volume I - Human Health Evaluation Manual (Part B, Development of Risk-Based Preliminary Remediation Goals), Interim* (1991), and *Soil Screening Guidance: Technical Background Document* (US EPA 1996a). The suggested default input values used to develop the NMED SSLs are consistent with EPA's interim *RAGS, Part E, Supplemental Guidance for Dermal Risk Assessment* (US EPA 2001).

2.1.6 Inhalation of Volatiles and Fugitive Dusts

EPA toxicity data indicate that risks from exposure to some chemicals via the inhalation pathway far outweigh the risk via ingestion or dermal contact; therefore, the NMED SSLs have been designed to address inhalation of volatiles and fugitive dusts. To address the soil/sediment-to-air pathways, the SSL calculations incorporate volatilization factors (VF) for volatile contaminants and particulate emission factors (PEF) for nonvolatile contaminants. The SSLs follow the procedures for evaluating inhalation of VOCs and fugitive dust particles presented in EPA's *Risk Assessment Guidance for Superfund: Volume I - Human Health Evaluation Manual (Part B, Development of Risk-Based Preliminary Remediation Goals), Interim* (US EPA 1991), *Soil Screening Guidance: Technical Background Document* (US EPA 1996a), *Human Health Risk Assessment Protocol for Hazardous Waste Combustion Facilities* (US EPA 1998a), and *Supplemental Guidance for Developing Soil Screening Levels for Superfund Sites* (US EPA 2001a).

VOCs may adhere to soil particles or be present in interstitial air spaces in soil, and may volatilize into ambient air. This pathway may be particularly significant if the VOC emissions are concentrated in indoor spaces of onsite buildings. For the purpose of calculating the NMED SSLs, VOCs are considered those chemicals having a Henry's Law constant greater than 1×10^{-5} atm-m^3/mole-^oK and a molecular weight less than 200 g/mole.

Inhalation of contaminants via inhalation of fugitive dusts is assessed using a PEF that relates the contaminant concentration in soil/sediment with the concentration of respirable particles in the air due to fugitive dust emissions. It is important to note that the PEF used to address residential and commercial/industrial exposures evaluates only windborne dust emissions and does not consider emissions from traffic or other forms of mechanical disturbance which could lead to a greater level of exposure. The PEF used to address construction worker exposures evaluates windborne dust emissions and emissions from vehicle traffic associated with construction activities. Therefore, the

fugitive dust pathway should be considered carefully when developing the CSM at sites where receptors may be exposed to fugitive dusts by other mechanisms. The development of the PEF for both residential and non-residential land uses is discussed further in Section 3.3.

2.2 RESIDENTIAL LAND USES

Residential exposures are assessed based on child and adult receptors. As discussed below, the child forms the basis for evaluation of noncarcinogenic effects incurred under residential exposures, while carcinogenic responses are modeled based upon age-adjusted values to account for exposures averaged over a lifetime. Under most circumstances, onsite residential receptors are expected to be the most conservative receptor basis for risk assessment purposes due to the assumption that exposure occurs 24 hours a day, 350 days per year, extending over a 30-year exposure duration. Table 2-1 provides a summary of the exposure characteristics and parameters associated with a residential land use receptor.

Table 2-1

Summary of the Residential Land Use Receptors	
Exposure Characteristics	Substantial soil exposure (esp. children) High soil ingestion rate (esp. children) Significant time spent indoors Long-term exposure
Default Exposure Parameters	
Exposure frequency (d/yr)	350
Exposure duration (yr)	6 (child) 24 (adult)
Soil ingestion rate (mg/day)	200 (child) 100 (adult)
Body Weight (kg)	15 (child) 70 (adult)
Skin surface area exposed (cm^2)	2,800 (child) 5,700 (adult)
Skin-soil adherence factor	0.2 (child) 0.07 (adult)
Air inhalation rate (m^3/d)	10 (child) 20 (adult)

2.2.1 Residential Receptors

A residential receptor is assumed to be a long-term receptor occupying a dwelling within the site boundaries and thus is exposed to contaminants 24 hours per day, and is assumed to live at the site for 30 years (representing the 90^{th} percentile of the length of time someone lives in a single location), remaining onsite for 350 days per year. Exposure to soil is expected to occur during home maintenance activities, yard work and landscaping, and outdoor play activities. Contaminant intake is assumed to occur via three exposure pathways – direct ingestion, dermal absorption, and inhalation of volatiles and fugitive dusts. For the residential scenario, both adult and child receptors were evaluated because children often exhibit behavior (e.g., greater hand-to-mouth contact) that can result in greater exposure to soils than those associated with a typical adult. In addition, children also have a lower overall body weight relative to the predicted intake.

Equations 1 and 2 are used to calculate cumulative SSLs for a residential receptor exposed to non-carcinogenic and carcinogenic contaminants via all three exposure pathways. Default exposure parameters are provided for use when site-specific data are not available.

Equation 1
Combined Exposures to Noncarcinogenic Contaminants in Soil
Residential Scenario

$$C = \frac{THQ \times BW_c \times AT_n}{EF_r \times ED_c \left[\left(\frac{1}{RfD_o} \times \frac{IRS_c}{10^{6\ mg/kg}} \right) + \left(\frac{1}{RfD_o} \times \frac{SA_c \times AF_c \times ABS}{10^{6\ mg/kg}} \right) + \left(\frac{1}{RfD_i} \times \frac{IRA_c}{VF \text{ or } PEF} \right) \right]}$$

Parameter	Definition (units)	Default
C	Contaminant concentration (mg/kg)	Chemical-specific
THQ	Target hazard quotient	1
BW_c	Body weight, child (kg)	15
AT_n	Averaging time, noncarcinogens (days)	ED x 365day/yr
EF_r	Exposure frequency, resident (day/yr)	350
ED_c	Exposure duration, child (years)	6
IRS_c	Soil ingestion rate, child (mg/day)	200
RfD_o	Oral reference dose (mg/kg-day)	Chemical-specific
SA_c	Dermal surface area, child (cm^2/day)	2,800
AF_c	Soil adherence factor, child (mg/cm^2)	0.2
ABS	Skin absorption factor (unitless)	Chemical-specific
IRA_c	Inhalation rate, child (m^3/day)	10
RfD_I	Inhalation reference dose (mg/kg-day)	Chemical-specific
VF	Volatilization factor (m^3/kg)	See Equation 10
PEF	Particulate emission factor (m^3/kg)	See Equation 12

Equation 2
Combined Exposures to Carcinogenic Contaminants in Soil
Residential Scenario

$$C = \frac{TR \times AT_c}{EF_r \left[\left(\frac{IFS_{adj} \times CSF_o}{10^6 mg/kg} \right) + \left(\frac{SFS_{adj} \times ABS \times CSF_o}{10^6 mg/kg} \right) + \left(\frac{InhF_{adj} \times CSF_i}{VF \text{ or } PEF} \right) \right]}$$

Parameter	Definition (units)	Default
C	Contaminant concentration (mg/kg)	Chemical-specific
TR	Target cancer risk	1E-05
AT_c	Averaging time, carcinogens (days)	25,550
EF_r	Exposure frequency, resident (day/yr)	350
IFS_{adj}	Age-adjusted soil ingestion factor ([mg-yr]/[kg-day])	114

CSF_o	Oral cancer slope factor $(mg/kg\text{-}day)^{-1}$	Chemical-specific
SFS_{adi}	Age-adjusted dermal factor ([mg-yr]/[kg-day])	361
ABS	Skin absorption factor (unitless)	Chemical-specific
$InhF_{adi}$	Age-adjusted inhalation factor ($[m^3$-yr]/[kg-day])	11
CSF_i	Inhalation cancer slope factor $(mg/kg\text{-}day)^{-1}$	Chemical-specific
VF	Volatilization factor (m^3/kg)	See Equation 10
PEF	Particulate emission factor (m^3/kg)	See Equation 12

Noncarcinogenic contaminants are evaluated based solely on childhood exposures using Equation 1. By combining the higher contaminant intake rates with the lower relative body weight, "childhood only" exposures lead to a lower, or more conservative, risk-based concentration compared to an adult-only exposure. In addition, this approach is considered conservative because it combines the higher 6-year exposure for children with chronic toxicity criteria.

Unlike non-carcinogens, the duration of exposure to carcinogens is averaged over the lifetime of the receptor because of the assumption that cancer may develop even after actual exposure has ceased. As a result, the total dose received is averaged over a lifetime of 70 years. In addition, to be protective of exposures in a residential setting, the carcinogenic exposure parameter values are age-adjusted to account for exposures incurred in children (1-6 years of age) and adults (7-31 years of age). Carcinogenic exposures are age-adjusted to account for the physiological differences between children and adults as well as behavioral differences that result in markedly different relative rates of exposure. Equations 3, 4, and 5 are used to calculate age-adjusted ingestion, dermal and inhalation factors which account for the differences in soil ingestion rate, skin surface area, soil adherence factors, inhalation rate, and body weight for children versus adults. The age-adjusted factors calculated using these equations were used in Equation 2 to develop generic NMED SSLs for carcinogenic effects.

Equation 3
Calculation of Age-Adjusted Ingestion Factor

$$IFS_{adj} = \frac{ED_c \times IRS_c}{BW_c} + \frac{(ED_r - ED_c) \times IRS_a}{BW_a}$$

Parameter	Definition (units)	Default
IFS_{adi}	Age-adjusted soil ingestion factor for carcinogens [(mg-yr)/(kg-day)]	114
ED_c	Exposure duration, child (years)	6
IRS_c	Soil ingestion rate, child (mg/day)	200
BW_c	Body weight, child (kg)	15
ED_r	Exposure duration, resident (years)	30
IRS_a	Soil ingestion rate, adult (mg/day)	100
BW_a	Body weight, adult (kg)	70

Equation 4
Calculation of Age-Adjusted Dermal Factor

$$SFS_{adj} = \frac{ED_c \times AF_c \times SA_c}{BW_c} + \frac{(ED_r - ED_c) \times AF_a \times SA_a}{BW_a}$$

Parameter	Definition (units)	Default
SFS_{adj}	Age-adjusted dermal factor for carcinogens [(mg-yr)/(kg-day)]	361
ED_c	Exposure duration, child (years)	6
AF_c	Soil adherence factor, child (mg/cm^2)	0.2
SA_c	Dermal surface area, child (cm^2/day)	2,800
BW_c	Body weight, child (kg)	15
ED_r	Exposure duration, resident (years)	30
AF_a	Soil adherence factor, adult (mg/cm^2)	0.07
SA_a	Dermal surface area, adult (cm^2/day)	5,700
BW_a	Body weight, adult (kg)	70

Equation 5
Calculation of Age-Adjusted Inhalation Factor

$$InhF_{adj} = \frac{Ed_c \times IRA_c}{BW_c} + \frac{(ED_r - ED_c) \times IRA_a}{BW_a}$$

Parameter	Definition (units)	Default
$InhF_{adi}$	Age-adjusted inhalation factor for carcinogens [(mg-yr)/(kg-day)]	11
ED_c	Exposure duration, child (years)	6
IRA_c	Inhalation rate, child (m^3/day)	10
BW_c	Body weight, child (kg)	15
ED_r	Exposure duration, resident (years)	30
IRA_a	Inhalation rate, adult (m^3/day)	20
BW_a	Body weight, adult (kg)	70

2.3 NON-RESIDENTIAL LAND USES

Non-residential land uses encompass all commercial and industrial land uses and focus on two very different receptors – a commercial/industrial worker and a construction worker. Unlike those calculated for residential land-uses, NMED SSLs for non-residential land uses are based solely on exposures to adults. Consequently, exposures to carcinogens are not age-adjusted. Due to the wide range of activities and exposure levels a non-residential receptor may be exposed to during various work-related activities, it is important to ensure that the default exposure parameters are representative of site-specific conditions. Table 2-2 provides a summary of the exposure

characteristics and parameters for non-residential land use receptors.

Table 2-2

Summary of Non-Residential Land Use Receptors		
Receptor	**Commercial/Industrial Worker**	**Construction Worker**
Exposure Characteristics	Substantial soil exposures High soil ingestion rate Long-term exposure Exposure to surface and shallow subsurface soils Adult-only exposure	Exposed during construction activities only Short-term exposure Very high soil ingestion and dust inhalation rates Exposure to surface and subsurface soils
Default Exposure Parameters		
Exposure frequency (day/yr)	225	250
Exposure duration (yr)	25	1
Soil ingestion rate (mg/day)	100	330
Body Weight (kg)	70	70
Skin surface area exposed (cm^2)	3,300	3,300
Skin-soil adherence factor (mg/ cm^2)	0.2	0.3
Air inhalation rate (m^3/day)	20	20

2.3.1 Commercial/Industrial Worker

The commercial/industrial scenario is considered representative of on-site workers who spend all or most of their workday outdoors. A commercial/industrial worker is assumed to be a long-term receptor exposed during the course of a work day as either (1) a full time employee of a company operating on-site who spends most of the work day conducting maintenance or manual labor activities outdoors or (2) a worker who is assumed to regularly perform grounds-keeping activities as part of his/her daily responsibilities. Exposure to surface and shallow subsurface soils (i.e., at depths of zero to two feet below ground surface) is expected to occur during moderate digging associated with routine maintenance and grounds-keeping activities. A commercial/industrial receptor is expected to be the most highly exposed receptor in the outdoor environment under generic or day-to-day commercial/industrial conditions. Thus, the screening levels for this receptor are expected to be protective of other reasonably anticipated indoor and outdoor workers at a commercial/industrial facility. However, screening levels developed for the commercial/industrial worker may not be protective of a construction worker due to the latter's increased soil contact rate during construction activities. Equations 6 and 7 were used to develop generic SSLs for cumulative exposure to carcinogenic and non-carcinogenic contaminants by all exposure pathways. Default exposure parameters (US EPA 2001) are provided and were used in calculating the NMED SSLs.

Equation 6
Combined Exposures to Carcinogenic Contaminants in Soil
Commercial/Industrial Scenario

$$C = \frac{TR \times BW_a \times AT_c}{EF_{CI} \times ED_{CI}\left[\left(\frac{IRS_{CI} \times CSF_o}{10^{6\ mg/kg}}\right) + \left(\frac{SA_{CI} \times AF_{CI} \times ABS \times CSF_o}{10^{6\ mg/kg}}\right) + \left(\frac{IRA_c \times CSF_i}{VF \text{ or } PEF}\right)\right]}$$

Parameter	Definition (units)	Default
C	Contaminant concentration (mg/kg)	Chemical-specific
TR	Target Risk	1E-05
BW_a	Body weight, adult (kg)	70
AT_c	Averaging time, carcinogens (days)	25,550
EF_{CI}	Exposure frequency, commercial/industrial (day/yr)	225
ED_{CI}	Exposure duration, commercial/industrial (years)	25
IRS_{CI}	Soil ingestion rate, commercial/industrial (mg/day)	100
CSF_o	Oral cancer slope factor $(mg/kg\text{-}day)^{-1}$	Chemical-specific
SA_{CI}	Dermal surface area, commercial/industrial (cm^2/day)	3,300
AF_{CI}	Soil adherence factor, commercial/industrial (mg/cm^2)	0.2
ABS	Skin absorption factor (unitless)	Chemical-specific
IRA_{CI}	Inhalation rate, commercial/industrial (m^3/day)	20
CSF_i	Inhalation cancer slope factor $(mg/kg\text{-}day)^{-1}$	Chemical-specific
VF	Volatilization factor (m^3/kg)	See Equation 10
PEF	Particulate emission factor (m^3/kg)	See Equation 12

Equation 7
Combined Exposures to Noncarcinogenic Contaminants in Soil
Commercial/Industrial Scenario

$$C = \frac{THQ \times BW_a \times AT_n}{EF_{CI} \times ED_{CI}\left[\left(\frac{1}{RfD_o} \times \frac{IRS_{CI}}{10^6 mg/kg}\right) + \left(\frac{1}{RfD_o} \times \frac{SA_{CI} \times AF_{CI} \times ABS}{10^6 mg/kg}\right) + \left(\frac{1}{RfD_i} \times \frac{IRA_{CI}}{VF \text{ or } PEF}\right)\right]}$$

Parameter	Definition (units)	Default
C	Contaminant concentration (mg/kg)	Chemical-specific
THQ	Target hazard quotient	1
BW_a	Body weight, adult (kg)	70
AT_n	Averaging time, noncarcinogens (days)	ED x 365
EF_{CI}	Exposure frequency, commercial/industrial (day/yr)	225
ED_{CI}	Exposure duration, commercial/industrial (years)	25
IRS_{CI}	Soil ingestion rate, commercial/industrial (mg/day)	100
RfD_o	Oral reference dose (mg/kg-day)	Chemical-specific
SA_{CI}	Dermal surface area, commercial/industrial (cm^2/day)	3,300
AF_{CI}	Soil adherence factor, commercial/industrial (mg/cm^2)	0.2
ABS	Skin absorption factor (unitless)	Chemical-specific
IRA_{CI}	Inhalation rate, commercial/industrial (m^3/day)	20
RfD_i	Inhalation reference dose (mg/kg-day)	Chemical-specific
VF	Volatilization factor (m^3/kg)	See Equation 10
PEF	Particulate emission factor (m^3/kg)	See Equation 12

2.3.2 Construction Worker

A construction worker is assumed to be a receptor who is exposed to contaminated soil during the work day for the duration of a single on-site construction project. If multiple construction projects are anticipated, it is assumed that different workers will be employed for each project. The activities for this receptor typically involve substantial exposures to surface and subsurface soils (i.e., at depths of zero to 10 feet below ground surface) during excavation, maintenance and building construction projects (intrusive operations). A construction worker is assumed to be exposed to contaminants via the following pathways: incidental soil ingestion, dermal contact with soil, and inhalation of contaminated outdoor air (volatile and particulate emissions). While a construction worker receptor is assumed to have a higher soil ingestion rate than a commercial/industrial worker due to the type of activities performed during construction projects, the exposure frequency and duration are assumed to be significantly shorter due to the short-term nature of construction projects. However, chronic toxicity information was used when developing screening levels for a construction worker receptor. This approach is significantly more conservative than using sub-chronic toxicity data

because it combines the higher soil exposures for construction workers with chronic toxicity criteria. Equations 8 and 9 were used to develop generic SSLs for cumulative exposure to carcinogenic and non-carcinogenic contaminants by all exposure pathways. Default exposure parameters (US EPA 2001) are provided and were used in calculating the NMED SSLs.

Equation 8
Combined Exposures to Carcinogenic Contaminants in Soil
Construction Worker Scenarios

$$C = \frac{THQ \times BW_a \times AT_c}{EF_{CW} \times ED_{CW}\left[\left(\frac{IRS_{CW} \times CSF_o}{10^6\,mg/kg}\right) + \left(\frac{SA_{CW} \times AF_{CW} \times ABS \times CSF_o}{10^6\,mg/kg}\right) + \left(\frac{IRA_{CW} \times CSF_i}{VF \text{ or } PEF}\right)\right]}$$

Parameter	Definition (units)	Default
C	Contaminant concentration (mg/kg)	Chemical-specific
TR	Target Risk	1E-05
AT_c	Averaging time, carcinogens (days)	25,550
EF_{CW}	Exposure frequency, construction worker (day/yr)	250
ED_{CW}	Exposure duration, construction worker (years)	1
IRS_{CW}	Soil ingestion rate, construction worker (mg/day)	330
CSF_o	Oral cancer slope factor $(mg/kg\text{-}day)^{-1}$	Chemical-specific
SA_{CW}	Dermal surface area, construction worker (cm^2/day)	3,300
AF_{CW}	Soil adherence factor, construction worker (mg/cm^2)	0.3
ABS	Skin absorption factor (unitless)	Chemical-specific
IRA_{CW}	Inhalation rate, construction worker (m^3/day)	20
CSF_i	Inhalation cancer slope factor $(mg/kg\text{-}day)^{-1}$	Chemical-specific
VF	Volatilization factor (m^3/kg)	See Equation 10
PEF	Particulate emission factor (m^3/kg)	See Equation 12

Equation 9
Combined Exposures to Noncarcinogenic Contaminants in Soil
Construction Worker Scenario

$$C = \frac{THQ \times BW_a \times AT_n}{EF_{CW} \times ED_{CW}\left[\left(\frac{1}{RfD_o} \times \frac{IRS_{CW}}{10^6\,mg/kg}\right) + \left(\frac{1}{RfD_o} \times \frac{SA_{CW} \times AF_{CW} \times ABS}{10^6\,mg/kg}\right) + \left(\frac{1}{RfD_i} \times \frac{IRA_{CW}}{VF \text{ or } PEF_{CW}}\right)\right]}$$

Parameter	Definition (units)	Default
C	Contaminant concentration (mg/kg)	Chemical-specific
THQ	Target hazard quotient	1
AT_n	Averaging time, noncarcinogens (days)	ED x 365
EF_{CW}	Exposure frequency, construction (day/yr)	250
ED_{CW}	Exposure duration, construction (years)	1
IRS_{CW}	Soil ingestion rate, construction (mg/day)	330
RfD_o	Oral reference dose (mg/kg-day)	Chemical-specific
SA_{CW}	Dermal surface area, construction (cm^2/day)	3,300
AF_{CW}	Soil adherence factor, construction (mg/cm^2)	0.3
ABS	Skin absorption factor (unitless)	Chemical-specific
IRA_{CW}	Inhalation rate, construction (m^3/day)	20
RfD_i	Inhalation reference dose (mg/kg-day)	Chemical-specific
VF	Volatilization factor (m^3/kg)	See Equation 10
PEF	Particulate emission factor (m^3/kg)	See Equation 12

2.3.3 Alternative Evaluation for Lead

Exposure to lead can result in neurotoxic and developmental effects. The primary receptors of concern are children, whose nervous systems are still undergoing development and who also exhibit behavioral tendencies that increase their likelihood of exposure (e.g., pica). These effects may occur at exposures so low that they may be considered to have no threshold, and are evaluated based on a blood lead level (rather than the external dose as reflected the RfD/RfC methodology). Therefore, US EPA views it to be inappropriate to develop noncarcinogenic "safe" exposure levels (i.e., RfDs) for lead. Instead, US EPA's lead assessment workgroup has recommended the use of the Integrated Exposure Uptake Biokinetic (IEUBK) model that relates measured lead concentrations in environmental media with an estimated blood-lead level (US EPA 1994 and 1998b). The model is used to calculate a blood lead level in children when evaluating residential land use and in adults (based on a pregnant mother's capacity to contribute to fetal blood lead levels), or when evaluating occupational scenarios at sites where access by children is reliably restricted. The NMED SSLs presented in Appendix A include values for lead that were calculated by using the IEUBK to backcalculate a soil concentration for each receptor that would not result in an estimated blood-lead concentration of 10 μg/dL or greater (residential adult of 400 mg/kg and industrial and construction worker of 750 mg/kg)

2.4 SITE ASSESSMENT AND CHARACTERIZATION

The Site Assessment/Site Characterization phase is intended to provide additional spatial and contextual information about the site, which may be used to determine if there is any reason to believe that receptors and/or complete exposure pathways may exist at or in the locality of the site where a release of hazardous waste/constituents has occurred. In addition, the site assessment phase serves as the initial information gathering phase to determine whether potential exposures are sufficiently similar to those upon which the NMED SSLs are predicated to support comparison. Finally, this phase can help to identify for sites in need of a more detailed assessment of potential risk. The approach outlined herein is discussed in greater detail in the NMED Hazardous Waste Bureau (HWB) guidance document *Assessing Human Health Risks Posed by Chemicals: Screening-level Risk Assessment* (NMED 2000). A CSM providing a list of the potentially exposed receptors and potentially complete exposure pathways in the scoping report is used to determine whether further assessment (i.e., a screening level assessment) and/or interim measures are required or whether the site poses minimal threat to human and ecological receptors at or near the site.

The ultimate purpose of the site assessment phase is to address the question: Are exposure pathways complete with regard to contaminant contact by receptors? A complete site assessment will consists of several steps:

- Develop data quality objectives and conduct site sampling;
- Identify preliminary COPCs;
- Develop a preliminary site conceptual exposure model (SCEM); and
- Compare maximum (or, if deemed appropriate by NMED, the 95% upper confidence limit (UCL) value) for contaminant concentrations (or detection/quantitation limits for non-detect results) for consideration of complete exposure pathways with SSLs.

2.4.1 Development of Data Quality Objectives

Before any additional environmental samples are collected, data quality objectives (DQOs) should be developed. The DQOs should address the qualitative and quantitative nature of the sampling data, in terms of relative quality and intent for use, to ensure that any data collected will be appropriate for the intended objective. Development of the DQOs should consider not only precision, accuracy, representativeness, completeness, and comparability of the data, but also the sampling locations, types of laboratory analyses used, sensitivity of detection limits of the analytical techniques, the resulting data quality, and the employment of adequate quality assurance/quality control measures.

2.4.2 Identification of COPCs

COPCs are those substances (including transformation or breakdown compounds and companion products) likely to be present in environmental media affected by a release. Identification of COPCs should begin with existing knowledge of the process, product, or waste from which the release originated. For example, if facility operations deal primarily with pesticide manufacturing then pesticides should be considered COPCs. Contaminants identified during current or previous site investigation activities should also be evaluated as COPCs. A site-specific COPC list for soil may be generated based on maximum detected (or, if deemed appropriate by NMED, the 95% UCL value)

concentrations (US EPA 2002b) and a comparison of detection/quantitation limits for non-detect results to the NMED SSLs. This list may be refined through a site-specific risk assessment.

2.4.3 Development of a Preliminary Conceptual Site Model

A CSM is a graphical representation of three-dimensional site conditions that conveys what is known or suspected, at a discrete point in time, about the site-specific sources, releases, release mechanisms, contaminant fate and transport, exposure routes, and potential receptors. The CSM is generally documented by written descriptions and supported by maps, geological cross-sections, tables, diagrams and other illustrations to communicate site conditions. When preparing a CSM, the facility should decide the scope, quantity, and relevance of information to be included, balancing the need to present as complete a picture as possible to document current site conditions and justify risk management actions, with the need to keep the information focused and exclude extraneous data.

As a final check, the CSM should answer the following questions:

- Are there potential land uses present (now or in the foreseeable future) other than those covered by the SSLs (refer to US EPA 1989).
- Are there other likely human exposure pathways that were not considered in development of the SSLs (e.g. direct exposure to groundwater, local fish consumption, raising beef, dairy, or other livestock)? (refer to US EPA 1989)
- Are there potential ecological concerns? (*Guidance for Assessing Ecological Risks Posed by Chemicals: Screening Level Ecological Risk Assessment*; NMED 2000)

If any conditions such as these exist, the SSLs may need to be adjusted to reflect this new information.

2.4.4 Compare COPC Maximum Concentrations With SSLs

The final step in the site assessment phase is to compare maximum detected COPC concentrations in soil (or, if deemed appropriate by NMED, the 95% UCL value on the mean of the dataset (US EPA 2002b)) with SSLs based on the complete exposure pathways identified by the preliminary CSM. These concentrations should also be compared against the SSL leaching values to determine which contaminants present in soil have the capacity to leach to underlying groundwater and impact these resources adversely. As stated earlier, those contaminants exhibiting concentrations in excess of the SSLs represent the initial soil COPC list for a given site. Refinement of this list may be necessary based on a host of factors, including elevated detection or quantitation limits.

3. Chemical-Specific and Physical-Chemical Parameters

Chemical-specific parameters required for calculating SSLs include the organic carbon normalized soil-water partition coefficient for organic compounds (K_{oc}), the soil-water partition coefficient (K_d), water solubility (S), octanol-water partition coefficient (K_{ow}), Henry's Law constant (H), diffusivity in air (D_a), and diffusivity in water (D_w). The following sections describe these values and present methodologies for calculating additional values necessary for calculating the NMED SSLs.

3.1 VOLATILIZATION FACTOR

Volatile chemicals, defined as those chemicals having a Henry's Law constant greater than 1 x 10^{-5} atm-m^3/mole-^oK and a molecular weight less than 200 g/mole, were screened for inhalation exposures using a volatilization factor (VF) for soils. The soil-to-air VF is used to define the relationship between the concentration of the contaminant in soil and the flux of the volatilized contaminant to ambient air. The emission terms used in the VF are chemical-specific and were calculated from physical-chemical information obtained from several sources including: US EPA's *Soil Screening Guidance: Technical Background Document* (US EPA, 1996a and 2001a), USEPA Master Physical and Chemical Parameter table for development of PRGS (USEPA 2001b), the US EPA Region 9 *Preliminary Remediation Goals* (US EPA 2002a), EPA's *Basics of Pump and Treat Groundwater Remediation Technology* (US EPA 1990), US EPA's *Dermal Exposure Assessment* (US EPA 1992a*), Superfund Public Health Evaluation Manual* (US EPA 1986), EPA's *Additional Environmental Fate Constants* (US EPA 1995), Hazardous Substance Release/Health Effects Database (ATSDR 2003), and the CHEMFACTS Database (US EPA 2000c). The VF is calculated using Equation 10.

Equation 10
Derivation of the Volatilization Factor for Residential and Commercial/Industrial Scenarios

$$VF = \frac{Q/C_{vol} \times \left(3.14 \times D_A \times T\right)^{0.5} \times 10^{-4}}{\left(2 \times \rho_b \times D_A\right)}$$

Where:

$$D_A = \frac{\left[\frac{\left(\theta_a^{10/3} D_a H' + \theta_w^{10/3} D_w\right)}{n^2}\right]}{\rho_b K_d + \theta_w + \theta_a H'}$$

Parameter	Definition (units)	Default
VF	Volatilization factor (m^3/kg)	Chemical-specific
D_A	Apparent diffusivity (cm^2/s)	Chemical-specific
Q/C_{vol}	Inverse of the mean concentration at the center of a 0.5- acre-square source (g/m^2-s per kg/m^3)	68.18
T	Exposure interval (s)	9.5 x 10^8
ρ_b	Dry soil bulk density (g/cm^3)	1.5
n	Total soil porosity 1 - (ρ_b/ρ_s)	0.42
θ_a	Air-filled soil porosity (n - θ_w)	0.18
θ_w	Water-filled soil porosity	0.26
ρ_s	Soil particle density (g/cm^3)	2.65
D_a	Diffusivity in air (cm^2/s)	Chemical-specific

H'	Dimensionless Henry's Law constant	Chemical-specific
D_w	Diffusivity in water (cm^2/s)	Chemical-specific
K_d	Soil-water partition coefficient (cm^3/g) = K_{oc} x f_{oc} (organics)	Chemical-specific
K_{oc}	Soil organic carbon partition coefficient (cm^3/g)	Chemical-specific
f_{oc}	Fraction organic carbon in soil (g/g)	0.0015

While most of the parameters used to calculate apparent diffusivity (D_A) are either chemical-specific or default values, several state-specific values were used which are more representative of soil conditions found in New Mexico. The default values for θ_w, θ_a, and ρ_b in Equation 10 are 0.26, 0.18 and 1.5 g/cm^3, respectively. These values represent the mean value from a National Resources Conservation Service (NRCS) soil survey database for New Mexico that includes over 1200 sample points (U.S. Department of Agriculture 2000). USEPA guidance (2001a) provides additional methodologies for estimating site-specific air-filled soil porosities and water-filled soil porosities.

It should be noted that the basic principle of the VF model (Henry's Law) is applicable only if the soil contaminant concentration is at or below soil saturation, C_{sat}. Above the soil saturation limit, the model cannot predict an accurate VF-based SSL.

3.2 SOIL SATURATION LIMIT

C_{sat} describes a chemical-physical soil condition that integrates certain chemical-specific properties with physical attributes of the soil to estimate the contaminant concentration at which the soil pore water, pore air, and surface sorption sites are saturated with contaminants. Above this concentration, the contaminants may be present in free phase within the soil matrix – as non-aqueous phase liquids (NAPLs) for substances that are liquid at ambient soil temperatures, and pure solid phases for compounds that are solids at ambient soil temperatures (EPA 1996a). Generic C_{sat} concentrations should not be interpreted as confirmation of a saturated soil condition, but as estimates of when this condition may occur. It should be noted that C_{sat} concentrations are not risk-based values. Instead, they correspond to a theoretical threshold above which free phase contaminant may exist. C_{sat} concentrations, therefore, serve to identify an upper limit to the applicability of generic risk-based soil criteria, because certain default assumptions and models used in the generic algorithms are not applicable when free phase contaminant is present in soil. Equation 11, given below is used to calculate C_{sat} for each volatile contaminant considered within the SSLs.

Equation 11
Derivation of the Soil Saturation Limit

$$C_{sat} = \frac{S}{\rho_b}\left(K_d \rho_b + \theta_w + H'\theta_a\right)$$

Parameter	Definition (units)	Default
C_{sat}	Soil saturation concentration (mg/kg)	Chemical-specific
S	Solubility in water (mg/L-water)	Chemical-specific
ρ_b	Dry soil bulk density (kg/L)	1.5
K_d	Soil-water partition coefficient (L/kg; $K_{oc} \times f_{oc}$)	Chemical-specific
K_{oc}	Soil organic carbon/water partition coefficient (L/kg)	Chemical-specific
f_{oc}	Fraction organic carbon in soil (g/g)	0.0015
θ_w	Water-filled soil porosity	0.26
H´	Dimensionless Henry's Law constant	Chemical-specific
θ_a	Air-filled soil porosity (n- $\theta_{w)}$	0.18
n	Total soil porosity ($1 - (\rho_b/\rho_s)$)	0.42
ρ_s	Soil particle density (kg/L)	2.65

Chemical-specific parameters used in Equation 11 were obtained from physical-chemical information obtained from several sources including: US EPA's *Soil Screening Guidance: Technical Background Document* (US EPA 1996a), the US EPA Region 9 *Preliminary Remediation Goals* (US EPA 2002a), US EPA's *Basics of Pump and Treat Groundwater remediation Technology* (US EPA 1990), US EPA's *Dermal Exposure Assessment* (US EPA 1992a*), Superfund Public Health Evaluation Manual* (US EPA 1986), US EPA's *Additional Environmental Fate Constants* (US EPA 1995), Hazardous Substance Release/Health Effects Database (ATSDR 2003), and the CHEMFACTS Database.

3.3 PARTICULATE EMISSION FACTOR

Inhalation of chemicals adsorbed to suspended respirable particles is assessed using a chemical-specific PEF, which relates the contaminant concentration in soil to the concentration of respirable particles in the air due to fugitive dust emissions from contaminated soils. This guidance addresses dust generated from open sources, which is termed "fugitive" because it is not discharged into the atmosphere in a confined flow stream. For further details on the methodology associated with the PEF model, the reader is referred to US EPA's *Soil Screening Guidance: Technical Background Document* (US EPA 1996a), *Supplemental Guidance for Developing Soil Screening Levels for Superfund Sites* (US EPA 2001a) and *Human Health Risk Assessment Protocol for Hazardous Waste Combustion Facilities* (US EPA 1998a).

It is important to note that the PEF for use in evaluating exposures of the residential and commercial/industrial receptors addresses only windborne dust emissions and does not consider emissions from traffic or other forms of mechanical disturbance, which could lead to a greater level

of exposure. The PEF for use in evaluating the construction worker exposures considers windborne dust emissions and emissions from vehicle traffic associated with construction activities. Therefore, the fugitive dust pathway should be considered carefully when developing the CSM at sites where receptors may be exposed to fugitive dusts by other mechanisms. Equation 12 is used to calculate a New-Mexico region-specific PEF value, used for both the residential and commercial/industrial exposure scenarios. A scenario-specific PEF value was calculated for a construction worker receptor using Equation 13.

Equation 12
Derivation of the Particulate Emission Factor
Residential and Commercial/Industrial Scenarios

$$PEF = Q / C_{wind} \times \frac{3{,}600 \text{ sec / hr}}{0.036 \times (1 - V) \times \left(\frac{U_m}{U_t}\right)^3 \times F(x)}$$

Parameter	Definition (units)	Default
PEF	Particulate emission factor (m^3/kg)	1.61×10^9
Q/C_{wind}	Inverse of a mean concentration at center of a 0.5-acre-square source (g/m^2-s per kg/m^3)	81.85
V	Fraction of vegetative cover (unitless)	0.5
U_m	Mean annual windspeed (m/s)	4.02
U_t	Equivalent threshold value of windspeed at 7 m (m/s)	11.32
F(x)	Function dependent on Um/Ut derived using Cowherd et al. (1985) (unitless)	0.0553

Equation 13
Derivation of the Particulate Emission Factor
Construction Worker Scenario

$$PEF_{CW} = Q/C_{CW} \times \frac{1}{F_D} \left[\frac{T \times A_R}{556 \times \left(\frac{W}{3}\right)^{0.4} \times \frac{(365 \text{ days/yr} - P)}{365 \text{ days/yr}} \times \sum VKT} \right]$$

Parameter	Definition (units)	Default
PEF_{CW}	Particulate emission factor (m^3/kg)	2.12E6
Q/C_{CW}	Inverse of a mean concentration at center of a 0.5-acre-square source (g/m^2-s per kg/m^3)	23.02
F_D	Dispersion correction factor (unitless)	0.185
T	Total time over which construction occurs (s)	7.2E6
A_R	Surface area of road segment (m^2)	274.2
W	Mean vehicle weight (tons)	8
P	Number of days with at least 0.01 inches of precipitation (days/yr)	60
ΣVKT	sum of fleet vehicle kilometers traveled during the exposure duration (km)	168.75

3.4 PHYSICAL-CHEMICAL PARAMETERS

Several chemical-specific parameters are required for calculating SSLs including the organic carbon normalized soil-organic carbon/water partition coefficients for organic compounds (K_{oc}), the soil-water partition coefficient for organic and inorganic constituents (K_d), the solubility of a compound in water (S), Henry's Law constant (H), air diffusivity (D_a), water diffusivity (D_w), and the octanol-water partition coefficient (K_{ow}). Prior to calculating site-specific SSLs, each relevant chemical specific parameter value presented in Appendix B should be checked against the most recent version of its source to determine if updated data are available. Table B-1 in Appendix B provides the chemical-specific parameters used in calculating the NMED SSLs.

Chemical-specific values were obtained from EPA's *Soil Screening Guidance: Technical Background Document* (US EPA 1996a), the EPA Region 9 *Preliminary Remediation Goals* (US EPA 2002a), US EPA's *Basics of Pump and Treat Groundwater remediation Technology* (US EPA 1990), US EPA's *Dermal Exposure Assessment* (US EPA 1992a), *Superfund Public Health Evaluation Manual* (US EPA 1986), US EPA's *Additional Environmental Fate Constants* (US EPA 1995), Hazardous Substance Release/Health Effects Database (ATSDR 2003), and the CHEMFACTS Database.

3.4.1 Solubility, Henry's Law Constant, and K_{ow}

The solubility of a contaminant refers to the maximum amount that can be dissolved in a fixed volume of a solvent, usually pure water, at a specific temperature and pH. A chemical with a high solubility readily dissolves in water, while a low solubility indicates an inability to dissolve. Water solubility is generally predicted based on correlations with the octanol-water partition coefficient (K_{ow}). Solubility is used to calculate soil saturation limits for the NMED SSLs.

The octanol-water partition coefficient (K_{ow}) of a chemical is the ratio of a chemical's solubility in octanol versus its solubility in water at equilibrium. Essentially, this chemical-specific property is used as an indication of a contaminant's propensity to migrate from soil to water. It is an important parameter and is used in the assessment of environmental fate and transport for organic chemicals.

The Henry's Law constant (H) is used when evaluating air exposure pathways. For all chemicals that are capable of exchanging across the air-water interface, there is a point at which the rate of volatilization into the air and dissolution to the water or soil will be equal. The ratio of gas- and liquid-phase concentrations of the chemical at this equilibrium point is represented by H, which is used to determine the rate at which a contaminant will volatilize from soil to air. Values for H may be calculated using the following equation and the values for solubility (S), vapor pressure (VP), and molecular weight (MW).

$$H = \frac{VP \times MW}{S}$$

The dimensionless form of Henry's Law constant (H´) used in calculating soil saturation limits and volatilization factors for the NMED SSLs was calculated by multiplying H by a factor of 41 to convert the Henry's Law constant to a unitless value.

3.4.2 Soil Organic Carbon/Water Partition Coefficients (K_{oc})

The soil organic carbon-water partition coefficient (K_{oc}) is a measure of a chemical's tendency to adsorb to organic carbon present in soil. High K_{oc} values indicate a tendency for the chemical to adsorb to soil particles rather than remain dissolved in the soil solution. Strongly adsorbed molecules will not unless the soil particle to which they are adsorbed moves (as in erosion). K_{oc} values of less than 500 indicate weak adsorption and a potential for leaching. K_{oc} is calculated using the following equation:

$$K_{oc} = \frac{\text{conc. adsorbed/conc. dissolved}}{\text{\% organic carbon in soil}}$$

K_{oc} can also be calculated by dividing the K_d value by the fraction of organic carbon (f_{oc}) present in the soil or sediment. It should be noted that a strong linear relationship exists between K_{oc} and K_{ow} and that this relationship can be used to predict K_{oc}.

3.4.3 Soil/Water Partition Coefficients (K_d)

Soil-water partition coefficient (K_d) for organic chemicals is the ratio of a contaminant's distribution between soil and water particles. The soil-water partitioning behavior of nonionizing and ionizing

organic compounds differs because the partitioning of ionizing organics can be influenced by soil pH. K_d values were used in calculating soil saturation limits and volatilization factors used in developing the NMED SSLs.

For organic compounds, K_d represents the tendency of a chemical to adsorb to the organic carbon fraction in soils, and is represented by:

$$K_d = K_{oc} \times f_{oc}$$

where

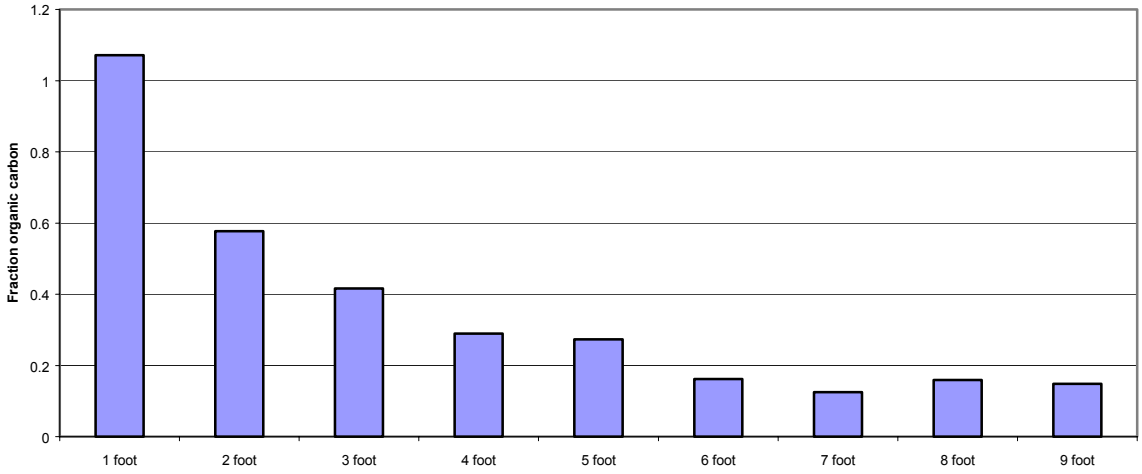
K_{oc} = organic carbon partition coefficient (L/kg); and
f_{oc} = fraction of organic carbon in soil (mg/mg).

This relationship is generally valid for volatile halogenated hydrocarbons as long as the fraction of organic carbon in soil is above approximately 0.001 (0.1 percent) (Piwoni and Banaerjee, 1989 Schwarzenbach and Westall 1981). For low organic carbon soils ($f_{oc} < 0.001$), Piwoni and Banerjee (1989) developed the following empirical correlation for organic chemicals:

$$\log K_d = 1.01 \log K_{ow} - 0.36$$

The use of a fixed K_{oc} value in the soil-water partition equation for the migration to groundwater pathway is only valid for hydrophobic non-ionizing organic chemicals. For organic chemicals that ionize in the soil environment, existing in both neutral and ionized forms within the normal soil pH range, K_{oc} values must consider the relative proportions and differences in sorptive properties of these forms. For the equations and applications of developing K_{oc} values for ionizing organic acids as a function of pH, the reader is referred to US EPA 1996. The default value used for f_{oc} in development of NMED SSLs is 0.0015 (0.15%). This value represents the median value of 212 data points included in the NRCS soil survey database for New Mexico (U.S. Department of Agriculture 2000). Only samples collected from a depth of greater than 5 feet were included in the calculation of the mean f_{oc} value. Shallow soil samples tend to have higher f_{oc} values as shown in Figure 2.1. There is a steady decline in f_{oc} value with depth until approximately 5 feet bgs. Below 5 feet, there is little variability in the f_{oc} value. Because a lower f_{oc} value provides a more conservative calculation of SSL, a value representative of deeper soil conditions is used as the default value.

Figure 2-1 Mean Value - Fraction Organic Carbon (f_{oc})-
All counties in New Mexico



As with organic chemicals, development of the NMED SSLs for inorganic constituents (i.e., metals) requires a soil-water partition coefficient (K_d) for each contaminant. K_d values for metals are affected by a variety of soil conditions, most notably pH, oxidation-reduction conditions, iron oxide content, soil organic matter content, cation exchange capacity and major ion chemistry. US EPA developed default K_d values for metals using either an equilibrium geochemical speciation model (MINTEQ2) or from empirical pH-dependent adsorption relationships developed by Environmental Protection Agency's Office of Research and Development (EPA/ORD) (US EPA 1996a).

4. Migration of Contaminants to Groundwater

Generic SSLs were developed which address the potential for migration of contaminants from soil to groundwater. The methodology used to calculate generic SSLs addresses the potential leaching of contaminants from the vadose zone to groundwater in excess of New Mexico WQCC standards. This method does not take into account any additional attenuation associated with contaminant transport in groundwater. The SSLs developed from this analysis are based on New Mexico specific values and are protective of groundwater under a wide range of site conditions. This methodology is modeled after US EPA's *Soil Screening Guidance: Technical Background Document* (US EPA 1996a).

4.1 Overview of the SSL Model Approach

Two approaches to developing soil leachate-based SSLs are presented, the generic model and the site-specific model. Both models use the same set of equations to calculate SSLs and are based on leaching to groundwater scenarios that NMED believes are protective of groundwater. The generic model calculates SSLs using default parameter values generally representative of conditions in New Mexico. These values are presented in Table B-1 of Appendix B. The site-specific model provides the flexibility of using site-specific meteorological, soil and hydrological data to calculate SSLs, while retaining the simplicity and ease of use associated with the generic model.

The development of soil leachate SSLs is based upon a two step process. The first step is the development of a Dilution Attenuation Factor (DAF). The DAF accounts for leachate mixing in the aquifer. A leachate concentration that is protective of ground water is back calculated by multiplying the ground water standard for a given constituent by the DAF. That leachate concentration is then used to back calculate an SSL that is protective of groundwater using a simple linear equilibrium soil/water partition equation. For the generic SSL approach, default parameter values are used for all non-chemical specific parameters. At sites that are not adequately represented by the default values and where more site-specific data are available, it may be more appropriate to use the site-specific SSL model. The site-specific model uses the same spreadsheet equations to calculate SSLs as those in the generic look-up table. However, site-specific data are used in the site-specific model.

The following sections of this document provide a general description of the leaching to groundwater pathway SSL model (generic and site-specific) including the assumptions, equations, and input parameters. Justification for the default parameters used in the generic model is also provided. Additionally, a sensitivity analysis was performed on each of the input parameters to provide guidance on when use of the site-specific model may be warranted. Applicability and limitations of the generic and site-specific models are also presented.

4.2 MODEL ASSUMPTIONS

Assumptions regarding the release and distribution of contaminants in the subsurface that are incorporated into the SSL methodology include the following.

- The source is infinite (a constant concentration is maintained for the duration of the exposure period).
- Contamination is uniformly distributed from the surface to the water table.
- Soil/water partitioning is instantaneous and follows a linear equilibrium isotherm.
- There is no attenuation of the contaminant in soil or the aquifer (i.e., irreversible adsorption, chemical transformation or biological degradation).
- The potentially impacted aquifer is unconfined and unconsolidated with homogenous and isotropic hydrologic properties.
- The receptor well (point of exposure) is at the downgradient edge of the source and is screened within the potentially impacted aquifer.
- Non-aqueous phase liquids (NAPLs) are not present.

4.3 SOIL WATER PARTITION EQUATION

US EPA's *Supplemental Soil Screening Guidance: Technical Background Document* (US EPA 2001) developed an equation to estimate contaminant release in soil leachate based on the Freundlich adsorption isotherm. The Freundlich equation was modified to relate the sorbed concentration to the total concentration measured in a soil sample (which includes contaminants associated with solid soil, soil-water and soil-air components) (Feenstra 1991). Equation 14, given below, is used to calculate SSLs corresponding to target soil leachate concentrations (C_w).

Equation 14
Soil Screening Level For Leaching To Groundwater Pathway

$$SSL = C_w \text{ x } \left[K_d + \left(\frac{\theta_w + \theta_a H'}{\rho_b} \right) \right]$$

Parameter	Definition (units)	Default
SSL	Soil Screening Level for migration to groundwater pathway (mg/kg)	Chemical-Specific
C_w	Target soil leachate concentration (mg/L)	Chemical-Specific
K_d	Soil /water partition coefficient (L/kg)	Chemical-Specific
θ_w	Water-filled soil porosity (L_{water}/L_{soil})	0.26
θ_a	Air-filled soil porosity (L_{air}/L_{soil}), n - θ_w	0.18
n	Total soil porosity (L_{pore}/L_{soil}), 1 - (ρ_b/ρ_s)	0.42
ρ_s	Soil particle density (g/cm^3)	2.65
ρ_b	Dry soil bulk density (kg/L)	1.55
H´	Dimensionless Henry's Law constant	Chemical-Specific

Target soil leachate concentrations (C_w) are equivalent to the WQCC standards multiplied by a Dilution Attenuation Factor (DAF).

$$C_w = \text{WQCC x DAF}$$

The derivation of the DAF is discussed in subsequent sections of this document.

4.4 DILUTION ATTENUATION FACTOR

Contaminants transported as a leachate through soil to groundwater are affected by physical, chemical and biological processes that can significantly reduce their concentration. These processes include adsorption, biological degradation, chemical transformation and dilution from mixing of the leachate with groundwater. The total reduction in concentration between the source of the contaminant (vadose zone soil) and the point of ground water withdrawal is defined as the ratio of contaminant concentration in soil leachate to the concentration in groundwater at the point of withdrawal. This ratio is termed a dilution/attenuation factor (DAF; US EPA 1996a and 1996b). The higher the DAF value, the greater the degree of dilution and attenuation of contaminants along the migration flowpath. A DAF of 1 implies no reduction in contaminant concentration occurs.

Development of New Mexico SSLs considers only the dilution of contaminant concentration through mixing with groundwater in the aquifer directly beneath the source. This is consistent with the conservative assumptions used in the SSL methodology including an infinite source, soil contamination extending from surface to groundwater and the point of exposure occurring at the downgradient edge of the source. The ratio of contaminant concentration in soil leachate to the

concentration in groundwater at the point of withdrawal that considers only dilution processes is calculated from a simple water balance equation (Equation 15), described below.

Equation 15
Dilution/Attenuation Factor (DAF)

$$DAF = 1 + \left(\frac{K \times i \times D}{I \times L} \right)$$

Where:

$$D = \left(0.0112 \times L^2\right)^{0.5} + D_a \left(1 - \exp\left[\frac{-L \times I}{K \times i \times D_a} \right] \right)$$

Parameter	Definition (units)	Default
DAF	Dilution/attenuation factor (unitless)	Site-Specific
K	Aquifer hydraulic conductivity (m/yr)	Site-Specific
i	Hydraulic gradient (m/m)	Site-Specific
D	Mixing zone depth (m)	Site-Specific
I	Infiltration rate (m/yr)	Site-Specific
L	Source length parallel to groundwater flow (m)	Site-Specific
D_a	Aquifer thickness (m)	Site-Specific

Most of these parameters are available from routine environmental site investigations. The mixing zone depth incorporates one additional parameter, the aquifer thickness (D_a).

For the calculation of SSLs, the DAF is used to back calculate the target soil leachate concentration from an appropriate groundwater concentration, such as the WQCC standard (C_w in Equation 14). For example, if the WQCC standard for a constituent is 0.1 mg/L and the DAF is 20, the target soil leachate concentration would be 2 mg/L.

The US EPA conducted an extensive evaluation of the range and distribution of DAFs to select a default value to be used for developing generic SSLs that would be reasonably protective of groundwater quality (US EPA 1996a, 1996b, and 2001). The evaluation included a probabilistic modeling exercise using US EPA's Composite Model for Leachate Migration with Transformation Products (CMTP). A cumulative frequency distribution of DAF values was developed from the model output. Results of the Monte Carlo modeling analysis indicate that for a 0.5 acre source area a DAF of approximately 170 is protective of groundwater at 90 percent of the sites. Groundwater is protected at 95 percent of the sites with a DAF of 7.

US EPA applied the simple SSL water balance dilution model (Equation 15) to 300 sites included in surveys of hydrogeologic investigations to further evaluate the range and distribution of DAF values. Results of this analysis indicated that a DAF of 10 was protective of groundwater for a 30-acre source and that a DAF of 20 was protective of groundwater for a 0.5 acre-source (US EPA 1996a,

1996b, and 2001).

An assessment was performed of US EPA's methodology to determine whether a default DAF value of 20 for a 0.5 acre source, and a DAF of 10 for a 30 acre source, would be appropriate for use as default values for sites in New Mexico. Typical New Mexico conditions may be notably different than conditions represented by areas included in the US EPA analysis of DAFs. For example, infiltration rates across much of New Mexico are substantially less than the average range of 0.15 to 0.24 m/yr reported for many of the hydrogeologic regions used in the US EPA analysis. In addition, effective porosity was assumed to be 0.35, presumably because this value is representative of the most prevalent aquifer type in the databases used (US EPA 1996a). However, the regions included in the EPA analysis also contain extensive glacial, regolith, lacustrine, swamp and marsh deposits which have high percentages of fine-grained sediments and thus are not representative of typical New Mexico sandy soils. Sandy soils typically have higher hydraulic conductivities than more fine-grained soils and subsequently higher Darcian velocities, under equal hydraulic gradient. According to the DAF equation (Equation 15), soils with relatively greater hydraulic conductivities will tend to result in a higher calculated DAF.

An assessment was made of input parameters to the DAF equation. In order to support a DAF that is protective of the most vulnerable groundwater environments in New Mexico (i.e. areas close to perennial streams or where ground water is very shallow), environmental parameters typical of those areas in New Mexico were used to assess the DAF. This assessment indicated that the DAF is most sensitive to variations in hydraulic conductivity. This is because this value shows such large variations in the natural environment. If a hydraulic conductivity value representative of a fine grained sand is used in the DAF equation, along with an infiltration rate representative of New Mexico's arid to semi-arid environments, then the result is a DAF of approximately 20. NMED believes that a DAF of 20 for a 0.5 acre source area is protective of groundwater in New Mexico. If the default DAF is not representative of conditions at a specific site, then it is appropriate to calculate a site-specific DAF based upon available site data.

4.5 LIMITATIONS ON THE USE OF THE DILUTION ATTENUATION FACTOR

Because of assumptions used in SSL model approach, use of the DAF model may be inappropriate for certain conditions, including sites where:

- adsorption or degradation processes are expected to significantly attenuate contaminant concentrations in the soil or aquifer media;
- Saturated thickness is significantly less than 12 meters thick;
- fractured rock or karst aquifer types exist (violates the unconfined, unconsolidated, homogeneous, isotropic assumptions);
- facilitated transport is significant (colloidal transport, transport via dissolved organic matter, or transport via solvents other than water; and/or
- NAPLs are present.

For sites that have these types of conditions, consideration should be given to application of a more detailed site-specific analysis than either the generic or site-specific models described herein. A

discussion of these types of models is presented in Section 4.1.9.

4.6 GENERIC SSLS FOR PROTECTION OF GROUNDWATER

The migration to groundwater pathway model, incorporating the assumptions, soil-water partition equation and the DAF, was used to develop NMED SSLs. Default values based on conditions predominant in New Mexico were used for the input parameters in the soil-water partition equation. The NMED SSLs were developed using default DAF values of 1 and 20.

Target soil leachate concentrations (C_w) are equivalent to the appropriate groundwater standards multiplied by a DAF. To maintain an approach that is protective of groundwater quality in the development of generic SSLs, a DAF of 20 is selected as reasonably protective. However SSLs are provided for two DAFs in Appendix A. The use of the SSL listed for a DAF of 20 is advised unless site-specific data on hydrologic conditions are available, and these indicate that the generic DAF is not representative of site conditions. As will be demonstrated in the sensitivity analysis section of this document, calculation of an SSL using the migration to groundwater pathway model is most sensitive to the DAF. The inclusion of the SSL for a DAF of 1 is provided for convenience to the user. If data on hydrologic conditions are readily available, a site specific DAF can be calculated and multiplied by the generic SSL for a DAF of 1 to provide a site-specific SSL.

The generic approach may be inappropriate for use at sites where conditions are substantially different from the default values used to develop the generic soil leachate SSLs.

4.7 DEVELOPMENT OF SITE SPECIFIC SSLS FOR PROTECTION OF GROUNDWATER

New Mexico, as with any other state, offers a variety of geologic and hydrologic conditions that may not be readily represented by a single default parameter value.

Site specific conditions may differ considerably from the typical or average conditions represented by the default values used to calculate generic SSLs. The site-specific model can be used to address the variability inherent in environmental conditions across and within the state.

Application of the site-specific model to develop soil leachate SSLs is the same as the generic approach except that site-specific values are used. Use of the site-specific model approach may incorporate replacement of all default values used for the generic SSLs with site-specific values, or may only include substitution of a single key parameter, such as hydraulic conductivity. The decision to use the site-specific model approach instead of the generic approach should be based on consideration of the sensitivity of the calculated SSL to specific parameters and the availability of those parameters as site-specific data. Sufficient site-specific data may be available such that each of the default values used for developing generic SSLs can be readily substituted with a more representative site-derived value. Conversely, limited site-specific data may restrict the number of default values to be replaced.

The NMED SSLs are generally more sensitive to the dilution factor than to other parameters in the soil-water partition equation. Fortunately, information needed to derive the DAF is usually available

for sites that have undergone even the most basic levels of environmental investigation. Apart from the dilution factor, SSLs are most sensitive to the soil-water partition coefficient (K_d) as the values for this parameter can range over several orders of magnitude, particularly for metals. Although the K_d term may be critical in developing protective SSLs, information required to evaluate this parameter is more difficult to obtain and less likely to be available. Porosity and bulk density are not particularly sensitive because of the relatively small range of values encountered in subsurface conditions.

Using benzene as a representative contaminant, a sensitivity analysis was performed to compare a generic soil leachate SSL to site-specific model results simulating a range of model input parameters that might be representative of different conditions in New Mexico. The generic soil leachate SSL calculated using the New Mexico default values and a DAF of 1 is 2.8 µg/kg. These results are summarized in Table 4-1. As shown, the resulting SSLs for benzene range from 1.3 to 6.1 µg/kg for the various sensitivity simulations compared to the generic SSL of 2.8 µg/kg. These results indicate that the calculation of SSLs using the site-specific approach is not overly sensitive to the reasonable range of porosity (air and water filled), bulk density and fraction of organic carbon expected for New Mexico or even for a range of values for chemical-specific properties. The generic SSL for benzene of 2.8 µg/kg is representative of values that could be calculated using a spectrum of input parameters, exclusive of the DAF term. Unless there are sufficient data to calculate a site-specific DAF, there is little benefit derived from using the site-specific model approach instead of the generic SSL.

Table 4-1

Input Parameters and Resulting SSLs for the Sensitivity Analysis of the Soil-Water Partition Equation - Migration to Groundwater Pathway Model

Input parameter (NMED default value)	Sensitivity Analysis Values	Resulting SSLs
Bulk density (default value = 1.55 gm/cm)	Lower Limit = 1.20 Upper Limit = 1.90	3.4 2.5
Air filled porosity (default value = 0.18)	Lower Limit = 0.04[a] Upper Limit = 0.25[b]	1.3 3.5
Fraction organic carbon (default value = 0.0015)	Lower Limit = 0.0005 Upper Limit = 0.007	2.2 6.1
Volume water content (default value = 0.26)	Lower Limit = 0.05[c] Upper Limit = 0.40[c]	1.8 3.5
K_{oc} (default value = 58.9 ml/g)	Lower Limit = 30 Upper Limit = 120	2.4 3.7
Dimensionless Henry's Law constant (default value = 0.228)	Lower Limit = 0.1 Upper Limit = 0.4	2.7 3.0

[a] total porosity was reduced from 0.44 to 0.10 for this simulation
[b] total porosity was increased from 0.44 to 0.6 for this simulation
[c] total porosity remained at 0.44 for this simulation.

As previously stated, calculation of SSLs is most sensitive to the DAF term. The input parameter values and resulting DAFs for the sensitivity analysis are included in Table 4-2. Effects on the DAFs are, from greatest to least, the Darcian velocity (hydraulic conductivity multiplied by the hydraulic gradient), infiltration rates, size of the contaminated area, and the aquifer thickness. Corresponding effects on DAFs for each of these parameters and discussion of the relevance of the use of default values versus site-specific conditions are summarized below:

Table 4-2

Input Parameters and Resulting DAFs for the Sensitivity Analysis of the Dilution Attenuation Factor-Migration to Groundwater Pathway Model						
Parameter	**Groundwater Velocity (m/yr)**	**Infiltration Rate (m/yr)**	**Source Length (m)**	**Aquifer thickness (m)**	**Mixing Zone Depth (m)**	**Dilution Attenuation Factor (DAF)**
Groundwater velocity	2.2	0.13	45	12	7.15	3.7
Groundwater velocity	22	0.13	45	12	5.03	19.9
Groundwater velocity	220	0.13	45	12	4.79	181.1
Infiltration Rate	22	0.065	45	12	4.89	37.8
Infiltration Rate	22	0.13	45	12	5.03	19.9
Infiltration Rate	22	0.26	45	12	5.28	10.9
Source Length	22	0.13	22.5	12	2.51	19.9
Source Length	22	0.13	45	12	5.03	19.9
Source Length	22	0.13	348.4	12	38.76*	6.8
Aquifer Thickness	22	0.13	45	3	5.02*	12.3
Aquifer Thickness	22	0.13	45	12	5.03	19.9
Aquifer Thickness	22	0.13	45	48	5.03	19.9

Note: If mixing zone depth calculation is greater than aquifer thickness, then aquifer thickness is used to calculate the DAF.

Higher Darcian velocity results in higher DAFs. Slower mixing of groundwater with soil leachate occurs at lower groundwater velocity. Thus, using a lower velocity will be a more conservative approach. Sandy soils typically have higher hydraulic conductivities than more fine-grained soils and subsequently higher Darcian velocity (under equal hydraulic gradient). Use of a sandy soil type will generally be less conservative (result in higher DAFs) with respect to protection of groundwater quality.

Lower infiltration rates result in higher DAFs. Therefore, using a higher infiltration rate is a more conservative approach (results in a lower DAF).

Larger source sizes result in lower DAFs. The default DAF used to develop SSLs for a 0.5 acre source may not be protective of groundwater at sites larger than 0.5 acre. However, the selection of a second source size is arbitrary. If generic SSLs are developed for a 30 acre source, then those values are considered overly conservative for a 12 acre source. Conversely, SSLs developed for a 30 acre source will be less protective of a 40 acre source. Rather than develop a separate set of generic SSLs for a second (or third or fourth) source size, the following two approaches are proposed.

- As the size of the source area increases, the assumptions underlying the generic model are less applicable. One of the conservative assumptions in the generic SSL approach is the uniform distribution of contaminants throughout the vadose zone. There are few sites that have relatively uniform soil contamination (both laterally and vertically) of a single constituent in an area of greater than 0.5 acres (22,000 ft^2). Soil contamination at large facilities (such as federal facilities) are usually concentrated in discrete portions of the site. Contamination at large sites is commonly the result of multiple sources. It is advisable to attempt to subdivide the facility by source and contaminant type and then apply generic SSLs to those smaller source areas.

- If this approach is not practical, calculation of site specific DAFs is recommended.

Most of the parameters required for these calculations are available from routine environmental site investigations or can be reasonably estimated from general geologic and hydrologic studies.

Thin aquifers will result in lower DAFs. The nominal aquifer thickness used in the sensitivity analysis was 12 m. Reducing the aquifer thickness to 3 m results in a 40 percent reduction in the DAF. Increasing the aquifer thickness beyond the nominal value has very little impact.

The significant effects of the DAF on the calculation of SSLs, coupled with the common availability of site-specific data used to calculate the DAF, suggest that use of the site specific modeling approach should at least incorporate recalculation of the DAF term. If data are available that indicate soil properties significantly different than the default values (such as high or low f_{oc} for organic contaminants, or highly acidic or basic conditions for metal contaminants) the K_d term should also be evaluated and recalculated.

4.8 DETAILED MODEL ANALYSIS FOR SSL DEVELOPMENT

Sites that have complex or heterogeneous subsurface conditions may require more detailed evaluation for development of SSLs that are reasonably, but not overly, protective of groundwater and surface water resources. These types of sites may require more complex models that can address a wide range of variability in environmental site conditions including soil properties, contaminant mass concentration and distribution, contaminant degradation and transformation, recharge rates and recharge concentration, and depth to the water table. Model codes suitable for these types of more detailed analysis range from simple one-dimensional analytical models to complex three-dimensional numerical models. Resource requirements (data, time and cost) increase for the more complex codes. The selection of an appropriate code needs to balance the required accuracy of the output with the level of effort necessary to develop the model.

4.9 SUMMARY OF THE MIGRATION TO GROUNDWATER PATHWAY SSLS

SSLs for New Mexico have been developed for the migration to groundwater pathway, and are provided in Table A-1 of Appendix A. The NMED SSLs were developed using default parameter values representative of environmental conditions in New Mexico and utilize a DAF of 20. This approach maintains the conservative approach of the SSL methodology and is protective of groundwater quality under a wide range of site conditions. Soil contaminant concentrations can be compared directly to the generic SSLs to determine if additional investigation is necessary to evaluate potential leaching and migration of contaminants from the vadose zone to groundwater in excess of WQCC standards.

Site-specific SSLs can be developed by substituting site-related data for the default values in the leaching to groundwater pathway model. SSLs developed from this model are most sensitive to the DAF. SSLs are also provided in the lookup table for a DAF of 1. If data on hydrologic conditions are readily available, a site specific DAF can be calculated and multiplied by the generic SSL for a DAF of 1 to provide a site specific SSL.

5. Use of the SSLs

For screening sites with multiple contaminants, the following procedure should be followed: take the site-specific concentration (represented by the maximum reported concentration or, if deemed appropriate by NMED, the 95% UCL value for the concentration) and divide by the SSL concentration for each analyte. For multiple contaminants, simply add the ratio for each chemical.

$$\text{Site Risk} = \left(\frac{\text{conc}_x}{\text{SSL}_x} + \frac{\text{conc}_y}{\text{SSL}_y} + \frac{\text{conc}_z}{\text{SSL}_z} + \ldots + \frac{\text{conc}_i}{\text{SSL}_i} \right)$$

If the total ratio is greater than 1, then the concentrations at the site warrant further, site-specific evaluation. A ratio less than 1 indicates that the concentrations at the site are unlikely to result in adverse health impacts, or contaminate groundwater above State of New Mexico water quality standards.

As with any risk-based tool, the potential exists for misapplication. In most cases the root cause will be a lack of understanding of the intended use of NMED SSLs. In order to prevent misuse of SSLs, the following should be avoided:

- Applying SSLs to a site without adequately developing a conceptual site model that identifies relevant exposure pathways and exposure scenarios,
- Use of SSLs as cleanup levels without verifying numbers with a toxicologist or risk assessor, and
- Not considering the effects of additivity when screening multiple chemicals.

It is important to note that the generic NMED SSLs were developed assuming distinct soil horizons for each receptor. The soils of interest differ according to the exposure pathway being addressed. For direct ingestion, dermal, and fugitive dust pathways, the primary soil horizon of concern are surface soils. For inhalation of volatiles and migration to groundwater, subsurface soils are of primary concern. Both a residential receptor and a commercial/industrial worker are typically exposed only to surface soil, which may be defined as extending to a depth of approximately two feet below ground surface, depending on site-specific conditions and the amount of intrusive activity that may occur. Construction workers will typically have much greater exposures to subsurface soils. Therefore, when generic SSLs are used for screening level evaluations at a facility, site-specific conditions must be evaluated for each receptor to determine if the assumptions associated with the generic SSLs are appropriate for comparison with the available site data.

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APPENDIX A

Appendix A

State of New Mexico Soil Screening Levels

Table A-1 provides State of New Mexico Soil Screening Levels (SSLs), as developed by the New Mexico Environment Department (NMED) Hazardous Waste Bureau (HWB) and the Ground Water Quality Bureau Voluntary Remediation Program for 206 chemicals most commonly associated with environmental releases within the state. These NMED SSLs are derived using default exposure parameter values (as presented in Table A-2) and chemical- and State of New Mexico-specific physical parameters (as presented in Table B-1 of Appendix B). These default values are assumed to be appropriately conservative in the face of uncertainty and are likely to be protective for the majority of site conditions relevant to soil exposures within New Mexico.

However, the NMED SSLs are not necessarily protective of all known human exposure pathways, reasonable land uses or ecological threats. Thus, before applying NMED SSLs at a site, it is extremely important to compare the conceptual site model (CSM) with the assumptions upon which the NMED SSLs are predicated to ensure that the site conditions and exposure pathways match those used to develop the NMED SSLs. If this comparison indicates that the site at issue is more complex than the corresponding SSL scenarios, or that there are significant exposure pathways not accounted for by the NMED SSLs, then the NMED SSLs are insufficient for use in a defensible assessment of the site. A more detailed site-specific approach will be necessary to evaluate the additional pathways or site conditions.

Table A-1

Column 1: The first column in Table A-1 presents the names of the 206 chemicals for which NMED has developed SSLs.

Column 2: The second column presents NMED SSLs predicated on residential soil exposures.

Column 3: The third column presents indicator categories for the NMED SSL residential basis, whether predicated on carcinogenic effects (ca), noncarcinogenic effects (nc), soil saturation limits (sat) or a non-risk based "max" determination. NMED SSLs predicated on a carcinogenic endpoint reflect age-adjusted child-to-adult exposures. NMED SSLs predicated on a noncarcinogenic endpoint reflect child-only exposures. Detected concentrations above the "sat" value may indicate the presence of nonaqueous phase liquid (NAPL). For certain inorganic and semivolatile organic compounds (SVOCs) that exhibit relatively low toxicity, a non risk-based maximum concentration of 10^5 mg/kg is given when the risk-based SSL exceeds that level. These are noted as "max" in the tables.

Columns 4 and 6: The fourth and sixth columns present NMED SSLs analogous to Column 1, with the exception that these values correspond to Industrial/Occupational and Construction worker (adult-only) exposures, respectively.

Columns 5 and 7: The fifth and seventh columns present endpoint bases analogous to Column 3

for the Industrial/Occupational and Construction worker receptor populations, respectively. Unlike the Residential population, noncarcinogenic endpoint notes for these receptor populations are predicated on adult-only exposures.

Column 8: The eighth column notes which chemicals are considered VOCs (for inhalation considerations). Those chemicals not considered VOCs are evaluated within the SSLs relative to inhalation of particulate emissions.

Columns 9 and 10: The ninth column presents NMED SSLs for the migration to groundwater pathway developed using a default dilution attenuation factor (DAF) of 1, which assumes no effective dilution or attenuation. These values can be considered at sites where little or no dilution or attenuation of soil leachate concentrations is expected (e.g., shallow water tables, karst topography). Column 10 presents NMED SSLs for the migration to groundwater pathway developed using a DAF of 20 to account for natural processes that reduce contaminant concentrations in the subsurface.

As noted above, separate NMED SSLs are presented for use in evaluating three discrete potential receptor populations: Residential, Industrial/Occupational, and Construction. Each NMED SSL considers incidental ingestion of soil, inhalation of volatiles (limited to those chemicals noted as volatile organic compounds [VOCs] within Table A-1) or particulate emissions from impacted soil, and dermal contact with soil.

Generally, if a contaminant is detected at a level in soil exceeding the most relevant NMED SSL, and the site-specific CSM is in general agreement with the underlying assumptions upon which the NMED SSLs are predicated, this result indicates the potential for adverse human health effects to occur. Conversely, if no contaminants are detected above the most relevant NMED SSL, this tends to indicate to the user that environmental conditions may not necessitate remedial action of the surface soil or the vadose zone.

A detection above an NMED SSL does not indicate that unacceptable exposures are, in fact, occurring. The NMED SSLs are predicated on relatively conservative exposure assumptions and an exceedance only tends to indicate the potential for adverse effects. The NMED SSLs do not account for additive exposures, whether for carcinogenic or noncarcinogenic endpoints. Section 5 of Part A addresses a methodology by which an environmental manager may determine whether further site-evaluation is warranted, however, this methodology does not replace the need for defensible risk assessment where indicated.

The NMED SSLs address a basic subset of exposures fundamental to the widest array of environmentally-impacted sites within the State of New Mexico. The NMED SSLs cannot address all relevant exposure pathways associated with all sites. The utility of the NMED SSLs depends heavily upon the understanding of site conditions as accurately reflected in the CSM and nature and extent of contamination determinations. Consideration of the NMED SSLs does not preclude the need for site-specific risk assessment in all instances.

Table A-1
NMED Soil Screening Levels

Chemical	Residential Soil (mg/kg)	Endpoint	Industrial/ Occupational Soil (mg/kg)	Endpoint	Construction Worker Soil (mg/kg)	Endpoint	VOC	DAF 1 (mg/kg)	DAF 20 (mg/kg)
Acenaphthene	4.69E+03	nc	3.48E+04	nc	1.44E+04	nc	X	3.99E+00	7.98E+01
Acetaldehyde	9.43E+01	nc	3.42E+02	nc	3.08E+02	nc	X	3.32E-04	6.63E-03
Acetone	7.04E+04	nc	1.00E+05	sat	1.00E+05	sat	X	1.03E-01	2.06E+00
Acrylonitrile	3.96E+00	ca	1.15E+01	ca	5.22E+01	nc	X	6.61E-06	1.32E-04
Acetophenone	1.31E+03	sat	1.31E+03	sat	1.31E+03	sat	X		
Acrolein	1.84E-01	nc	6.70E-01	nc	6.01E-01	nc	X	8.39E-06	1.68E-04
Aldrin	2.84E-01	ca	1.12E+00	ca	6.99E+00	nc		1.47E-02	2.94E-01
Aluminum	7.78E+04	nc	1.00E+05	max	1.44E+04	nc		7.50E+03	1.50E+05
Anthracene	2.35E+04	nc	2.64E+05	nc	8.53E+04	nc	X	8.00E+01	1.60E+03
Antimony	3.13E+01	nc	4.54E+02	nc	1.24E+02	nc		2.71E-01	5.42E+00
Arsenic	3.90E+00	ca	1.77E+01	ca	8.52E+01	nc		2.92E+00	5.83E+01
Barium	5.45E+03	nc	7.83E+04	nc	1.44E+03	nc		4.12E+01	8.23E+02
Benzene	2.70E+01	ca	7.36E+01	ca	1.57E+02	nc	X	1.41E-03	2.83E-02
Benzidine	2.11E-02	ca	8.33E-02	ca	7.09E-01	ca			
Benzo(a)anthracene	6.21E+00	ca	2.34E+01	ca	2.14E+02	ca		5.49E-02	1.10E+00
Benzo(a)pyrene	6.21E-01	ca	2.34E+00	ca	2.14E+01	ca		3.06E-01	6.12E+00
Benzo(b)fluoranthene	6.21E+00	ca	2.34E+01	ca	2.14E+02	ca		1.70E-01	3.40E+00
Benzo(k)fluoranthene	6.21E+01	ca	2.34E+02	ca	2.14E+03	ca		1.70E+00	3.40E+01
Beryllium	1.56E+02	nc	2.25E+03	nc	5.62E+01	nc		3.16E+00	6.32E+01
α-BHC	9.02E-01	ca	3.99E+00	ca	3.00E+01	ca		2.21E-05	4.43E-04
β-BHC	3.16E+00	ca	1.40E+01	ca	5.39E+01	nc		7.61E-05	1.52E-03
γ-BHC	4.37E+00	ca	1.93E+01	ca	8.09E+01	nc		3.55E-04	7.09E-03
1,1-Biphenyl	8.90E+01	sat	8.90E+01	sat	8.90E+01	sat	X	3.56E+00	7.12E+01
Bis(2-chloroethyl) ether	2.04E+00	ca	5.95E+00	ca	9.09E+01	ca	X	1.87E-06	3.75E-05
Bis(2-chloroisopropyl) ether	3.13E+03	nc	6.19E+03	nc	4.24E+03	nc	X	7.04E-05	1.41E-03
Bis(2-ethylhexyl) phthalate	3.47E+02	ca	1.37E+03	ca	4.66E+03	nc		1.09E+02	2.17E+03
Bis(chloromethyl) ether	4.26E-03	ca	1.10E-02	ca	2.11E-01	ca	X	8.87E-09	1.77E-07
Boron	5.50E+03	nc	6.16E+04	nc	2.14E+04	nc			

Chemical	Residential Soil (mg/kg)	Endpoint	Industrial/ Occupational Soil (mg/kg)	Endpoint	Construction Worker Soil (mg/kg)	Endpoint	VOC	DAF 1 (mg/kg)	DAF 20 (mg/kg)
Bromobenzene	3.32E+01	nc	1.22E+02	nc	1.09E+02	nc	X	1.03E-02	2.06E-01
Bromodichloromethane	1.03E+02	ca	5.13E+02	ca	1.05E+03	nc	X	4.64E-05	9.28E-04
Bromomethane	7.62E+00	nc	2.92E+01	nc	2.52E+01	nc	X	1.84E-03	3.67E-02
1,3-Butadiene	8.91E-01	ca	2.13E+00	ca	4.11E+00	nc	X	1.32E-05	2.63E-04
2-Butanone (MEK)	5.73E+02	nc	2.10E+03	nc	1.88E+03	nc	X	3.32E-01	6.63E+00
tert-Butyl methyl ether (MTBE)	9.80E+02	ca	3.18E+03	ca	4.07E+04	ca	X	2.33E-03	4.67E-02
n-Butylbenzene	6.20E+01	sat	6.20E+01	sat	6.20E+01	sat	X	1.06E+00	2.13E+01
sec-Butylbenzene	6.05E+01	sat	6.05E+01	sat	6.05E+01	sat	X	8.54E-01	1.71E+01
tert-Butylbenzene	1.06E+02	sat	1.06E+02	sat	1.06E+02	sat	X	8.47E-01	1.69E+01
Cadmium[a]	7.41E+01	nc	8.60E+03	nc	4.74E-03	nc		3.76E-01	7.52E+00
Carbon disulfide	3.76E+03	nc	2.14E+04	nc	1.34E+04	nc	X	3.76E-01	7.52E+00
Carbon tetrachloride	3.13E+00	ca	7.75E+00	ca	9.06E+00	nc	X	2.87E-03	5.74E-02
Chlordane	1.62E+01	ca	7.19E+01	ca	1.30E+02	nc		3.61E-01	7.21E+00
2-Chloroacetophenone	4.07E-02	nc	1.48E-01	nc	1.33E-01	nc	X	4.35E-05	8.70E-04
2-Chloro-1,3-butadiene	5.64E+00	nc	2.05E+01	nc	1.84E+01	nc	X	5.51E-03	1.10E-01
1-Chloro-1,1-difluoroethane	2.05E+02	sat	1.00E+05	sat	1.00E+05	sat	X	6.36E+01	1.27E+03
Chlorobenzene	1.76E+02	nc	2.42E+02	sat	2.42E+02	sat	X	5.14E-02	1.03E+00
1-Chlorobutane	2.91E+02	sat	2.91E+02	sat	2.91E+02	sat	X	9.45E-01	1.89E+01
Chlorodifluoromethane	2.05E+02	sat	1.00E+05	sat	1.00E+05	sat	X	6.21E+01	1.24E+03
Chloroethane	1.38E+03	sat	1.38E+03	sat	1.38E+03	sat	X	1.12E-03	2.23E-02
Chloroform	3.56E+00	ca	8.52E+00	ca	1.88E+01	nc	X	2.45E-02	4.90E-01
Chloromethane	1.95E+01	ca	4.77E+01	ca	2.53E+02	nc	X	5.01E-04	1.00E-02
β-Chloronaphthalene	6.26E+03	nc	2.58E+04	nc	1.40E+04	nc	X	1.26E+00	2.52E+01
o-Chloronitrobenzene	1.69E+00	nc	6.23E+00	nc	5.54E+00	nc	X	3.98E-05	7.96E-04
p-Chloronitrobenzene	1.24E+01	nc	5.09E+01	nc	4.15E+01	nc	X	3.18E-04	6.37E-03
2-Chlorophenol	3.91E+02	nc	8.07E+02	nc	5.47E+02	nc	X	2.31E-02	4.62E-01
2-Chloropropane	2.87E+02	nc	6.89E+02	sat	6.89E+02	sat	X	4.34E-02	8.68E-01
o-Chlorotoluene	1.56E+03	nc	7.74E+02	nc	6.46E+02	nc	X	5.09E-02	1.02E+00
Chromium III	1.00E+05	max	1.00E+05	max	1.00E+05	max		9.90E+06	1.98E+08
Chromium VI	2.34E+02	nc	3.40E+03	nc	1.80E+02	ca		9.58E-01	1.92E+01
Chrysene	6.21E+02	ca	2.34E+03	ca	2.14E+04	ca	X	5.49E+00	1.10E+02

Chemical	Residential Soil (mg/kg)	Endpoint	Industrial/ Occupational Soil (mg/kg)	Endpoint	Construction Worker Soil (mg/kg)	Endpoint	VOC	DAF 1 (mg/kg)	DAF 20 (mg/kg)
Cobalt	1.52E+03	nc	2.05E+04	nc	6.10E+01	nc		2.26E+00	4.52E+01
Copper	3.13E+03	nc	4.54E+04	nc	1.24E+04	nc		3.52E+01	7.03E+02
Crotonaldehyde	3.37E+00	ca	1.67E+01	ca	5.18E+01	sat	X	1.53E-05	3.06E-04
Cumene (isopropylbenzene)	7.00E+02	nc	2.73E+03	nc	2.32E+03	nc	X	3.65E-01	7.29E+00
Cyanide	1.56E+03	nc	2.27E+04	nc	6.19E+03	nc		3.88E-02	7.75E-01
Cyanogen	3.13E+03	nc	8.22E+02	nc	7.11E+02	nc	X	5.55E-02	1.11E+00
Cyanogen bromide	7.04E+03	nc	1.85E+03	nc	1.60E+03	nc	X	1.27E-01	2.54E+00
Cyanogen chloride	3.91E+03	nc	1.03E+03	nc	8.88E+02	nc	X	6.93E-02	1.39E+00
DDD	2.44E+01	ca	1.11E+02	ca	8.29E+02	ca		4.20E-01	8.40E+00
DDE	1.72E+01	ca	7.81E+01	ca	5.85E+02	ca		1.34E+00	2.68E+01
DDT	1.72E+01	ca	7.81E+01	ca	1.38E+02	nc		7.89E-01	1.58E+01
Dibenz(a,h)anthracene	6.21E-01	ca	2.34E+00	ca	2.14E+01	ca		5.24E-02	1.05E+00
Dibenzofuran	3.13E+02	nc	3.17E+03	nc	1.09E+03	nc	X	2.85E-01	5.70E+00
1,2-Dibromo-3-chloropropane	3.64E+00	nc	1.32E+01	nc	1.19E+01	nc	X	1.01E-05	2.02E-04
Dibromochloromethane	7.62E+01	ca	3.79E+02	ca	1.39E+03	nc	X	1.14E-04	2.28E-03
1,2-Dibromoethane	7.14E-02	ca	3.36E-01	ca	2.47E+00	ca	X	2.11E-05	4.23E-04
1,4-Dichloro-2-butene	1.33E-01	ca	3.17E-01	ca	7.14E+00	ca	X	2.89E-07	5.78E-06
1,2-Dichlorobenzene	1.16E+02	sat	1.16E+02	sat	1.16E+02	sat	X	4.46E-01	8.93E+00
1,3-Dichlorobenzene	7.04E+01	nc	7.39E+01	nc	5.70E+01	nc	X	6.09E-03	1.22E-01
1,4-Dichlorobenzene	3.60E+01	ca	8.14E+01	sat	8.14E+01	sat	X	8.27E-02	1.65E+00
3,3-Dichlorobenzidine	1.08E+01	ca	4.26E+01	ca	3.71E+02	ca		1.88E-04	3.76E-03
Dichlorodifluoromethane	1.44E+02	nc	2.05E+02	sat	2.05E+02	sat	X	2.85E-01	5.70E+00
1,1-Dichloroethane	8.20E+02	nc	1.22E+03	sat	1.22E+03	sat	X	6.05E-03	1.21E-01
1,2-Dichloroethane	5.07E+00	ca	1.26E+01	ca	5.33E+01	nc	X	9.92E-04	1.98E-02
cis-1,2-Dichloroethene	7.82E+02	nc	2.67E+02	nc	2.28E+02	nc	X	1.68E-02	3.37E-01
trans-1,2-Dichloroethene	1.56E+03	nc	3.98E+02	nc	3.44E+02	nc	X	2.91E-02	5.82E-01
1,1-Dichloroethene	1.82E+02	nc	6.86E+02	nc	6.01E+02	nc	X	1.92E-03	3.84E-02
2,4-Dichlorophenol	1.80E+02	nc	2.05E+03	nc	6.99E+02	nc		1.22E-02	2.45E-01
1,2-Dichloropropane	1.00E+01	nc	3.64E+01	nc	3.28E+01	nc	X	3.94E-05	7.89E-04
1,3-Dichloropropene	1.13E+01	ca	2.98E+01	ca	8.38E+01	nc	X	1.28E-04	2.56E-03
Dicyclopentadiene	2.35E+03	nc	2.13E+00	nc	1.92E+00	nc	X	4.51E-04	9.02E-03

Chemical	Residential Soil (mg/kg)	Endpoint	Industrial/ Occupational Soil (mg/kg)	Endpoint	Construction Worker Soil (mg/kg)	Endpoint	VOC	DAF 1 (mg/kg)	DAF 20 (mg/kg)
Dieldrin	3.04E-01	ca	1.20E+00	ca	1.02E+01	ca		1.36E-04	2.71E-03
Diethyl phthalate	4.80E+04	nc	1.00E+05	max	1.00E+05	max		1.74E+01	3.48E+02
Dimethyl phthalate	1.00E+05	max	1.00E+05	max	1.00E+05	max		1.66E+02	3.31E+03
Di-n-butyl phthalate	6.00E+03	nc	6.84E+04	nc	2.33E+04	nc		1.84E+02	3.67E+03
2,4-Dimethylphenol	1.20E+03	nc	1.37E+04	nc	4.66E+03	nc		4.27E-02	8.54E-01
2,4-Dinitrotoluene	1.20E+02	nc	1.37E+03	nc	4.66E+02	nc		2.27E-02	4.54E-01
1,2-Diphenylhydrazine	6.08E+00	ca	2.39E+01	ca	2.04E+02	ca		9.73E-05	1.95E-03
Endosulfan	3.60E+02	nc	4.10E+03	nc	1.40E+03	nc		7.43E-01	1.49E+01
Endrin	1.80E+01	nc	2.05E+02	nc	6.99E+01	nc		3.72E-02	7.45E-01
Epichlorohydrin	1.51E+01	nc	5.90E+01	nc	5.01E+01	nc	X	3.46E-04	6.93E-03
Ethyl acetate	7.04E+04	nc	1.00E+05	sat	2.06E+04	sat	X	1.41E+00	2.83E+01
Ethyl acrylate	5.13E+01	sat	6.62E+02	ca	4.52E+03	ca	X	5.90E-04	1.18E-02
Ethyl chloride	1.38E+03	sat	1.38E+03	sat	7.48E+04	ca	X	1.12E-03	2.23E-02
Ethyl ether	1.89E+03	sat	1.89E+03	sat	1.89E+03	sat	X	2.27E-01	4.53E+00
Ethyl methacrylate	5.18E+01	sat	5.18E+01	sat	5.18E+01	sat	X	1.42E+00	2.85E+01
Ethylbenzene	1.06E+04	ca	2.54E+04	ca	5.71E+05	ca	X	5.25E-01	1.05E+01
Ethylene oxide	2.47E+00	ca	7.39E+00	ca	1.08E+02	ca	X	4.11E-06	8.23E-05
Fluoranthene	2.25E+03	nc	2.44E+04	nc	8.73E+03	nc		2.41E+02	4.82E+03
Fluorene	3.13E+03	nc	2.94E+04	nc	1.06E+04	nc	X	5.01E+00	1.00E+02
Furan	7.82E+01	nc	1.88E+01	nc	1.63E+01	nc	X	1.29E-03	2.58E-02
Heptachlor	1.08E+00	ca	4.26E+00	ca	3.63E+01	ca			
Hexachlorobenzene	3.04E+00	ca	1.20E+01	ca	1.02E+02	ca		8.27E-02	1.65E+00
Hexachloro-1,3-butadiene	1.20E+01	nc	1.37E+02	nc	4.66E+01	nc		8.08E-02	1.62E+00
Hexachlorocyclopentadiene	1.25E+02	nc	4.10E+03	nc	4.31E+02	nc		1.50E+01	3.00E+02
Hexachloroethane	6.00E+01	nc	6.84E+02	nc	2.33E+02	nc		1.37E-02	2.74E-01
n-Hexane	3.80E+01	sat	3.80E+01	sat	3.80E+01	sat	X	7.29E-01	1.46E+01
HMX	3.00E+03	nc	3.42E+04	nc	1.17E+04	nc			
Hydrogen cyanide	1.99E+01	nc	7.31E+01	nc	6.53E+01	nc	X	1.20E-03	2.40E-02
Indeno(1,2,3-c,d)pyrene	6.21E+00	ca	2.34E+01	ca	2.14E+02	ca		4.79E-01	9.58E+00
Iron	2.35E+04	nc	1.00E+05	max	9.29E+04	nc		3.27E+00	6.54E+01
Isobutanol	2.22E+04	sat	2.22E+04	sat	2.22E+04	sat	X	4.69E-01	9.39E+00

Chemical	Residential Soil (mg/kg)	Endpoint	Industrial/ Occupational Soil (mg/kg)	Endpoint	Construction Worker Soil (mg/kg)	Endpoint	VOC	DAF 1 (mg/kg)	DAF 20 (mg/kg)
Isophorone	5.12E+03	ca	2.02E+04	ca	4.66E+04	nc		1.69E-02	3.38E-01
Lead	4.00E+02		7.50E+02	nc	7.50E+02	nc		4.58E-01	9.17E+00
Lead (tetraethyl-)	6.11E-03	nc	6.84E-02	nc	2.38E-02	nc			
Maleic hydrazide	1.57E+03	sat	1.57E+03	sat	1.57E+03	sat	X	7.86E-01	1.57E+01
Manganese	1.55E+03	nc	2.18E+04	nc	1.48E+02	nc		5.24E-02	1.05E+00
Mercury (elemental)	2.35E+01	nc	3.41E+02	nc	8.44E+01	nc			
Mercury (methyl)	6.11E+00	nc	6.84E+01	nc	2.38E+01	nc			
Methacrylonitrile	3.61E+00	nc	2.00E+01	nc	1.28E+01	nc	X	1.69E-04	3.39E-03
Methomyl	1.96E+03	nc	2.83E+02	nc	2.49E+02	nc	X	5.64E-02	1.13E+00
Methyl acetate	7.82E+04	nc	1.00E+05	sat	1.00E+05	nc	X	1.03E+02	2.06E+03
Methyl acrylate	2.35E+03	nc	3.12E+02	nc	2.75E+02	nc	X	4.62E-01	9.24E+00
Methyl isobutyl ketone	5.43E+03	nc	6.90E+03	sat	6.90E+03	sat	X	5.81E-02	1.16E+00
Methyl methacrylate	2.83E+03	sat	2.83E+03	sat	2.83E+03	sat	X	2.64E-01	5.29E+00
Methyl styrene (alpha)	2.16E+02	sat	2.16E+02	sat	2.16E+02	sat	X	3.09E-01	6.18E+00
Methyl styrene (mixture)	1.28E+02	nc	2.16E+02	sat	2.16E+02	sat	X	4.31E-02	8.62E-01
Methylcyclohexane	2.10E+03	nc	7.63E+03	nc	6.87E+03	nc	X	1.35E+01	2.69E+02
Methylene bromide	1.12E+02	nc	4.54E+02	nc	3.74E+02	nc	X	1.28E-02	2.56E-01
Methylene chloride	1.65E+02	ca	4.40E+02	ca	2.55E+03	sat	X	8.44E-04	1.69E-02
Molybdenum	3.91E+02	nc	5.68E+03	nc	1.55E+03	nc		2.02E+01	4.03E+02
Naphthalene	7.19E+01	nc	9.83E+01	sat	9.83E+01	sat	X	1.97E-02	3.93E-01
Nickel	1.56E+03	nc	2.25E+04	nc	5.61E+02	nc		1.30E+01	2.61E+02
Nitrate	1.00E+05	max	1.00E+05	max	1.00E+05	max			
Nitrite	7.82E+03	nc	1.00E+05	max	3.10E+04	nc			
Nitrobenzene	2.18E+01	nc	1.36E+02	nc	7.89E+01	nc	X	9.00E-04	1.80E-02
Nitroglycerin	3.47E+02	ca	1.37E+03	ca	1.19E+04	ca			
N-Nitrosodiethylamine	3.24E-02	ca	1.28E-01	ca	1.09E+00	ca			
N-Nitrosodimethylamine	9.54E-02	ca	3.76E-01	ca	3.20E+00	ca		1.15E-06	2.31E-05
N-Nitrosodi-*n*-butylamine	2.48E-01	ca	6.67E-01	ca	1.16E+01	ca	X	1.12E-06	2.24E-05
N-Nitrosodiphenylamine	9.93E+02	ca	3.91E+03	ca	3.40E+04	ca		2.94E-02	5.89E-01
N-Nitrosopyrrolidine	2.32E+00	ca	9.12E+00	ca	7.77E+01	ca			
m-Nitrotoluene	4.10E+02	nc	5.57E+02	sat	5.57E+02	sat	X	1.62E-02	3.24E-01

Chemical	Residential Soil (mg/kg)	Endpoint	Industrial/ Occupational Soil (mg/kg)	Endpoint	Construction Worker Soil (mg/kg)	Endpoint	VOC	DAF 1 (mg/kg)	DAF 20 (mg/kg)
o-Nitrotoluene	4.10E+02	nc	5.57E+02	sat	5.57E+02	sat	X	1.62E-02	3.24E-01
p-Nitrotoluene	4.10E+02	nc	5.57E+02	sat	5.57E+02	sat	X	1.62E-02	3.24E-01
Pentachlorobenzene	4.80E+01	nc	5.47E+02	nc	1.86E+02	nc		1.00E+00	2.00E+01
Pentachlorophenol	2.98E+01	ca	1.00E+02	ca	1.03E+03	ca		1.06E-03	2.11E-02
Phenanthrene	1.80E+03	nc	2.05E+04	nc	6.99E+03	nc		3.81E+00	7.62E+01
Phenol	1.80E+04	nc	1.00E+05	max	6.99E+04	nc		1.05E-03	2.11E-02
Polychlorinatedbiphenyls		ca		ca		ca			
Aroclor 1016	2.22E+00	ca	8.26E+00	ca	1.50E+01	nc			
Aroclor 1221	2.22E+00	ca	8.26E+00	ca	7.61E+01	ca			
Aroclor 1232	2.22E+00	ca	8.26E+00	ca	7.61E+01	ca			
Aroclor 1242	2.22E+00	ca	8.26E+00	ca	7.61E+01	ca			
Aroclor 1248	2.22E+00	ca	8.26E+00	ca	7.61E+01	ca			
Aroclor 1254	1.11E+00	nc	8.26E+00	ca	4.28E+00	nc			
Aroclor 1260	2.22E+00	ca	8.26E+00	ca	7.61E+01	ca			
n-Propylbenzene	5.32E+01	sat	5.32E+01	sat	5.32E+01	sat	X	1.06E+00	2.13E+01
Propylene oxide	2.17E+01	ca	9.01E+01	ca	7.91E+02	ca	X	4.52E-05	9.05E-04
Pyrene	2.30E+03	nc	3.13E+04	nc	9.05E+03	nc	X	2.84E+01	5.68E+02
RDX	4.42E+01	ca	1.74E+02	ca	6.99E+02	nc			
Selenium	3.91E+02	nc	5.68E+03	nc	1.55E+03	nc		2.58E-01	5.17E+00
Silver	3.91E+02	nc	5.68E+03	nc	1.55E+03	nc		4.23E-01	8.47E+00
Strontium	4.69E+04	nc	1.00E+05	max	1.00E+05	max		2.03E+02	4.06E+03
Styrene	4.19E+02	sat	4.19E+02	sat	4.19E+02	sat	X	1.35E-01	2.70E+00
1,2,4,5-Tetrachlorobenzene	1.80E+01	nc	2.05E+02	nc	6.99E+01	nc			
1,1,1,2-Tetrachloroethane	3.93E+01	ca	1.03E+02	ca	8.55E+02	sat	X	1.33E-04	2.66E-03
1,1,2,2-Tetrachloroethane	5.20E+00	ca	1.36E+01	ca	2.56E+02	ca	X	1.70E-05	3.40E-04
Tetrachloroethene	9.83E+00	ca	2.46E+01	ca	9.76E+01	sat	X	3.22E-04	6.44E-03
Thallium	5.16E+00	nc	7.49E+01	nc	2.04E+01	nc		1.42E-01	2.85E+00
Toluene	2.48E+02	sat	2.48E+02	sat	2.48E+02	sat	X	3.40E-01	6.80E+00
Toxaphene	4.42E+00	ca	1.74E+01	ca	1.48E+02	ca		2.35E-02	4.71E-01
Tribromomethane	8.11E+02	ca	4.02E+03	ca	6.02E+03	nc		3.01E-02	6.02E-01
1,1,2-Trichloro-1,2,2-trifluoroethane	3.18E+03	max	1.00E+05	max	1.00E+05	max	X		

Chemical	Residential Soil (mg/kg)	Endpoint	Industrial/ Occupational Soil (mg/kg)	Endpoint	Construction Worker Soil (mg/kg)	Endpoint	VOC	DAF 1 (mg/kg)	DAF 20 (mg/kg)
1,2,4-Trichlorobenzene	6.51E+02	nc	8.53E+02	sat	8.53E+02	sat	X	1.99E-01	3.98E+00
1,1,1-Trichloroethane	5.51E+02	sat	5.51E+02	sat	5.51E+02	sat	X	2.49E-02	4.98E-01
1,1,2-Trichloroethane	1.07E+01	ca	2.70E+01	ca	1.75E+02	nc	X	1.24E-03	2.47E-02
Trichloroethene	6.48E-01	ca	1.59E+00	ca	3.41E+01	ca	X	2.33E-03	4.66E-02
Trichlorofluoromethane	5.28E+02	nc	9.59E+02	sat	9.59E+02	sat	X	1.13E+00	2.27E+01
2,4,5-Trichlorophenol	6.00E+03	nc	6.84E+04	nc	2.33E+04	nc		9.24E+00	1.85E+02
2,4,6-Trichlorophenol	6.00E+00	nc	6.84E+01	nc	2.33E+01	nc		2.66E-03	5.32E-02
1,1,2-Trichloropropane	2.27E+01	nc	8.61E+01	nc	7.49E+01	nc	X	1.15E-02	2.30E-01
1,2,3-Trichloropropane	3.20E+00	ca	1.59E+01	ca	1.69E+01	nc	X	2.08E-06	4.17E-05
1,2,3-Trichloropropene	1.78E+01	nc	6.67E+01	nc	5.85E+01	nc	X	1.12E-02	2.23E-01
Triethylamine	6.36E+01	nc	2.31E+02	nc	2.08E+02	nc	X	2.06E-03	4.12E-02
1,2,4-Trimethylbenzene	5.22E+01	nc	1.91E+02	nc	1.71E+02	nc	X	6.89E-02	1.38E+00
1,3,5-Trimethylbenzene	2.23E+01	nc	6.89E+01	sat	6.89E+01	sat	X	1.72E-02	3.44E-01
2,4,6-Trinitrotoluene	3.00E+01	nc	3.42E+02	nc	1.17E+02	nc			
Vanadium	5.48E+02	nc	7.95E+03	nc	2.17E+03	nc		4.03E+01	8.07E+02
Vinyl acetate	9.53E+02	nc	3.49E+03	nc	3.12E+03	nc	X	7.30E-02	1.46E+00
Vinyl bromide	5.67E+00	nc	2.06E+01	nc	1.85E+01	nc	X	3.93E-05	7.86E-04
Vinyl chloride (Child)	3.49E-01	ca							
Vinyl chloride (adult)			1.30E+01	ca	1.74E+02	ca	X	3.25E-04	6.49E-03
m-Xylene	8.00E+01	sat	8.00E+01	sat	8.00E+01	sat	X	8.13E+00	1.63E+02
o-Xylene	9.86E+01	sat	9.86E+01	sat	9.86E+01	sat	X	7.37E+00	1.47E+02
p-Xylene	1.24E+02	sat	1.24E+02	sat	1.24E+02	sat	X	7.88E+00	1.58E+02
Xylenes	1.32E+02	sat	1.32E+02	sat	1.32E+02	sat	X	5.07E-01	1.01E+01
Zinc	2.35E+04	nc	1.00E+05	max	9.29E+04	nc		6.22E+02	1.24E+04

Notes: [a] - An oral absorption efficiency of 5% was assumed for the dermal route.
ca – carcinogenic effect basis
nc – noncarcinogenic effect basis
sat – soil saturation limit basis
max – low toxicity maximum, health based SSL exceeds 10^5 mg/kg
Compounds solid at ambient temperature will present a risk-based level over the soil saturation level (USEPA 2001a)

Table A-2

Default Exposure Factors			
Symbol	**Definition (units)**	**Default**	**Reference**
CSF_o	Cancer slope factor oral $(mg/kg\text{-}day)^{-1}$	Chem.-spec.	IRIS, HEAST, or NCEA
CSF_i	Cancer slope factor inhaled $(mg/kg\text{-}day)^{-1}$	Chem.-spec.	IRIS, HEAST, or NCEA
RfD_o	Reference dose oral (mg/kg-day)	Chem.-spec.	IRIS, HEAST, or NCEA
RfD_i	Reference dose inhaled (mg/kg-day)	Chem.-spec.	IRIS, HEAST, or NCEA
TR	Target cancer risk	1E-05	NMED-specific value
THQ	Target hazard quotient	1	US EPA, 1989
BW	Body weight (kg)		
	-- adult	70	US EPA, 1989
	-- child	15	US EPA, 1991
AT	Averaging time (days)		
	-- carcinogens	25550	US EPA, 1989
	-- noncarcinogens	ED*365	
SA	Exposed surface area for soil/dust (cm^2/day)		US EPA, 1989
	– adult resident	5700	US EPA, 1996a
	– adult worker	3300	US EPA, 1996a
	-- child	2800	US EPA, 1989
AF	Adherence factor, soils (mg/cm^2)		US EPA, 1989
	– adult resident	0.07	US EPA, 1996a
	– adult worker	0.2	US EPA, 1996a
	-- child resident	0.2	US EPA, 1989
	– construction worker	0.3	NMED-specific value
ABS	Skin absorption defaults (unitless):		
	– semi-volatile organics	0.1	US EPA, 1989
	– volatile organics	na	US EPA, 2003a
	– inorganics	na	US EPA, 2000s
IRA	Inhalation rate (m^3/day)		
	-- adult resident	20	US EPA, 1991
	– adult worker	20	US EPA, 2001a
	-- child resident	10	Exposure Factors, (US EPA, 1997)
IRW	Drinking water ingestion rate (L/day)		
	-- adult	2.4	US EPA, 1997
	-- child	1.5	US EPA, 1997
IRS	Soil ingestion (mg/day)		
	-- adult residenti	100	US EPA, 1991
	-- child resident	200	US EPA, 1991
	-- commercial/industrial worker	100	US EPA, 2001a
	construction worker	330	US EPA, 1991
EF	Exposure frequency (days/yr)		
	-- residential	350	US EPA, 1991
	-- commercial/industrial	225	US EPA, 2001a
	– construction worker	250	NMED-specific value
ED	Exposure duration (years)		
	-- residential	30[a]	US EPA, 1991)
	-- child	6	(US EPA, 1991)
	-- commercial/industrial	25	(US EPA, 1999)
	– construction worker	1	NMED-specific value
	Age-adjusted factors for carcinogens		
IFSadj	Ingestion factor, soils ([mg-yr]/[kg-day])	114	US EPA, 2001a
SFSadj	Dermal factor, soils ([mg-yr]/[kg-day])	360	US EPA, 2001a
InhFadj	Inhalation factor, air ([m^3-yr]/[kg-day])	11	By analogy to RAGS: Part B, (US EPA, 1991)
IFWadj	Ingestion factor, water ([L-yr]/[kg-day])	1.1	By analogy to RAGS: Part B, (US EPA, 1991)
PEF	Particulate emission factor (m^3/kg)	Chem.-spec.	US EPA, 2001a
VFs	Volatilization factor for soil (m^3/kg)	Chem.-spec.	US EPA, 2001a
Csat	Soil saturation concentration (mg/kg)	Chem.-spec.	US EPA, 2001a

[a]Exposure duration for lifetime residents is assumed to be 30 years total. For carcinogens, exposures are combined for children (6 years) and adults (24 years).
Chem.-spec.- Chemical-specific value
na - not applicable
RAGS – Risk Assessment Guidance for Superfund
IRIS – Integrated Risk Information System, USEPA, 2003b
HEAST – Health Effects Assessment Summary Tables, USEPA, 1997
NCEA – National Center for Environmental Assessment, Office of Research and Development (USEPA, 2003c)
NMED – New Mexico Environment Department

APPENDIX B

Table B-1
Physical and Chemical Parameters

Chemical	MW (g/mole)	H (atm-m^3/mole)	H' (dimension-less)	D_a (cm^2/s)	D_w (cm^2/s)	K_{oc} (cm^3/g)	K_d (cm^3/g)	S (mg/L-water)	D_A (cm^2/s)	VF (m^3/kg)	SAT (mg/kg)	VOC
Acenaphthene	154.21	1.6E-04	6.36E-03	4.21E-02	7.69E-06	7.08E+03	1.06E+01	4.24E+00	3.31E-07	2.09E+05	4.57E+01	X
Acetaldehyde	44	7.8E-05	3.20E-03	1.20E-01	1.40E-05	1.80E+01	2.70E-02	1.00E+06	2.68E-05	2.32E+04	1.95E+05	X
Acetone	58	3.9E-05	1.60E-03	1.24E-01	1.14E-05	5.80E-01	8.70E-04	1.00E+06	1.70E-05	2.91E+04	1.69E+05	X
Acrylonitrile	53	8.8E-05	3.60E-03	1.08E-01	1.34E-05	8.50E-01	1.28E-03	7.90E+04	3.12E-05	2.15E+04	1.34E+04	X
Acetophenone		1.1E-05	4.51E-04	6.00E-02	8.70E-06	3.09E+01	4.64E-02	6.10E+03	3.21E-06	6.71E+04	1.31E+03	X
Acrolein	56	1.2E-04	4.90E-03	1.05E-01	1.22E-05	2.10E+01	3.15E-02	2.10E+05	3.38E-05	2.07E+04	4.20E+04	X
Aldrin	365	1.7E-04	6.97E-03	1.32E-02	4.86E-06	2.45E+06	3.68E+03	1.80E-01				
Aluminum												
Anthracene	178	6.5E-05	2.67E-03	3.24E-02	7.74E-06	2.95E+04	4.43E+01	4.34E-02	3.08E-08	6.84E+05	1.93E+00	X
Antimony												
Arsenic												
Barium												
Benzene	78.1	5.6E-03	2.28E-01	8.80E-02	9.80E-06	5.89E+01	8.84E-02	1.75E+03	8.63E-04	4.09E+03	4.94E+02	X
Benzidine												
Benzo(a)anthracene	228	3.3E-06	1.37E-04	5.10E-02	9.00E-06	3.98E+05	5.97E+02	9.40E-03				
Benzo(a)pyrene	250	1.1E-06	4.63E-05	4.30E-02	9.00E-06	1.06E+06	1.59E+03	1.62E-03				
Benzo(b)fluoranthene	252.3	1.1E-04	4.55E-03	2.26E-02	5.56E-06	1.23E+06	1.85E+03	1.50E-03				
Benzo(k)fluoranthene	252.3	8.3E-07	3.40E-05	2.26E-02	5.56E-06	1.23E+06	1.85E+03	8.00E-04				
Beryllium												
α-BHC	290.85	1.1E-05	4.35E-04	1.42E-02	7.34E-06	1.23E+03	1.85E+00	2.00E+00				
β-BHC	290.85	7.4E-07	3.05E-05	1.42E-02	7.34E-06	1.26E+03	1.89E+00	2.40E-01				
γ-BHC	290.85	1.4E-05	5.74E-04	1.42E-02	7.34E-06	1.07E+03	1.61E+00	6.80E+00				
1,1-Biphenyl	150	2.9E-04	1.20E-02	4.00E-02	8.20E-06	7.80E+03	1.17E+01	7.50E+00	5.19E-07	1.67E+05	8.90E+01	X
Bis(2-chloroethyl) ether	140	1.8E-05	7.38E-04	6.92E-02	7.53E-06	1.55E+01	2.33E-02	1.72E+04	4.87E-06	5.45E+04	3.29E+03	X
Bis(2-chloroisopropyl) ether	170	1.1E-04	4.60E-03	6.30E-02	6.40E-06	6.17E+01	9.25E-02	1.70E+03	1.45E-05	3.15E+04	4.43E+02	X
Bis(2-ethylhexyl) phthalate		1.0E-07	4.18E-06	3.51E-02	3.66E-06	1.51E+07	2.27E+04	3.40E-01				
Bis(chloromethyl) ether	120	2.0E-04	8.20E-03	8.90E-02	9.40E-06	1.20E+00	1.80E-03	2.20E+04	5.42E-05	1.63E+04	3.75E+03	X
Boron												
Bromobenzene	MW<200	3.7E-03	1.50E-01	7.30E-02	8.70E-06	2.20E+02	3.30E-01	4.70E+02	2.59E-04	7.47E+03	2.42E+02	X

Chemical	MW (g/mole)	H (atm-m^3/mole)	H' (dimension-less)	D_a (cm^2/s)	D_w (cm^2/s)	K_{oc} (cm^3/g)	K_d (cm^3/g)	S (mg/L-water)	D_A (cm^2/s)	VF (m^3/kg)	SAT (mg/kg)	VOC
Bromodichloromethane	164	1.6E-03	6.56E-02	2.98E-02	1.06E-05	5.50E+01	8.25E-02	6.74E+03	9.37E-05	1.24E+04	1.74E+03	X
Bromomethane	94.95	6.2E-03	2.56E-01	7.28E-02	1.21E-05	9.00E+00	1.35E-02	1.52E+04	1.07E-03	3.66E+03	3.21E+03	X
1,3-Butadiene	54	1.8E-01	7.30E+00	9.80E-02	1.10E-05	1.20E+02	1.80E-01	7.40E+02	7.27E-03	1.41E+03	8.85E+02	X
2-Butanone (MEK)	72	6.6E-07	2.70E-05	7.73E+03	8.47E-01	4.50E+00	6.75E-03	2.70E-02	2.14E-01	2.60E+02	4.71E-03	X
tert-Butyl methyl ether (MTBE)	88.2	5.9E-04	2.40E-02	8.00E-02	1.00E-05	6.00E+00	9.00E-03	3.60E-02	1.32E-04	1.05E+04	6.46E-03	X
n-Butylbenzene	130	1.3E-02	5.40E-01	7.50E-02	7.80E-06	2.80E+03	4.20E+00	1.40E+01	1.11E-04	1.14E+04	6.20E+01	X
sec-Butylbenzene	130	1.9E-02	7.70E-01	7.50E-02	7.80E-06	2.20E+03	3.30E+00	1.70E+01	1.97E-04	8.55E+03	6.05E+01	X
tert-Butylbenzene	130	1.3E-02	5.20E-01	7.50E-02	7.80E-06	2.20E+03	3.30E+00	3.00E+01	1.34E-04	1.04E+04	1.06E+02	X
Cadmium												
Carbon disulfide	76	2.9E-02	1.20E+00	1.04E-01	1.00E-05	4.60E+01	6.90E-02	1.19E+03	4.03E-03	1.89E+03	4.48E+02	X
Carbon tetrachloride	154	3.0E-02	1.25E+00	7.80E-02	8.80E-06	1.74E+02	2.61E-01	7.93E+02	2.06E-03	2.64E+03	4.55E+02	X
Chlordane	409.8	4.9E-05	1.99E-03	1.18E-02	4.37E-06	1.20E+05	1.80E+02	5.60E-02				
2-Chloroacetophenone	MW<200	3.7E-02	1.50E+00	7.20E-02	6.80E-06	3.30E+02	4.95E-01	4.70E+02	1.57E-03	3.03E+03	3.93E+02	X
2-Chloro-1,3-butadiene	88	3.2E-02	1.30E+00	1.10E-01	1.10E-05	5.00E+01	7.50E-02	7.40E+02	4.41E-03	1.81E+03	2.91E+02	X
1-Chloro-1,1-difluoroethane	MW<200	1.0E-01	4.10E+00	8.00E-02	1.10E-05	5.80E+01	8.70E-02	2.80E+02	5.45E-03	1.63E+03	2.05E+02	X
Chlorobenzene	113	3.7E-03	1.50E-01	7.30E-02	8.70E-06	2.19E+02	3.29E-01	4.72E+02	2.60E-04	7.46E+03	2.42E+02	X
1-Chlorobutane	MW<200	3.2E-02	1.30E+00	1.10E-01	1.10E-05	5.00E+01	7.50E-02	7.40E+02	4.41E-03	1.81E+03	2.91E+02	X
Chlorodifluoromethane	MW<200	1.0E-01	4.10E+00	8.00E-02	1.10E-05	5.80E+01	8.70E-02	2.80E+02	5.45E-03	1.63E+03	2.05E+02	X
Chloroethane	65	1.1E-02	4.50E-01	1.00E-01	1.20E-05	1.50E+01	2.25E-02	5.70E+03	2.25E-03	2.53E+03	1.38E+03	X
Chloroform	120	3.7E-03	1.50E-01	1.04E-01	1.00E-05	3.98E+01	5.97E-02	7.92E+03	7.75E-04	4.31E+03	1.94E+03	X
Chloromethane	51	2.4E-02	9.80E-01	1.09E-01	6.50E-06	3.50E+01	5.25E-02	8.20E+03	3.88E-03	1.93E+03	2.74E+03	X
β-Chloronaphthalene	160	3.2E-04	1.30E-02	3.50E-02	8.80E-06	1.60E+03	2.40E+00	1.20E+01	2.29E-06	7.94E+04	3.08E+01	X
o-Chloronitrobenzene	MW<200	2.4E-05	9.80E-04	7.60E-02	8.60E-06	6.50E+01	9.75E-02	2.10E+03	4.74E-06	5.52E+04	5.57E+02	X
p-Chloronitrobenzene	MW<200	2.4E-05	9.80E-04	7.60E-02	8.60E-06	6.50E+01	9.75E-02	2.10E+03	4.74E-06	5.52E+04	5.57E+02	X
2-Chlorophenol	130	3.9E-04	1.60E-02	5.01E-02	9.46E-06	4.00E+02	6.00E-01	2.02E+06	1.32E-05	3.31E+04	1.55E+06	X
2-Chloropropane	MW<200	2.3E-03	9.40E-02	8.00E-02	1.00E-05	5.10E+01	7.65E-02	2.70E+03	3.59E-04	6.34E+03	6.89E+02	X
o-Chlorotoluene	MW<200	3.4E-03	1.40E-01	7.20E-02	8.70E-06	1.60E+02	2.40E-01	4.70E+02	2.89E-04	7.06E+03	1.99E+02	X
Chromium III												
Chromium VI												
Chrysene	228.28	9.5E-05	3.88E-03	2.48E-02	6.21E-06	3.98E+05	5.97E+02	1.60E-03	2.38E-09	2.46E+06	9.55E-01	X
Cobalt												
Copper												

Chemical	MW (g/mole)	H (atm-m^3/mole)	H' (dimension-less)	D_a (cm^2/s)	D_w (cm^2/s)	K_{oc} (cm^3/g)	K_d (cm^3/g)	S (mg/L-water)	D_A (cm^2/s)	VF (m^3/kg)	SAT (mg/kg)	VOC
Crotonaldehyde	MW<200	2.4E-01	1.00E+01	9.10E-02	1.00E-05	8.40E+02	1.26E+00	2.00E+01	4.27E-03	1.84E+03	5.18E+01	X
Cumene (isopropylbenzene)	120	1.1E-02	4.70E-01	7.50E-02	7.10E-06	2.20E+02	3.30E-01	6.10E+01	7.75E-04	4.31E+03	3.37E+01	X
Cyanide												
Cyanogen	52	5.1E-03	2.10E-01	9.60E-02	1.00E-05	2.60E+01	3.90E-02	8.50E+03	1.06E-03	3.69E+03	1.96E+03	X
Cyanogen bromide	52	5.1E-03	2.10E-01	9.60E-02	1.00E-05	2.60E+01	3.90E-02	8.50E+03	1.06E-03	3.69E+03	1.96E+03	X
Cyanogen chloride	52	5.1E-03	2.10E-01	9.60E-02	1.00E-05	2.60E+01	3.90E-02	8.50E+03	1.06E-03	3.69E+03	1.96E+03	X
DDD	320	4.0E-06	1.64E-04	1.69E-02	4.76E-06	1.00E+06	1.50E+03	9.00E-02				
DDE	318	2.1E-05	8.61E-04	1.44E-02	5.87E-06	4.47E+06	6.71E+03	1.20E-01				
DDT	354.5	8.1E-06	3.32E-04	1.37E-02	4.95E-06	2.63E+06	3.95E+03	2.50E-02				
Dibenz(a,h)anthracene	278.3	1.5E-08	6.0E-07	2.02E-02	5.18E-06	3.80E+06	5.70E+03	2.49E-03				
Dibenzofuran		1.3E-05	5.33E-04	6.01E-02	1.00E-05	7.76E+03	1.16E+01	3.10E+00	6.78E-08	4.61E+05	3.66E+01	X
1,2-Dibromo-3-chloropropane	240	1.5E-04	6.00E-03	2.10E-02	7.00E-06	2.80E+01	4.20E-02	1.20E+03	8.64E-06	4.09E+04	2.53E+02	X
Dibromochloromethane	210	8.5E-04	3.50E-02	9.60E-02	1.00E-05	4.70E+02	7.05E-01	4.40E+03	4.70E-05	1.75E+04	3.86E+03	X
1,2-Dibromoethane	188	3.2E-04	1.30E-02	7.33E-02	8.06E-06	2.80E+01	4.20E-02	3.40E+03	5.63E-05	1.60E+04	7.18E+02	X
1,4-Dichloro-2-butene	130	2.7E-04	1.10E-02	7.30E-02	8.10E-06	4.80E+01	7.20E-02	2.80E+03	4.18E-05	1.86E+04	6.75E+02	X
1,2-Dichlorobenzene	147	1.9E-03	7.79E-02	6.90E-02	7.90E-06	3.78E+02	5.67E-01	1.56E+02	8.82E-05	1.28E+04	1.16E+02	X
1,3-Dichlorobenzene	147	1.9E-03	7.80E-02	6.90E-02	7.90E-06	6.20E+02	9.30E-01	1.56E+02	5.93E-05	1.56E+04	1.73E+02	X
1,4-Dichlorobenzene	147	2.4E-03	9.96E-02	6.90E-02	7.90E-06	6.16E+02	9.24E-01	7.38E+01	7.59E-05	1.38E+04	8.14E+01	X
3,3-Dichlorobenzidine		4.0E-09	1.64E-07	1.94E-02	6.74E-06	7.24E+02	1.09E+00	3.11E+00				
Dichlorodifluoromethane	120	1.0E-01	4.10E+00	8.00E-02	1.05E-05	5.80E+01	8.70E-02	2.80E+02	5.45E-03	1.63E+03	2.05E+02	X
1,1-Dichloroethane	99	5.6E-03	2.30E-01	7.42E-02	1.05E-05	3.16E+01	4.74E-02	5.06E+03	8.58E-04	4.10E+03	1.22E+03	X
1,2-Dichloroethane	99	9.8E-04	4.01E-02	1.04E-01	9.90E-06	1.74E+01	2.61E-02	8.52E+03	2.57E-04	7.49E+03	1.69E+03	X
cis-1,2-Dichloroethene	97	4.1E-03	1.67E-01	7.36E-02	1.13E-05	3.55E+01	5.33E-02	3.50E+03	6.23E-04	4.81E+03	8.41E+02	X
trans-1,2-Dichloroethene	97	9.4E-03	3.85E-01	7.07E-02	1.19E-05	5.25E+01	7.88E-02	6.30E+03	1.14E-03	3.56E+03	1.83E+03	X
1,1-Dichloroethene	97	2.7E-02	1.10E+00	9.00E-02	1.00E-05	5.90E+01	8.85E-02	2.30E+03	3.13E-03	2.15E+03	8.83E+02	X
2,4-Dichlorophenol		3.2E-06	1.30E-04	3.46E-02	8.77E-06	1.47E+02	2.21E-01	4.50E+03				
1,2-Dichloropropane	110	2.7E-03	1.10E-01	7.80E-02	8.70E-06	4.40E+01	6.60E-02	2.80E+03	4.24E-04	5.83E+03	6.90E+02	X
1,3-Dichloropropene	111	1.8E-02	7.26E-01	6.26E-02	1.00E-05	4.57E+01	6.86E-02	2.80E+03	1.72E-03	2.89E+03	8.98E+02	X
Dicyclopentadiene	130	1.1E-02	4.40E-01	6.70E-02	1.00E-05	5.70E+02	8.55E-01	1.80E+03	3.34E-04	6.58E+03	1.93E+03	X
Dieldrin	381	1.5E-05	6.19E-04	1.25E-02	4.74E-06	2.14E+04	3.21E+01	1.95E-01				
Diethyl phthalate	222.2	4.5E-07	1.85E-05	2.56E-02	6.35E-06	2.88E+02	4.32E-01	1.08E+03				
Dimethyl phthalate	194.19	4.1E-07	1.70E-05									

Chemical	MW (g/mole)	H (atm-m^3/mole)	H' (dimension-less)	D_a (cm^2/s)	D_w (cm^2/s)	K_{oc} (cm^3/g)	K_d (cm^3/g)	S (mg/L-water)	D_A (cm^2/s)	VF (m^3/kg)	SAT (mg/kg)	VOC
Di-n-butyl phthalate	278.34	9.4E-10	3.85E-08	4.38E-02	7.86E-06	3.39E+04	5.09E+01	1.12E+01				
2,4-Dimethylphenol		2.0E-06	8.20E-05	5.84E-02	8.69E-06	2.09E+02	3.14E-01	7.87E+03				
2,4-Dinitrotoluene	182.14	9.3E-08	3.80E-06	2.03E-01	7.06E-06	9.55E+01	1.43E-01	2.70E+02				
1,2-Diphenylhydrazine		4.6E-11	1.90E-09									
Endosulfan	406.95	1.1E-05	4.59E-04	1.15E-02	4.55E-06	2.14E+03	3.21E+00	5.10E-01				
Endrin	381	7.5E-06	3.08E-04	1.25E-02	4.74E-06	1.23E+04	1.85E+01	2.50E-01				
Epichlorohydrin	93	3.2E-05	1.30E-03	8.80E-02	9.80E-06	3.50E+00	5.25E-03	6.00E+04	1.04E-05	3.73E+04	1.04E+04	X
Ethyl acetate	88	1.4E-04	5.70E-03	7.30E-02	9.70E-06	5.90E+01	8.85E-02	8.00E+04	2.12E-05	2.61E+04	2.06E+04	X
Ethyl acrylate	MW<200	2.4E-01	9.80E+00	9.10E-02	8.60E-06	8.40E+02	1.26E+00	2.00E+01	4.22E-03	1.85E+03	5.13E+01	X
Ethyl chloride	65	1.1E-02	4.50E-01	1.00E-01	1.20E-05	1.50E+01	2.25E-02	5.70E+03	2.25E-03	2.53E+03	1.38E+03	X
Ethyl ether	MW<200	1.3E-05	5.30E-04	7.00E-02	9.30E-06	1.40E+01	2.10E-02	1.00E+04	4.41E-06	5.72E+04	1.89E+03	X
Ethyl methacrylate	MW<200	2.4E-01	1.00E+01	9.10E-02	8.60E-06	8.40E+02	1.26E+00	2.00E+01	4.27E-03	1.84E+03	5.18E+01	X
Ethylbenzene	106.2	7.9E-03	3.23E-01	7.50E-02	7.80E-06	3.63E+02	5.45E-01	1.69E+02	3.93E-04	6.06E+03	1.27E+02	X
Ethylene oxide	44	7.6E-05	3.10E-03	1.30E-01	1.50E-05	2.20E+00	3.30E-03	1.00E+06	3.21E-05	2.12E+04	1.71E+05	X
Fluoranthene	202.3	1.6E-05	6.60E-04	3.02E-02	6.35E-06	1.07E+05	1.61E+02	2.06E-01				
Fluorene	166.21	6.4E-05	2.61E-03	6.08E-02	7.88E-06	1.38E+04	2.07E+01	1.90E+00	1.08E-07	3.66E+05	3.96E+01	X
Furan	68	5.4E-03	2.20E-01	1.00E-01	1.20E-05	1.20E+01	1.80E-02	1.00E+04	1.27E-03	3.38E+03	2.11E+03	X
Heptachlor	373.5	1.1E-03	4.47E-02	1.12E-02	5.69E-06	1.41E+06	2.12E+03	1.80E-01				
Hexachlorobenzene		1.3E-03	5.41E-02	5.42E-02	5.91E-06	5.50E+04	8.25E+01	6.20E+00				
Hexachloro-1,3-butadiene		8.1E-03	3.34E-01	5.61E-02	6.16E-06	5.37E+04	8.06E+01	3.23E+00				
Hexachlorocyclopentadiene		2.7E-02	1.11E+00	1.61E-02	7.21E-06	2.00E+05	3.00E+02	1.80E+00				
Hexachloroethane		3.9E-03	1.59E-01	2.50E-03	6.80E-06	1.78E+03	2.67E+00	5.00E+01				
n-Hexane	86	1.2E-01	5.00E+00	2.00E-01	7.80E-06	8.90E+02	1.34E+00	1.80E+01	5.83E-03	1.57E+03	3.75E+01	X
HMX		1.0E-11	4.10E-10									
Hydrogen cyanide	27	1.3E-04	5.30E-03	1.80E-01	1.80E-05	1.70E+01	2.55E-02	1.00E+06	6.36E-05	1.51E+04	1.94E+05	X
Indeno(1,2,3-c,d)pyrene	276.3	1.6E-06	6.56E-05	1.90E-02	5.66E-06	3.47E+06	5.21E+03	2.20E-05				
Iron												
Isobutanol	74	1.2E-05	4.90E-04	8.60E-02	9.30E-06	6.20E+01	9.30E-02	8.50E+04	3.43E-06	6.49E+04	2.22E+04	X
Isophorone		6.6E-06	2.72E-04	6.23E-02	6.76E-06	4.68E+01	7.02E-02	1.20E+04				
Lead												
lead (Tetraethyl-)												
Maleic hydrazide	110	6.6E-03	2.70E-01	9.00E-02	1.10E-05	4.20E+01	6.30E-02	6.00E+03	1.13E-03	3.58E+03	1.57E+03	X

Chemical	MW (g/mole)	H (atm-m^3/mole)	H' (dimension-less)	D_a (cm^2/s)	D_w (cm^2/s)	K_{oc} (cm^3/g)	K_d (cm^3/g)	S (mg/L-water)	D_A (cm^2/s)	VF (m^3/kg)	SAT (mg/kg)	VOC
Manganese												
Mercury (elemental)												
Mercury (methyl)		1.14E-02	4.67e-01									
Methacrylonitrile	MW<200	8.8E-05	3.60E-03	1.10E-01	1.30E-05	8.40E-01	1.26E-03	7.90E+04	3.15E-05	2.14E+04	1.34E+04	X
Methomyl	160	3.9E-02	1.60E+00	6.90E-02	1.00E-05	1.50E+01	2.25E-02	1.70E+05	3.57E-03	2.01E+03	6.39E+04	X
Methyl acetate	MW<200	2.0E-05	8.40E-04	1.00E-01	1.00E-05	2.20E+00	3.30E-03	1.00E+06	8.36E-06	4.15E+04	1.71E+05	X
Methyl acrylate	MW<200	2.4E-01	9.80E+00	9.10E-02	8.60E-06	8.40E+02	1.26E+00	6.00E+01	4.22E-03	1.85E+03	1.54E+02	X
Methyl isobutyl ketone	100	1.4E-04	5.70E-03	7.50E-02	7.80E-06	1.30E+02	1.95E-01	1.90E+04	1.52E-05	3.08E+04	6.90E+03	X
Methyl methacrylate	100	3.4E-04	1.40E-02	7.70E-02	8.60E-06	1.30E+01	1.95E-02	1.50E+04	7.12E-05	1.42E+04	2.83E+03	X
Methyl styrene (alpha)	MW<200	2.3E-03	9.40E-02	7.10E-02	8.00E-06	3.60E+02	5.40E-01	3.00E+02	1.13E-04	1.13E+04	2.16E+02	X
Methyl styrene (mixture)	MW<200	2.3E-03	9.40E-02	7.10E-02	8.00E-06	3.60E+02	5.40E-01	3.00E+02	1.13E-04	1.13E+04	2.16E+02	X
Methylcyclohexane	98	4.4E-01	1.80E+01	7.00E-02	9.00E-06	2.20E+02	3.30E-01	1.40E+01	5.91E-03	1.56E+03	3.62E+01	X
Methylene bromide	170	9.0E-04	3.70E-02	9.60E-02	1.00E-05	2.50E+01	3.75E-02	1.20E+04	2.08E-04	8.33E+03	2.51E+03	X
Methylene chloride	85	2.2E-03	9.00E-02	1.00E-01	1.20E-05	1.20E+01	1.80E-02	1.30E+04	5.59E-04	5.08E+03	2.55E+03	X
Molybdenum												
Naphthalene	128.16	4.8E-04	1.98E-02	5.90E-02	7.50E-06	2.00E+03	3.00E+00	3.10E+01	4.57E-06	5.62E+04	9.83E+01	X
Nickel												
Nitrate												
Nitrite												
Nitrobenzene	120	2.4E-05	9.84E-04	7.60E-02	8.60E-06	6.46E+01	9.69E-02	2.10E+03	4.77E-06	5.50E+04	5.56E+02	X
Nitroglycerin		6.1E-03	2.50E-01			2.60E+02	3.90E-01	1.80E+03				
N-Nitrosodiethylamine		3.7E-06	1.50E-04			1.20E+03	1.80E+00					
N-Nitrosodimethylamine		1.4E-01	5.90E+00			1.20E+03	1.80E+00					
N-Nitrosodi-*n*-butylamine	160	3.2E-04	1.31E-02	5.80E-02	9.72E-06	2.60E+02	3.90E-01	1.30E+03	1.72E-05	2.89E+04	7.27E+02	X
N-Nitrosodiphenylamine	198.23	5.0E-06	2.05E-04	3.12E-02	6.35E-06	1.29E+03	1.94E+00	3.51E+01				
N-Nitrosopyrrolidine		4.9E-08	2.00E-06			1.90E+01	2.85E-02					
m-Nitrotoluene	MW<200	2.4E-05	9.80E-04	7.60E-02	8.60E-06	6.50E+01	9.75E-02	2.10E+03	4.74E-06	5.52E+04	5.57E+02	X
o-Nitrotoluene	MW<200	2.4E-05	9.80E-04	7.60E-02	8.60E-06	6.50E+01	9.75E-02	2.10E+03	4.74E-06	5.52E+04	5.57E+02	X
p-Nitrotoluene	MW<200	2.4E-05	9.80E-04	7.60E-02	8.60E-06	6.50E+01	9.75E-02	2.10E+03	4.74E-06	5.52E+04	5.57E+02	X
Pentachlorobenzene		7.1E-03	2.90E-01									
Pentachlorophenol		2.4E-08	1.00E-06	5.60E-02	6.10E-06	5.92E+02	8.88E-01	1.95E+03				
Phenanthrene	178.2	2.3E-05	9.40E-04			1.40E+04	2.10E+01					

Chemical	MW (g/mole)	H (atm-m^3/mole)	H' (dimension-less)	D_a (cm^2/s)	D_w (cm^2/s)	K_{oc} (cm^3/g)	K_d (cm^3/g)	S (mg/L-water)	D_A (cm^2/s)	VF (m^3/kg)	SAT (mg/kg)	VOC
Phenol	94	4.0E-07	1.63E-05	8.20E-02	9.10E-06	2.88E+01	4.32E-02	8.28E+04				
Polychlorinatedbiphenyls												
Aroclor 1016		4.23E-02	1.73E+00									
Aroclor 1221		1.8E-08	7.40E-07									
Aroclor 1232		1.8E-08	7.40E-07									
Aroclor 1242		1.8E-08	7.40E-07									
Aroclor 1248	375.7	1.8E-08	7.40E-07	5.70E+03	6.00E-01	5.30E+05	7.95E+02					
Aroclor 1254	375.7	1.8E-08	7.40E-07	5.70E+03	6.00E-01	5.30E+05	7.95E+02					
Aroclor 1260	375.7	1.8E-08	7.40E-07	5.70E+03	6.00E-01	5.30E+05	7.95E+02					
n-Propylbenzene	MW<200	1.3E-02	5.40E-01	7.50E-02	7.80E-06	2.80E+03	4.20E+00	1.20E+01	1.11E-04	1.14E+04	5.32E+01	X
Propylene oxide	58	8.5E-05	3.50E-03	1.20E-01	1.30E-05	2.50E+01	3.75E-02	4.80E+05	2.74E-05	2.29E+04	9.87E+04	X
Pyrene	200	1.1E-05	4.51E-04	2.72E-02	7.24E-06	1.05E+05	1.58E+02	1.35E-01	2.83E-09	2.26E+06	2.13E+01	X
RDX		6.3E-08	2.60E-06			7.00E+01	1.05E-01					
Selenium												
Silver												
Strontium												
Styrene	100	2.7E-03	1.10E-01	7.10E-02	8.00E-06	7.80E+02	1.17E+00	3.10E+02	7.05E-05	1.43E+04	4.19E+02	X
1,2,4,5-Tetrachlorobenzene		1.0E-03	4.10E-02									
1,1,1,2-Tetrachloroethane		3.4E-04	1.41E-02	7.10E-02	7.90E-06	7.90E+01	1.19E-01	2.97E+03	4.33E-05	1.82E+04	8.55E+02	X
1,1,2,2-Tetrachloroethane	170	3.4E-04	1.40E-02	7.10E-02	7.90E-06	9.33E+01	1.40E-01	2.97E+03	4.01E-05	1.90E+04	9.19E+02	X
Tetrachloroethene	170	1.8E-02	7.54E-01	7.20E-02	8.20E-06	1.55E+02	2.33E-01	2.00E+02	1.35E-03	3.27E+03	9.76E+01	X
Thallium												
Toluene	92	6.6E-03	2.72E-01	8.70E-02	8.60E-06	1.82E+02	2.73E-01	5.26E+02	6.09E-04	4.87E+03	2.48E+02	X
Toxaphene		6.0E-06	2.46E-04	1.16E-02	4.34E-06	2.57E+05	3.86E+02	7.40E-01				
Tribromomethane		6.6E-04	2.70E-02									
1,1,2-Trichloro-1,2,2-trifluoroethane		5.2E-01	2.14E+01	2.88E-02	8.07E-06	1.60E+02	2.40E-01	1.10E+03	2.59E-03	2.36E+03	3.18E+03	X
1,2,4-Trichlorobenzene	181	1.4E-03	5.82E-02	3.00E-02	8.23E-06	1.78E+03	2.67E+00	3.00E+02	7.57E-06	4.37E+04	8.53E+02	X
1,1,1-Trichloroethane	130	1.7E-02	7.05E-01	7.80E-02	8.80E-06	1.10E+02	1.65E-01	1.33E+03	1.61E-03	2.99E+03	5.51E+02	X
1,1,2-Trichloroethane	133	9.1E-04	3.74E-02	7.80E-02	8.80E-06	5.01E+01	7.52E-02	4.42E+03	1.45E-04	9.99E+03	1.09E+03	X
Trichloroethene	131	1.0E-02	4.22E-01	7.90E-02	9.10E-06	1.66E+02	2.49E-01	1.10E+03	8.70E-04	4.07E+03	5.12E+02	X
Trichlorofluoromethane	140	9.8E-02	4.00E+00	8.70E-02	1.30E-05	1.60E+02	2.40E-01	1.10E+03	4.84E-03	1.73E+03	9.59E+02	X
2,4,5-Trichlorophenol	197.46	4.4E-06	1.80E-04									

Chemical	MW (g/mole)	H (atm-m^3/mole)	H' (dimension-less)	D_a (cm^2/s)	D_w (cm^2/s)	K_{oc} (cm^3/g)	K_d (cm^3/g)	S (mg/L-water)	D_A (cm^2/s)	VF (m^3/kg)	SAT (mg/kg)	VOC
2,4,6-Trichlorophenol	197.46	7.8E-06	3.20E-04									
1,1,2-Trichloropropane	150	2.9E-02	1.20E+00	4.00E-02	9.30E-06	5.10E+01	7.65E-02	2.70E+04	1.52E-03	3.08E+03	1.04E+04	X
1,2,3-Trichloropropane	150	2.7E-02	1.10E+00	7.10E-02	7.90E-06	5.10E+01	7.65E-02	2.70E+04	2.55E-03	2.38E+03	1.00E+04	X
1,2,3-Trichloropropene	MW<200	2.7E-02	1.10E+00	7.10E-02	7.90E-06	5.10E+01	7.65E-02	2.70E+04	2.55E-03	2.38E+03	1.00E+04	X
Triethylamine	MW<200	9.0E-05	3.70E-03	1.20E-01	1.30E-05	2.20E+00	3.30E-03	1.00E+06	3.46E-05	2.04E+04	1.71E+05	X
1,2,4-Trimethylbenzene	120	5.6E-03	2.30E-01	7.50E-02	7.10E-06	3.70E+03	5.55E+00	5.70E+01	3.65E-05	1.99E+04	3.27E+02	X
1,3,5-Trimethylbenzene	120	7.8E-03	3.20E-01	7.50E-02	7.10E-06	8.20E+02	1.23E+00	4.80E+01	2.03E-04	8.43E+03	6.89E+01	X
2,4,6-Trinitrotoluene		4.6E-07	1.90E-05			1.60E+03	2.40E+00					
Vanadium												
Vinyl acetate	86	5.1E-04	2.10E-02	8.50E-02	9.20E-06	5.30E+00	7.95E-03	2.00E+04	1.24E-04	1.08E+04	3.56E+03	X
Vinyl bromide	MW<200	6.3E-03	2.60E-01	1.00E-01	1.20E-05	1.30E+02	1.95E-01	1.80E+04	8.05E-04	4.23E+03	7.07E+03	X
Vinyl chloride	63	2.7E-02	1.11E+00	1.10E-01	1.20E-06	1.86E+01	2.79E-02	2.80E+03	4.57E-03	1.78E+03	9.09E+02	X
Vinyl chloride	63	2.7E-02	1.11E+00	1.10E-01	1.20E-06	1.86E+01	2.79E-02	2.80E+03	4.57E-03	1.78E+03	9.09E+02	X
m-Xylene	106	7.3E-03	3.01E-01	7.00E-02	7.80E-06	1.96E+02	2.94E-01	1.61E+02	5.16E-04	5.29E+03	8.00E+01	X
o-Xylene	106	5.2E-03	2.13E-01	8.70E-02	1.00E-05	2.41E+02	3.62E-01	1.78E+02	4.07E-04	5.96E+03	9.86E+01	X
p-Xylene	106	7.7E-03	3.14E-01	7.69E-02	8.44E-06	3.11E+02	4.67E-01	1.85E+02	4.38E-04	5.74E+03	1.24E+02	X
Xylenes	106	7.3E-03	3.00E-01	7.00E-02	7.80E-06	4.10E+02	6.15E-01	1.61E+02	3.12E-04	6.80E+03	1.32E+02	X
Zinc												

MW – Molecular weight
H' – Dimensionless Henry's Law Constant
D_w – Diffusivity in water
K_d – Soil-water partition coefficient
D_A – Apparent diffusivity (calculated for VOCs only)
SAT – Soil saturation limit (calculated for VOCs only)
H – Henry's Law Constant
D_a – Diffusivity in air
K_{oc} – Soil organic carbon partition coefficient
S - Solubility in water
VF – Volatilization factor (calculated for VOCs only)
VOC – Volatile organic compound

APPENDIX C

Table C-1
Human Health Benchmarks Used in Estimating SSLs

Chemical	SF_o (mg/kg-day^{-1})	Reference	RfD_o (mg/kg-day)	Reference	SF_i (mg/kg-day)$^{-1}$	Reference	RfD_i (mg/kg-day)	Reference	ABS
Acenaphthene			6.00E-02	IRIS			6.00E-02	r	0
Acetaldehyde					7.70E-03	IRIS	2.60E-03	IRIS	0
Acetone			9.00E-01	IRIS					0
Acrylonitrile	5.40E-01	IRIS	1.00E-03	HEAST	2.40E-01	IRIS	5.71E-04	IRIS	0
Acetophenone			1.00E-01	IRIS			1.00E-01	r	0
Acrolein			5.00E-04	IRIS			5.71E-06	IRIS	0
Aldrin	1.72E+01	IRIS	3.00E-05	IRIS	1.72E+01	IRIS	3.00E-05	r	0.1
Aluminum			1.00E+00	NCEA			1.40E-03	NCEA	0
Anthracene			3.00E-01	IRIS			3.00E-01	r	0
Antimony			4.00E-04	IRIS					0
Arsenic	1.50E+00	IRIS	3.00E-04	IRIS	1.51E+01	IRIS			0.03
Barium			7.00E-02	IRIS			1.43E-04	HEAST	0
Benzene	5.50E-02	IRIS	4.00E-03	IRIS	7.70E-03	IRIS	8.60E-03	IRIS	0
Benzidine	2.30E+02	IRIS	3.00E-03	IRIS	2.35E+02	IRIS			0.1
Benzo(a)anthracene	7.30E-01	NCEA							0.13
Benzo(a)pyrene	7.30E+00	IRIS							0.13
Benzo(b)fluoranthene	7.30E-01	NCEA							0.13
Benzo(k)fluoranthene	7.30E-02	NCEA							0.13
Beryllium			2.00E-03	IRIS	8.40E+00	IRIS	5.71E-06	IRIS	0
α-BHC	6.30E+00	IRIS	5.00E-04	NCEA	6.30E+00	IRIS	5.00E-04	r	0.04
β-BHC	1.80E+00	IRIS	2.00E-04	NCEA	1.80E+00	IRIS	2.00E-04	r	0.04
γ-BHC	1.30E+00	HEAST	3.00E-04	IRIS			3.00E-04	r	0.04
1,1-Biphenyl			5.00E-02	IRIS			5.00E-02	r	0
Bis(2-chloroethyl) ether	1.10E+00	IRIS			1.16E+00	IRIS			0
Bis(2-chloroisopropyl) ether			4.00E-02	IRIS			4.00E-02	r	0
Bis(2-ethylhexyl) phthalate	1.40E-02	IRIS	2.00E-02	IRIS			2.00E-02	r	0.1
Bis(chloromethyl) ether	2.20E+02	IRIS			2.17E+02	IRIS			0
Boron			9.00E-02	IRIS					0.1
Bromobenzene			2.00E-02	NCEA			2.90E-03	NCEA	0

Bromodichloromethane	6.20E-02	IRIS	2.00E-02	IRIS			2.00E-02	r	0
Bromomethane			1.40E-03	IRIS			1.43E-03	IRIS	0
1,3-Butadiene					1.05E-01	IRIS	5.71E-04	IRIS	0
2-Butanone (MEK)			6.00E-01	IRIS			1.43E+00	IRIS	0
tert-Butyl methyl ether (MTBE)	3.30E-03	NCEA			3.50E-04	NCEA	8.57E-01	IRIS	0
n-Butylbenzene			4.00E-02	NCEA			4.00E-02	r	0
sec-Butylbenzene			4.00E-02	NCEA			4.00E-02	r	0
tert-Butylbenzene			4.00E-02	NCEA			4.00E-02	r	0
Cadmium			1.00E-03	IRIS	6.30E+00	IRIS			0.001
Carbon disulfide			1.00E-01	IRIS			2.45E+00	IRIS	0
Carbon tetrachloride	1.30E-01	IRIS	7.00E-04	IRIS	5.25E-02	IRIS	7.00E-04	r	0
Chlordane	3.50E-01	IRIS	5.00E-04	IRIS	3.50E-01	IRIS	2.00E-04	IRIS	0.04
2-Chloroacetophenone							8.57E-06	IRIS	0
2-Chloro-1,3-butadiene			2.00E-02	HEAST			2.00E-03	HEAST	0
1-Chloro-1,1-difluoroethane							1.43E+01	IRIS	0
Chlorobenzene			2.00E-02	IRIS			1.70E-02	NCEA	0
1-Chlorobutane			4.00E-01	HEAST			4.00E-01	r	0
Chlorodifluoromethane							1.43E+01	IRIS	0
Chloroethane	2.90E-03	NCEA	4.00E-01	NCEA			2.86E+00	IRIS	0
Chloroform			1.00E-02	IRIS	8.05E-02	IRIS	8.60E-04	NCEA	0
Chloromethane	1.30E-02	HEAST			6.30E-03	HEAST	2.57E-02	IRIS	0
β-Chloronaphthalene			8.00E-02	IRIS			8.00E-02	r	0
o-Chloronitrobenzene	9.70E-03	HEAST	1.00E-03	HEAST			2.00E-05	HEAST	0
p-Chloronitrobenzene	6.70E-03	HEAST	1.00E-03	HEAST			1.70E-04	HEAST	0
2-Chlorophenol			5.00E-03	IRIS			5.00E-03	r	0
2-Chloropropane							2.90E-02	HEAST	0
o-Chlorotoluene			2.00E-02	IRIS			2.00E-02	r	0
Chromium III			1.50E+00	IRIS					0
Chromium VI			3.00E-03	IRIS	4.20E+01	IRIS	2.85E-05	IRIS	0
Chrysene	7.30E-03	NCEA							0.13
Cobalt			2.00E-02	NCEA	9.80E+00	NCEA	5.70E-06	NCEA	0
Copper			4.00E-02	HEAST					0
Crotonaldehyde	1.90E+00	HEAST							0
Cumene (isopropylbenzene)			1.00E-01	IRIS			1.14E-01	IRIS	0
Cyanide			2.00E-02	IRIS					0

Cyanogen			4.00E-02	IRIS			4.00E-02	r	0
Cyanogen bromide			9.00E-02	IRIS			9.00E-02	r	0
Cyanogen chloride			5.00E-02	IRIS			5.00E-02	r	0
DDD	2.40E-01	IRIS							0.03
DDE	3.40E-01	IRIS							0.03
DDT	3.40E-01	IRIS	5.00E-04	IRIS	3.40E-01	IRIS	5.00E-04	r	0.03
Dibenz(a,h)anthracene	7.30E+00	NCEA							0.13
Dibenzofuran			4.00E-03	NCEA			4.00E-03	r	0
1,2-Dibromo-3-chloropropane	1.40E+00	HEAST					5.70E-05	IRIS	0
Dibromochloromethane	8.40E-02	IRIS	2.00E-02	IRIS			2.00E-02	r	0
1,2-Dibromoethane	8.50E+01	IRIS			7.70E-01	IRIS	5.70E-05	HEAST	0
1,4-Dichloro-2-butene					9.30E+00	HEAST			0
1,2-Dichlorobenzene			9.00E-02	IRIS			5.71E-02	HEAST	0
1,3-Dichlorobenzene			9.00E-04	NCEA			9.00E-04	r	0
1,4-Dichlorobenzene	2.40E-02	HEAST	3.00E-02	NCEA	2.20E-02	NCEA	2.29E-01	IRIS	0
3,3-Dichlorobenzidine	4.50E-01	IRIS							0.1
Dichlorodifluoromethane			2.00E-01	IRIS			5.71E-02	HEAST	0
1,1-Dichloroethane			1.00E-01	HEAST			1.43E-01	HEAST	0
1,2-Dichloroethane	9.10E-02	IRIS	3.00E-02	NCEA	9.10E-02	IRIS	1.40E-03	NCEA	0
cis-1,2-Dichloroethene			1.00E-02	HEAST			1.00E-02	r	0
trans-1,2-Dichloroethene			2.00E-02	IRIS			2.00E-02	r	0
1,1-Dichloroethene			5.00E-02	IRIS			5.70E-02	IRIS	0
2,4-Dichlorophenol			3.00E-03	IRIS			3.00E-03	r	0.1
1,2-Dichloropropane	6.80E-02	HEAST					1.10E-03	IRIS	0
1,3-Dichloropropene	1.00E-01	IRIS	3.00E-02	IRIS	1.40E-02	IRIS	5.71E-03	IRIS	0
Dicyclopentadiene			3.00E-02	HEAST			5.71E-05	HEAST	0
Dieldrin	1.60E+01	IRIS	5.00E-05	IRIS	1.61E+01	IRIS	5.00E-05	r	0.1
Diethyl phthalate			8.00E-01	IRIS			8.00E-01	r	0.1
Dimethyl phthalate			1.00E+01	HEAST			1.00E+01	r	0.1
Di-n-butyl phthalate			1.00E-01	IRIS			1.00E-01	r	0.1
2,4-Dimethylphenol			2.00E-02	IRIS			2.00E-02	r	0.1
2,4-Dinitrotoluene			2.00E-03	IRIS			2.00E-03	r	0.1
1,2-Diphenylhydrazine	8.00E-01	IRIS			7.70E-01	IRIS			0.1
Endosulfan			6.00E-03	IRIS			6.00E-03	r	0.1
Endrin			3.00E-04	IRIS			3.00E-04	r	0.1

Epichlorohydrin	9.90E-03	IRIS	2.00E-03	HEAST	4.20E-03	IRIS	2.86E-04	IRIS	0
Ethyl acetate			9.00E-01	IRIS			9.00E-01	r	0
Ethyl acrylate	4.80E-02	HEAST							0
Ethyl chloride	2.90E-03	NCEA	4.00E-01	NCEA			2.86E+00	IRIS	0
Ethyl ether			2.00E-01	IRIS			2.00E-01	r	0
Ethyl methacrylate			9.00E-02	HEAST			9.00E-02	r	0
Ethylbenzene			1.00E-01	IRIS	3.80E-05	NCEA	2.90E-01	IRIS	0
Ethylene oxide	1.00E+00	HEAST			3.50E-01	HEAST			0
Fluoranthene			4.00E-02	IRIS			4.00E-02	r	0.13
Fluorene			4.00E-02	IRIS			4.00E-02	r	0
Furan			1.00E-03	IRIS			1.00E-03	r	0
Heptachlor	4.50E+00	IRIS	5.00E-04	IRIS	4.55E+00	IRIS	5.00E-04	r	0.1
Hexachlorobenzene	1.60E+00	IRIS	8.00E-04	IRIS	1.61E+00	IRIS	8.00E-04	r	0.1
Hexachloro-1,3-butadiene	7.80E-02	IRIS	2.00E-04	HEAST	7.70E-02	IRIS	2.00E-04	r	0.1
Hexachlorocyclopentadiene			6.00E-03	IRIS			5.71E-05	IRIS	0.1
Hexachloroethane	1.40E-02	IRIS	1.00E-03	IRIS	1.40E-02	IRIS	1.00E-03	r	0.1
n-Hexane			6.00E-02	HEAST			5.71E-02	IRIS	0
HMX			5.00E-02	IRIS			5.00E-02	r	0.1
Hydrogen cyanide			2.00E-02	IRIS			8.57E-04	IRIS	0
Indeno(1,2,3-c,d)pyrene	7.30E-01	NCEA							0.13
Iron			3.00E-01	NCEA					0
Isobutanol			3.00E-01	IRIS			3.00E-01	r	0
Isophorone	9.50E-04	IRIS	2.00E-01	IRIS			2.00E-01	r	0.1
Lead									0
Lead (tetraethyl-)			1.00E-07	IRIS					0.1
Maleic hydrazide			5.00E-01	IRIS			5.00E-01	r	0
Manganese			2.00E-02	IRIS			1.40E-05	IRIS	0
Mercury (elemental)			3.00E-04	HEAST			8.57E-05	IRIS	0
Mercury (methyl)			1.00E-04	IRIS					0.1
Methacrylonitrile			1.00E-04	IRIS			2.00E-04	HEAST	0
Methomyl			2.50E-02	IRIS			2.50E-02	r	0
Methyl acetate			1.00E+00	HEAST			1.00E+00	r	0
Methyl acrylate			3.00E-02	HEAST			3.00E-02	r	0
Methyl isobutyl ketone			8.00E-02	HEAST			8.57E-01	IRIS	0
Methyl methacrylate			1.40E+00	IRIS			2.00E-01	IRIS	0

Methyl styrene (alpha)			7.00E-02	HEAST			7.00E-02	r	0
Methyl styrene (mixture)			6.00E-03	HEAST			1.00E-02	HEAST	0
Methylcyclohexane							8.60E-01	HEAST	0
Methylene bromide			1.00E-02	HEAST			1.00E-02	r	0
Methylene chloride	7.50E-03	IRIS	6.00E-02	IRIS	1.65E-03	IRIS	8.60E-01	HEAST	0
Molybdenum			5.00E-03	IRIS					0
Naphthalene			2.00E-02	IRIS			8.57E-04	IRIS	0
Nickel			2.00E-02	IRIS			5.70E-05	ATSDR	0
Nitrate			1.60E+00	IRIS					0
Nitrite			1.00E-01	IRIS					0
Nitrobenzene			5.00E-04	IRIS			5.71E-04	HEAST	0
Nitroglycerin	1.40E-02	NCEA							0.1
N-Nitrosodiethylamine	1.50E+02	IRIS			1.51E+02	IRIS			0.1
N-Nitrosodimethylamine	5.10E+01	IRIS			4.90E+01	IRIS			0.1
N-Nitrosodi-*n*-butylamine	5.40E+00	IRIS			5.60E+00	IRIS			0.1
N-Nitrosodiphenylamine	4.90E-03	IRIS							0.1
N-Nitrosopyrrolidine	2.10E+00	IRIS			2.14E+00	IRIS			0.1
m-Nitrotoluene			1.00E-02	HEAST			1.00E-02	r	0
o-Nitrotoluene			1.00E-02	HEAST			1.00E-02	r	0
p-Nitrotoluene			1.00E-02	HEAST			1.00E-02	r	0
Pentachlorobenzene			8.00E-04	IRIS			8.00E-04	r	0.1
Pentachlorophenol	1.20E-01	IRIS	3.00E-02	IRIS			3.00E-02	r	0.25
Phenanthrene			3.00E-02	IRIS/pyrene			3.00E-02	r	0.1
Phenol			3.00E-01	IRIS			3.00E-01	r	0.1
Polychlorinatedbiphenyls									
Aroclor 1016	2.00E+00	IRIS	7.00E-05	IRIS	3.50E-01	IRIS	7.00E-05	r	0.14
Aroclor 1221	2.00E+00	IRIS			3.50E-01	IRIS			0.14
Aroclor 1232	2.00E+00	IRIS			3.50E-01	IRIS			0.14
Aroclor 1242	2.00E+00	IRIS			3.50E-01	IRIS			0.14
Aroclor 1248	2.00E+00	IRIS			3.50E-01	IRIS			0.14
Aroclor 1254	2.00E+00	IRIS	2.00E-05	IRIS	3.50E-01	IRIS	2.00E-05	r	0.14
Aroclor 1260	2.00E+00	IRIS			3.50E-01	IRIS			0.14
n-Propylbenzene			4.00E-02	NCEA			4.00E-02	r	0
Propylene oxide	2.40E-01	IRIS			1.30E-02	IRIS	8.57E-03	IRIS	0
Pyrene			3.00E-02	IRIS			3.00E-02	r	0

RDX	1.10E-01	IRIS	3.00E-03	IRIS			3.00E-03	r	0.1
Selenium			5.00E-03	IRIS					0
Silver			5.00E-03	IRIS					0
Strontium			6.00E-01	IRIS					0
Styrene			2.00E-01	IRIS			2.86E-01	IRIS	0
1,2,4,5-Tetrachlorobenzene			3.00E-04	IRIS			3.00E-04	r	0.1
1,1,1,2-Tetrachloroethane	2.60E-02	IRIS	3.00E-02	IRIS	2.59E-02	IRIS	3.00E-02	r	0
1,1,2,2-Tetrachloroethane	2.00E-01	IRIS	6.00E-02	NCEA	2.03E-01	IRIS	6.00E-02	r	0
Tetrachloroethene	5.20E-02	NCEA	1.00E-02	IRIS	2.03E-02	NCEA	1.14E-01	NCEA	0
Thallium			6.60E-05	IRIS					0
Toluene			2.00E-01	IRIS			1.10E-01	HEAST	0
Toxaphene	1.10E+00	IRIS			1.12E+00	IRIS			0.1
Tribromomethane	7.90E-03	IRIS	2.00E-02	IRIS	3.85E-03	IRIS	2.00E-02	r	0
1,1,2-Trichloro-1,2,2-trifluoroethane			3.00E+01	IRIS			8.57E+00	HEAST	0
1,2,4-Trichlorobenzene			1.00E-02	IRIS			5.70E-02	HEAST	0
1,1,1-Trichloroethane			2.80E-01	NCEA			6.30E-01	NCEA	0
1,1,2-Trichloroethane	5.70E-02	IRIS	4.00E-03	IRIS	5.60E-02	IRIS	4.00E-03	r	0
Trichloroethene	4.0E-01	NCEA	3.00E-04	NCEA	4.0E-01	NCEA	1.00E-02	NCEA	0
Trichlorofluoromethane			3.00E-01	IRIS			2.00E-01	HEAST	0
2,4,5-Trichlorophenol			1.00E-01	IRIS			1.00E-01	r	0.1
2,4,6-Trichlorophenol	1.10E-02	IRIS	1.00E-04	NCEA	1.09E-02	IRIS	1.00E-04	r	0.1
1,1,2-Trichloropropane			5.00E-03	IRIS			5.00E-03	r	0
1,2,3-Trichloropropane	2.00E+00	NCEA	6.00E-03	IRIS			1.40E-03	NCEA	0
1,2,3-Trichloropropene			5.00E-03	HEAST			5.00E-03	r	0
Triethylamine							1.99E-03	IRIS	0
1,2,4-Trimethylbenzene			5.00E-02	NCEA			1.70E-03	NCEA	0
1,3,5-Trimethylbenzene			5.00E-02	NCEA			1.70E-03	NCEA	0
2,4,6-Trinitrotoluene	3.00E-02	IRIS	5.00E-04	IRIS			5.00E-04	r	0.1
Vanadium			7.00E-03	HEAST					0
Vinyl acetate			1.00E+00	HEAST			5.71E-02	IRIS	0
Vinyl bromide			1.10E-01	HEAST			8.57E-04	IRIS	0
Vinyl chloride (Child)	1.40E+00	IRIS	3.00E-03	IRIS	3.00E-02	IRIS	2.80E-02	IRIS	0
Vinyl chloride (Adult)	7.20E-01	IRIS	3.00E-03	IRIS	1.54E-02	IRIS	2.85E-02	IRIS	0
m-Xylene			2.00E-01	IRIS			2.86E-02	IRIS	0.1
o-Xylene			2.00E-01	IRIS			2.86E-02	IRIS	0.1

p-Xylene			2.00E-01	IRIS			2.86E-02	IRIS	0.1
Xylenes			2.00E-01	IRIS			2.86E-02	IRIS	0.1
Zinc			3.00E-01	IRIS					0

SF_o – Oral cancer slope factor
SF_i – Inhalation cancer slope factor
RfD_o – Oral Reference Dose
RfD_i – Inhalation Reference Dose
ABS – Dermal absorption coefficient

IRIS – Integrated Risk Information System, USEPA 2003b
HEAST – Health Effects Assessment Summary Tables, USEPA 1997
NCEA – National Center for Environmental Assessment, Office of Research and Development (USEPA 2003c)
r – Route-to-route extrapolation

VOLUME 2

TIER 1: SCREENING-LEVEL ECOLOGICAL RISK ASSESSMENT

PHASE I
Scoping Assessment

TABLE OF CONTENTS

1. Introduction

The purpose of an ecological risk assessment is to evaluate the potential adverse effects that chemical contamination has on the plants and animals that make up ecosystems. The risk assessment process provides a way to develop, organize and present scientific information so that it is relevant to environmental decisions.

The New Mexico Environment Department Hazardous Waste Bureau (NMED) has developed a tiered procedure for the evaluation of ecological risk. This procedure is outlined in the *Guidance for Assessing Ecological Risks Posed by Chemicals: Screening-Level Ecological Risk Assessment* (GAERPC) (NMED, 2000). Briefly, the tiers of the procedure are organized as follows:

PHASE I: QUALITATIVE ASSESSMENT

- Tier I: Screening-Level Ecological Risk Assessment
- Scoping Assessment
- Screening Assessment

PHASE II: QUANTITATIVE ASSESSMENT

- Tier II: Site-Specific Ecological Risk Assessment

As discussed above and illustrated in Figure 1, the Scoping Assessment is the first phase of the Tier I Screening-Level Ecological Risk Assessment process as defined by the NMED GAERPC. This document provides specific procedures to assist the facility in conducting the first step (Scoping Assessment) of the Tier I, Screening-Level Ecological Risk Assessment process outlined in the GAERPC. The purpose of the Scoping Assessment is to gather information, which will be used to determine if there is "any reason to believe that ecological receptors and/or complete exposure pathways exist at or in the locality of the site" (NMED, 2000). The scoping assessment step also serves as the initial information-gathering phase for sites clearly in need of a more detailed assessment of potential ecological risk. This document outlines the methodology for conducting a Scoping Assessment, and includes a Site Assessment Checklist (Attachment A), which serves as tool for gathering information about the facility property and surrounding areas. Although the GAERPC provides a copy of the US EPA Checklist for Ecological Assessment/Sampling (US EPA, 1997), the attached Site Assessment Checklist provides an expanded, user-friendly template, which both guides the user as to what information to collect and furnishes an organized structure in which to enter the information.

After the Site Assessment Checklist has been completed, the assessor must use the collected information to generate a Scoping Assessment Report and Preliminary Conceptual Site Exposure Model (PCSEM). Guidance for performing these tasks is provided in this document, and in the GAERPC. The Scoping Assessment Report and PCSEM are subsequently used to address the first in a series of Technical Decision Points of the tiered GAERPC process. Technical Decision Points are questions which must be answered by the assessor after the completion of certain phases in the process. The resulting answer to the question determines the next step to be undertaken by the

facility. The first Technical Decision Point, as illustrated in Figure 1, is to decide: *Is Ecological Risk Suspected?*

If the answer to the first Technical Decision Point is "no" (that is, ecological risk is not suspected), the assessor may use the Exclusion Criteria Checklist and Decision Tree (Attachment B) to help confirm or deny that possibility. However, it is unlikely that any site containing potential ecological habitat or receptors will meet the Site Exclusion Criteria.

If ecological risk is suspected, the facility will usually be directed to proceed to the next phase of Tier I, which is a Screening Level Ecological Risk Assessment (SLERA). A SLERA is a simplified risk assessment that can be conducted with limited site-specific data by defining assumptions for parameters that lack site-specific data (US EPA, 1997). Values used for screening are consistently biased in the direction of overestimating risk to ensure that sites that might pose an ecological risk are properly identified. The completed Site Assessment Checklist is a valuable source of information needed for the completion of the SLERA. Instructions for performing a SLERA can be found in the GAERPC and in a number of EPA guidance documents (e.g., US EPA, 1997; US EPA, 1998).

2. Scoping Assessment

The Scoping Assessment serves as the initial information gathering and evaluation phase of the Tier I process. A Scoping Assessment consists of the following steps:

- Compile and Assess Basic Site Information (using Site Assessment Checklist)
- Conduct Site Visit
- Identify Preliminary Contaminants of Potential Ecological Concern
- Develop a Preliminary Conceptual Site Exposure Model
- Prepare a Scoping Assessment Report

The following subsections provide guidance for completing each step of the Scoping Assessment. For additional guidance, readers should refer to the GAERPC (NMED, 2000).

2.1 Compile and Assess Basic Site Information

The first step of the Scoping Assessment process is to compile and assess basic site information. Since the purpose of the Scoping Assessment is to determine if ecological habitats, receptors, and complete exposure pathways are likely to exist at the site, those items are the focus of the information gathering. The Site Assessment Checklist (Attachment A) should be used to complete this step. The questions in the Site Assessment Checklist should be addressed as completely as possible with the information available before conducting a site visit.

In many cases, a large portion of the Site Assessment Checklist can be completed using reference materials and general knowledge of the site. A thorough file search should be conducted to compile all potential reference materials. Resource Conservation and Recovery Act (RCRA) Facility Assessment (RFA) and Facility Investigation (RFI) reports, inspection reports, RCRA Part B Permit

Applications, and facility maps can all be good sources of the information needed for the Site Assessment Checklist.

Habitats and receptors which may be present at the site can be identified by contacting local and regional natural resource agencies. Habitat types may be determined by reviewing land use and land cover maps (LULC), which are available via the Internet at http://www.nationalatlas.gov/scripts. Additional sources of general information for the identification of ecological receptors and habitats are listed in the introduction section of the Site Assessment Checklist (Attachment A).

After all available information has been compiled and entered into the Site Assessment Checklist, the assessor should review the checklist and identify data gaps. Plans should then be made to obtain the missing information by performing additional research and/or by observation and investigation during the site visit.

2.2 SITE VISIT

When performing a Scoping Assessment, at least one site visit should be conducted to directly assess ecological features and conditions. As discussed in the previous section, completion of the Site Assessment Checklist should have begun during the compilation of basic site information. The site visit allows for verification of the information obtained from the review of references and other information sources. The current land and surface water usage and characteristics at the site can be observed, as well as direct and indirect evidence of receptors. In addition to the site, areas adjacent to the site and all areas where ecological receptors are likely to contact site-related chemicals (i.e., all areas which may have been impacted by the release or migration of chemicals from the site) should be observed or visited and addressed in the Site Assessment Checklist. The focus of the habitat and receptor observations should be on a community level. That is, dominant plant and animal species and habitats (e.g., wetlands, wooded areas) should be identified during the site visit. Photographs should be taken during the site visit and attached to the Scoping Assessment Report. Photographs are particularly useful for documenting the nature, quality, and distribution of vegetation, other ecological features, potential exposure pathways, and any evidence of contamination or impact. While the focus of the survey is on the community level, the U.S. Fish and Wildlife Service and the New Mexico Natural Heritage Program should be contacted prior to the site visit. The intent is to determine if state listed and/or federal listed Threatened & Endangered (T&E) species or sensitive habitats may be present at the site, or if any other fish or wildlife species could occur in the area (as indicated in the Site Assessment Checklist, Section IIID). A trained biologist or ecologist should conduct the biota surveys to appropriately characterize major habitats and to determine whether T&E species are present or may potentially use the site. The site assessment should also include a general survey for T&E species and any sensitive habitats (e.g. wetlands, perennial waters, breeding areas), due to the fact that federal and state databases might not be complete.

Site visits should be conducted at times of the year when ecological features are most apparent (i.e., spring, summer, early fall). Visits during winter might not provide as much evidence of the presence or absence of receptors and potential exposure pathways.

In addition to observations of ecological features, the assessor should note any evidence of chemical releases (including visual and olfactory clues), drainage patterns, areas with apparent erosion, signs of

groundwater discharge at the surface (such as seeps or springs), and any natural or anthropogenic site disturbances.

2.3 IDENTIFY CONTAMINANTS OF POTENTIAL ECOLOGICAL CONCERN

Contaminants of Potential Ecological Concern (COPECs) are chemicals which may pose a threat to individual species or biological communities. For the purposes of the Scoping Assessment, all chemicals known or suspected of being released at the site are considered COPECs. The identification of COPECs is usually accomplished by the review of historical information in which previous site activities and releases are identified, or by sampling data which confirm the presence of contaminants in environmental media at the site. If any non-chemical stressors such as mechanical disturbances or extreme temperature conditions are known to be present at the site, they too are to be considered in the assessment.

After the COPECs have been identified, they should be summarized and organized (such as in table or chart form) for presentation in the Scoping Assessment Report.

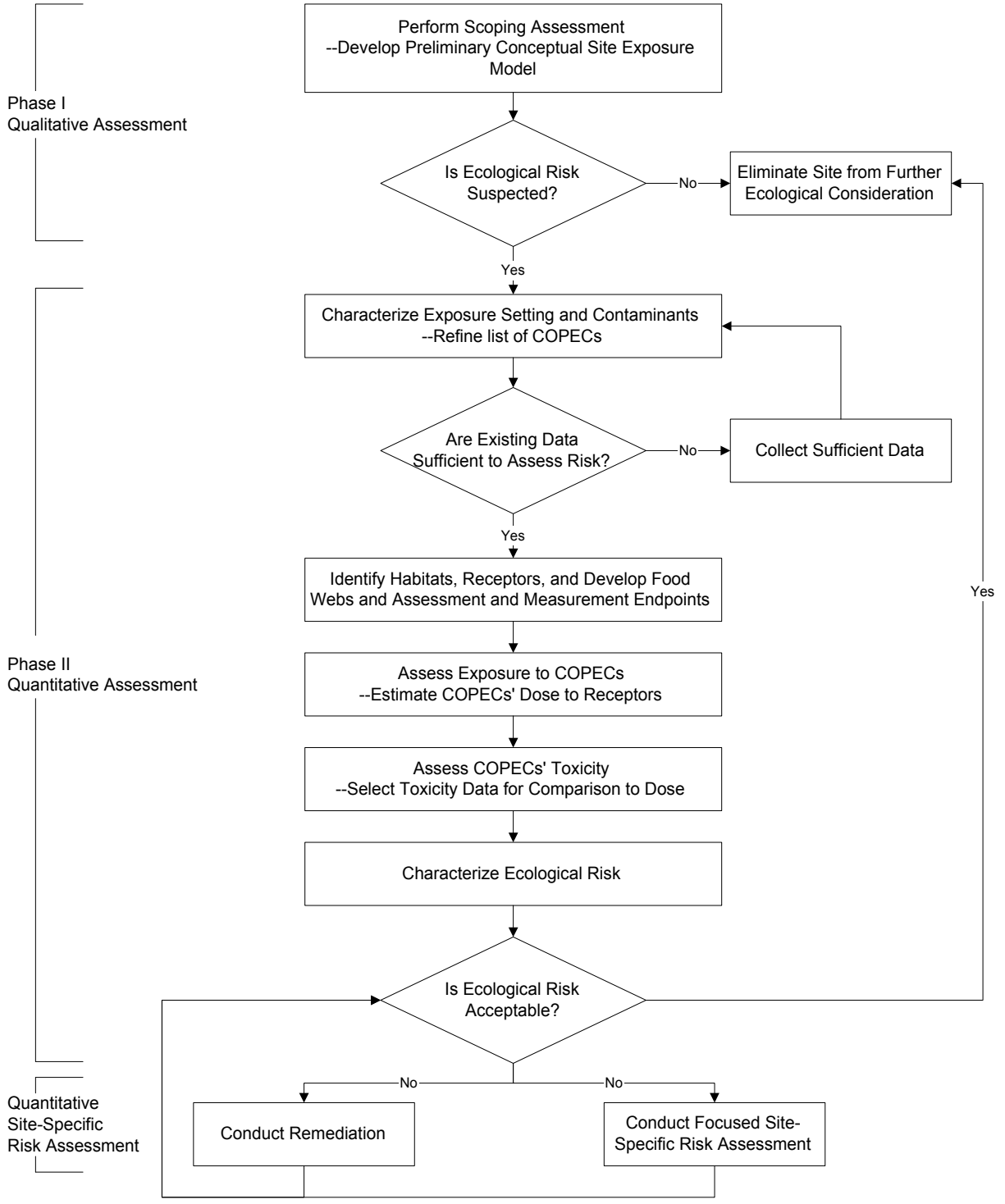
2.4 DEVELOPING THE PRELIMINARY CONCEPTUAL SITE EXPOSURE MODEL

A PCSEM provides a summary of potentially complete exposure pathways, along with potentially exposed receptor types. The PCSEM, in conjunction with the scoping report, is used to determine whether further ecological assessment (i.e., Screening-Level Assessment, Site-Specific Assessment) and/or interim measures are required.

A complete exposure pathway is defined as a pathway having all of the following attributes (US EPA, 1998; NMED, 2000):

- A source and mechanism for hazardous waste/constituent release to the environment
- An environmental transport medium or mechanism by which a receptor can come into contact with the hazardous waste/constituent
- A point of receptor contact with the contaminated media or via the food web, and
- An exposure route to the receptor.

If any of the above components are missing from the exposure pathway, it is not a complete pathway for the site. A discussion regarding all possible exposure pathways and the rationale/justification for eliminating any pathways should be included in the PCSEM narrative and in the Scoping Assessment Report.



Adapted from GAERPC (NMED 2000).

Figure 1. NMED Ecological Risk Assessment Process

The PCSEM is presented as both a narrative discussion and a diagram illustrating potential contaminant migration and exposure pathways to ecological receptors. A sample PCSEM diagram is presented in Figure 2. On the PCSEM diagram, the components of a complete exposure pathway are grouped into three main categories: sources, release mechanisms, and potential receptors. As a contaminant migrates and/or is transformed in the environment, sources and release mechanisms can be defined as primary, secondary, and tertiary.

For example, Figure 2 depicts releases from a landfill that migrate into soils, and reach nearby surface water and sediment via storm water runoff. In this situation, the release from the landfill is considered the primary release, with infiltration as the primary release mechanism. Soil becomes the secondary source, and storm water runoff is the secondary release mechanism to surface water and sediments, the tertiary source.

Subsequent ecological exposures to terrestrial and aquatic receptors will result from this release. The primary exposure routes to ecological receptors are direct contact, ingestion, and possibly inhalation. For example, plant roots will be in direct contact with contaminated sediments, and burrowing mammals will be exposed via dermal contact with soil and incidental ingestion of contaminated soil. In addition, exposures for birds and mammals will occur as they ingest prey items through the food web.

Although completing the Site Assessment Checklist will not provide the user with a ready made PCSEM, a majority of the components of the PCSEM can be found in the information provided by the Site Assessment Checklist. The information gathered for the completion of Section II of the Site Assessment Checklist, can be used to identify sources of releases. The results of Section III, Habitat Evaluation, can be used to both identify secondary and tertiary sources and to identify the types of receptors which may be exposed. The information gathered for completion of Section IV, Exposure Pathway Evaluation, will assist users in tracing the migration pathways of releases in the environment, thus helping to identify release mechanisms and sources.

Once all of the components of the conceptual model have been identified, complete exposure pathways and receptors that have the potential for exposure to site releases can be identified.

For further guidance on constructing a PCSEM, consult the GAERPC (NMED, 2000), and EPA's Office of Solid Waste and Emergency Response's *Soil Screening Guidance: User's Guide* (1996).

2.5 ASSEMBLING THE SCOPING ASSESSMENT REPORT

After completion of the previously described activities of the scoping assessment, the Scoping Assessment Report should be assembled to summarize the site information and present an evaluation of receptors and pathways at the site. The Scoping Assessment Report should be designed to support the decision made regarding the first Technical Decision Point (Is Ecological Risk Suspected?). The Scoping Assessment Report should, at a minimum, contain the following information:

- Existing Data Summary
- Site Visit Summary (including a completed Site Assessment Checklist)

- Evaluation of Receptors and Pathways
- Recommendations
- Attachments (e.g. photographs, field notes, telephone conversation logs with natural resource agencies)
- References/Data Sources

After completion, the Scoping Assessment Report and PCSEM should be submitted to NMED for review and approval. These documents will serve as a basis for decisions regarding future actions at the site.

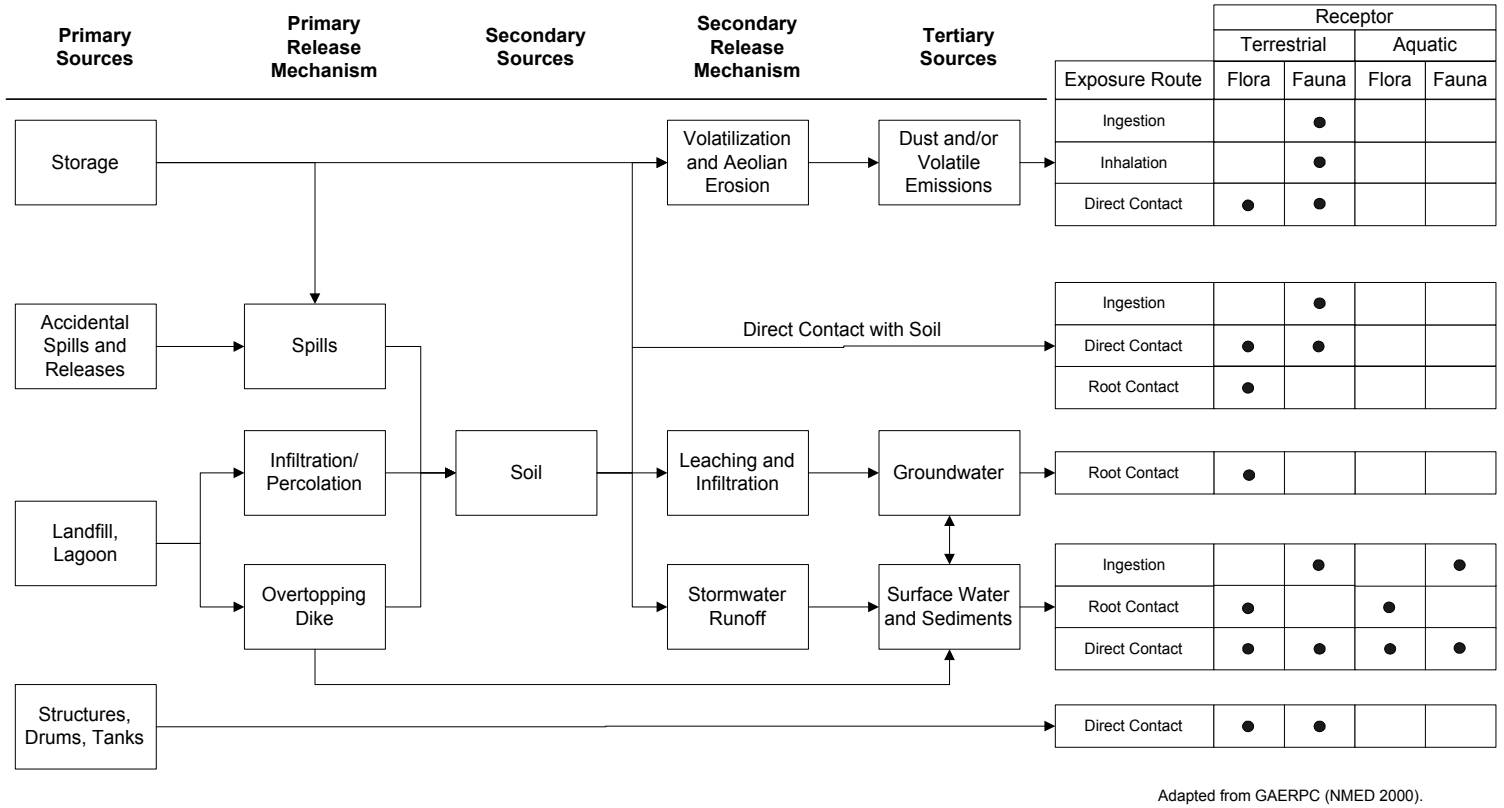


Figure 2. Example Preliminary Conceptual Site Exposure Model Diagram for a Hypothetical Site

3. Site Exclusion Criteria

If the assessor believes that the answer to the first Technical Decision Point (Is Ecological Risk Suspected?) is "no" based on the results of the PCSEM and Scoping Assessment Report, it should be determined whether the facility meets the NMED Site Exclusion Criteria.

Exclusion criteria are defined as those conditions at an affected property which eliminate the need for a SLERA. The three criteria are as follows:

- Affected property does not include viable ecological habitat.
- Affected property is not utilized by potential receptors.
- Complete or potentially complete exposure pathways do not exist due to affected property setting or conditions of affected property media.

The Exclusion Criteria Checklist and associated Decision Tree (Attachment B) can be used as a tool to help the user determine if an affected site meets the exclusion criteria. The checklist assists in making a conservative, qualitative determination of whether viable habitats, ecological receptors, and/or complete exposure pathways exist at or in the locality of the site where a release of hazardous waste/constituents has occurred. Thus, meeting the exclusion criteria means that the facility can answer "no" to the first Technical Decision Point.

If the affected property meets the Site Exclusion Criteria, based on the results of the checklist and decision tree, the facility must still submit a Scoping Assessment Report to NMED which documents the site conditions and justification for how the criteria have been met. Upon review and approval of the exclusion by the appropriate NMED Bureau, the facility will not be required to conduct any further evaluation of ecological risk. However, the exclusion is not permanent; a future change in circumstances may result in the affected property no longer meeting the exclusion criteria.

4. Technical Decision Point: Is Ecological Risk Suspected?

As discussed in the beginning of this document, the Scoping Assessment is the first phase of the GAERPC ecological risk assessment process (Figure 1). Following the submission of the Scoping Assessment Report and PCSEM, NMED will decide upon one of the following three recommendations for the site:

- No further ecological investigation at the site, or
- Continue the risk assessment process, and/or
- Undertake a removal or remedial action.

If the information presented in the Scoping Assessment Report supports the answer of "no" to the first Technical Decision Point, and the site meets the exclusion criteria, the site will likely be excused from further consideration of ecological risk. However, this is only true if it can be documented that a complete exposure pathway does not exist and will not exist in the future at the site based on current conditions. For those sites where valid pathways for potential exposure exist or are likely to exist in the future, further ecological risk assessment (usually in the form of a SLERA) will be

required. However, if the Scoping Assessment indicates that a detailed assessment is warranted, the facility would not be required to conduct a SLERA. Instead the facility would move directly to Tier II–Site-Specific Ecological Risk Assessment.

References

Los Alamos National Laboratory (LANL), 1997. *Administrative Procedure 4.5*, Draft

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U.S. Environmental Protection Agency (US EPA), 1996. *Soil Screening Guidance: User's Guide.* Office of Solid Waste and Emergency Response. Washington, DC. EPA-540-R-96/018. July.

US EPA, 1997. *Ecological Risk Assessment Guidance for Superfund: Process for Designing and Conducting Ecological Risk Assessments*, Environmental Response Team, Interim Final, June 5.

US EPA, 1998. *Guidelines for Ecological Risk Assessment*, Risk Assessment Forum, Final, April. EPA/630/R-95/002F; http://www.epa.gov/ncea/ecorisk.htm.

APPENDIX C: CONTAMINANT SUMMARIES

The following public health statements are from the United States Public Health Service, Agency for Toxic Substances and Disease Registry (ATSDR) *Toxicological Profiles on CD-ROM* (1996).

The Superfund Amendments and Reauthorization Act (SARA) of 1986 (Public Law 99-499) extended and amended the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA or Superfund). This public law directed the Agency for Toxic Substances and Disease Registry (ATSDR) to prepare toxicological profiles for hazardous substances which are most commonly found at facilities on the CERCLA National Priorities List and which pose the most significant potential threat to human health, as determined by ATSDR and the Environmental Protection Agency (EPA).

This toxicological profile is prepared in accordance with guidelines developed by ATSDR and EPA. The original guidelines were published in the Federal Register on April 17, 1987. Each profile will be revised and republished as necessary.

The ATSDR toxicological profile is intended to characterize succinctly the toxicological and adverse health effects information for the hazardous substance being described. Each profile identifies and reviews the key literature (that has been peer-reviewed) that describes a hazardous substance's toxicological properties. Other pertinent literature is also presented but described in less detail than the key studies. The profile is not intended to be an exhaustive document; however, more comprehensive sources of specialty information are referenced.

Each toxicological profile begins with a public health statement, which describes in nontechnical language a substance's relevant toxicological properties. The principal audiences for the toxicological profiles are health professionals at the federal, state, and local levels, interested private sector organizations and groups, and members of the public.

This profile reflects our assessment of all relevant toxicological testing and information that has been peer reviewed. It has been reviewed by scientists from ATSDR, the Centers for Disease Control and Prevention (CDC), and other federal agencies. It has also been reviewed by a panel of nongovernment peer reviewers and is being made available for public review. Final responsibility for the contents and views expressed in this toxicological profile resides with ATSDR.

LEAD: PUBLIC HEALTH STATEMENT

This Statement was prepared to give you information about lead and to emphasize the human health effects that may result from exposure to it. The Environmental Protection Agency (EPA) has identified 1,300 sites on its National Priorities List (NPL). Lead has been found in at least 922 of these sites. However, we do not know how many of the 1,300 NPL sites have been evaluated for lead. As EPA evaluates more sites, the number of sites at which lead is found may change. This information is important for you to know because lead may cause harmful health effects and because these sites are potential or actual sources of human exposure to lead.

When a chemical is released from a large area, such as an industrial plant, or from a container, such as a drum or bottle, it enters the environment as a chemical emission. This emission, which is also called a release, does not always lead to exposure. You can be exposed to a chemical only when you come into contact with the chemical. You may be exposed to it in the environment by breathing, eating, or drinking substances containing the chemical or from skin contact with it.

If you are exposed to a hazardous chemical such as lead, several factors will determine whether harmful health effects will occur and what the type and severity of those health effects will be. These factors include the dose (how much), the duration (how long), the route or pathway by which you are exposed (breathing, eating, drinking, or skin contact), the other chemicals to which you are exposed, and your individual characteristics such as age, sex, nutritional status, family traits, life style, and state of health.

WHAT IS LEAD?

Lead is a naturally occurring bluish-gray metal found in small amounts in the earth's crust. It has no characteristic taste or smell. Metallic lead does not dissolve in water and does not burn. Some natural and man-made substances contain lead, but do not look like lead in its metallic form. Some of these substances can burn.

Lead has many different uses. Its most important use is in the production of some types of batteries. Other uses include the production of ammunition, in some kinds of metal products (such as sheet lead, solder, and pipes) and in ceramic glazes. Some chemicals containing lead, such as tetraethyl lead and tetramethyl lead are used as gasoline additives. However, the use of these lead- containing chemicals in gasoline is much less than it used to be because the last producer of these additives in the United States stopped making them in early 1991. Other chemicals containing lead are used in paint. The amount of lead added to paints and ceramic products, caulking, gasoline additives, and solder has also been reduced in recent years because of lead's harmful effects in humans and animals. However, the use of lead in ammunition and roofing has actually increased in recent years. Lead is also used for radiation shields for protection against X-rays and in a large variety of medical (electronic ceramic parts of ultrasound machines, intravenous pumps, fetal monitors, and other surgical equipment), scientific (circuit boards for computers and other electronic circuitry), and military equipment (jet turbine engine blades, military tracking systems).

Most lead used by industry comes from mined ores ("primary") or from recycled scrap metal or batteries ("secondary"). Human activities (such as use of "leaded" gasoline) have spread lead and substances that contain lead to all parts of the environment. For example, lead is in air, drinking water, rivers, lakes, oceans, dust, and soil. Lead is also in plants and animals that humans may eat.

WHAT HAPPENS TO LEAD WHEN IT ENTERS THE ENVIRONMENT?

Lead occurs naturally in the environment. However, most of the lead dispersed throughout the environment comes from human activities. Before the use of leaded gasoline was limited, most of the lead released into

the U.S. environment came from car exhaust. Since the EPA has limited the use of leaded gasoline, the amount of lead released into the air has decreased. In 1979, cars released 94.6 million kilograms (kg) of lead into the air in the United States. In contrast, in 1989 cars released only 2.2 million kg to the air. Other sources of lead released to the air include burning fuel, such as coal or oil, industrial processes, and burning solid waste.

The release of lead to air is now less than the release of lead to soil. Most of the lead in inner city soils comes from landfills and leaded paint. Landfills contain waste from lead ore mining, ammunition manufacturing, and from other industrial activities such as battery production. Very little lead goes directly into water.

Higher levels of lead from car exhausts can be measured near roadways. Very low levels of lead from car exhausts are found at distances of 25 meters (about 80 feet) from the road edge. However, once lead goes into the atmosphere, it may travel thousands of miles if the lead particles are small or if the lead compounds are volatile. Lead is removed from the air by rain as well as by particles falling to the ground or into surface water. Once lead deposits on soil, it usually sticks to soil particles. Small amounts of lead may enter rivers, lakes, and streams when soil particles are displaced by rainwater. Lead may remain stuck to soil particles in water for many years. Movement of lead from soil particles into underground water or drinking water is unlikely unless the water is acidic or "soft."

Some of the chemicals that contain lead are broken down by sunlight, air, and water to other forms of lead. Lead compounds in water may combine with different chemicals depending on the acidity and temperature of the water. The lead atom cannot be broken down.

The levels of lead may build up in plants and animals from areas where air, water, or soil are contaminated with lead. If animals eat contaminated plants or animals, most of the lead that they eat will pass through their bodies. It is the small amount absorbed that can cause harmful effects.

HOW MIGHT I BE EXPOSED TO LEAD?

People living near hazardous waste sites can be exposed to lead and chemicals that contain lead by breathing air, drinking water, eating foods, or swallowing or touching dust or dirt that contains lead. For people who do not live near hazardous waste sites, most exposure to lead occurs by eating foods that contain lead, occupationally in brass/bronze foundries, or in areas where leaded paints exist. Foods such as fruits, vegetables, meats grains, seafood, soft drinks, and wine may have lead in them. Cigarettes also contain small amounts of lead. In general, very little lead is in drinking water. More than 99% of all drinking water contains less than 0.005 part of lead per million parts of water (ppm). However, the amount of lead taken into your body through drinking water can be higher in communities with acidic water supplies. Acidic water can make the lead found in lead pipes, solder, and brass faucets enter water. Eating lead-based paint chips or dust is another way you can be exposed to lead. These two latter routes are particularly relevant to children in lower-income urbanized populations. For occupationally exposed individuals, the predominant route of exposure is the inhalation of lead particles.

Exposure to gasoline additives that contain lead can happen while you are pumping leaded gasoline, from sniffing leaded gasoline, and possibly during the use of some do-it-yourself fuel additives. For people who are exposed to lead at work, the largest source of exposure comes from breathing air that contains lead. Breathing or swallowing dust and dirt that has lead in it is another way you can be exposed to lead. Children, especially those who are preschool age, can have a lot of lead exposure because they put many things into their mouths. Their hands, toys, and other items may have lead-containing dirt on them. In some cases, children swallow nonfood items such as paint chips and dirt ("pica"). These items may contain very large amounts of lead, particularly in and around older houses that were painted with lead-based paint. The paint in these houses often chips off and mixes with dust and dirt. Some old paint (when it is dry) is 5-40% lead. Skin contact with dust and dirt containing lead occurs every day. However, not much lead can get into

your body through your skin. During normal use of lead-containing products, very little lead gets on your skin.

The burning of gasoline has been the single largest source (90%) of lead in the atmosphere since the 1920s. A lot less lead in the air comes from gasoline now because EPA reduced the amount of lead that can be used in gasoline. Less than 35% of the lead released to the air now comes from gasoline. Other sources of lead in the air include releases to the air from industries involved in iron and steel production, lead-acid-battery manufacturing, brass foundries, and manufacturing of tetraethyl and tetramethyl lead, the latter two being very volatile. Lead released into air may also come from burning of solid waste, windblown dust, volcanoes, exhaust from workroom air, burning or weathering of lead-painted surfaces, and cigarette smoke.

Sources of lead in drinking water include lead that can come out of lead pipes, faucets, and solder used in plumbing. Lead-containing plumbing may be found in public drinking water systems, in houses, apartment buildings, and public buildings. Sources of lead in surface water or sediment include deposits of lead-containing dust from the atmosphere, waste water from industries that handle lead (primarily iron and steel industries and lead producers), and urban runoff.

Sources of lead in food and beverages include deposition of lead-containing dust from the atmosphere on crops and during food processing and uptake of lead from soil by plants. Lead may also enter foods when foods are put into improperly glazed pottery and ceramic dishes and leaded-crystal glassware. Illegal whiskey made using stills that contain lead-soldered parts (such as truck radiators) may also contain lead. The potential for exposure to lead in canned food from lead-soldered containers is greatly reduced because the content of lead in canned foods has decreased 87% from 1980 to 1988. Lead may also be released from soldered joints in kettles used to boil water for beverages.

Sources of lead in dust and soil include deposition of atmospheric lead and weathering and deterioration of lead-based paint. Lead in dust may also come from windblown soil. Disposal of lead in municipal and hazardous waste dump sites also adds lead to soil.

Exposure to lead occurs in many jobs. People employed in lead smelting and refining industries, brass/bronze foundries, rubber products and plastics industries, soldering, steel welding and cutting operations, battery manufacturing plants, and alkyl lead manufacturing industries may be exposed to lead. People who work at gasoline stations, in construction work, and at do-it-yourself renovations, or who work at municipal waste incinerators, pottery and ceramics industries, radiator repair shops, and other industries that use lead solder may also be exposed. Between 0.5 and 1.5 million workers are exposed to lead in the workplace; in California alone over 200,000 workers are exposed to lead. Families of workers may be exposed to elevated levels of lead when workers bring home lead dust on their work clothes. You may also be exposed to lead in the home if you work with stained glass as a hobby, or if you are involved in home renovation that involves the removal of old lead-based paint.

HOW CAN LEAD ENTER AND LEAVE MY BODY?

Some of the lead that enters your body comes from breathing in lead dust or chemicals that contain lead. Once this lead gets into your lungs, it goes quickly to other parts of the body in your blood.

You may swallow a lot of lead by eating food and drinking liquids that contain it. Most of the lead that enters your body comes through swallowing, even though very little of the amount you swallow actually enters your blood and other parts of your body. The amount that gets into your body from your stomach partially depends on when you ate your last meal. It also depends on how old you are and how well the lead particles you ate dissolved in your stomach juices. Experiments in adult volunteers showed that the amount of lead that got into the body from the stomach was only about 6% in adults who had just eaten. In adults who had not eaten for a day, about 60-80% of the lead from the stomach got into their blood. On the other

hand, 50% of the lead swallowed by children enters the blood and other body parts even if their stomachs are full.

Frequent skin contact with lead in the form of lead-containing dusts and soil can result in children swallowing lead through hand-to-mouth behavior. In adults, only a small portion of the lead will pass through your skin and enter your body if it is not washed off after skin contact. More lead can pass through your skin if it is damaged. Certain types of lead compounds, however, may penetrate your skin.

Shortly after lead gets into your body, lead travels in the blood to the "soft tissues," (such as the liver, kidneys, lungs, brain, spleen, muscles, and heart). After several weeks most of the lead then moves into your bones and teeth. In adults, about 94% of the total amount of lead in the body is contained in their bones and teeth. Children, on the other hand, have only about 73% of the lead in their bodies stored in their bones. The rest is in their soft tissues and blood. Part of the lead can stay in your bones for decades. Part of the lead can leave your bones and may reenter your blood and organs at a later time.

Your body does not change lead atoms into any other form. Once it is taken in and distributed to your organs, the lead that is not stored in your bones leaves your body in your urine or your feces. About 99% of the amount of lead that you take into your body will leave in your waste within a couple of weeks, but only about 32% of the lead taken into the body of children will leave in the waste.

HOW CAN LEAD AFFECT MY HEALTH?

Exposure to lead can be particularly dangerous for unborn children because of their great sensitivity during development. Exposure to lead can also be dangerous for young children because they swallow more lead through normal mouthing activity, take more of the lead that they swallow into their bodies, and are more sensitive to its effects. Unborn children can be exposed to lead through their mothers. This may cause premature births, smaller babies, and decreased mental ability in the infant. Lead exposure may also decrease intelligence quotient (IQ) scores and reduce the growth of young children. These effects have been seen more often following exposure to high levels of lead, than following exposure to low levels of lead.

In adults, lead exposure may decrease reaction time and possibly affect the memory. Lead exposure may also cause weakness in your fingers, wrists, or ankles. Lead exposure may increase blood pressure in middle-aged men. It is not known whether lead has an effect on blood pressure in women. Lead exposure may also cause anemia, a disorder of the blood. The connection between the occurrence of these effects and low lead exposures is not certain. At high levels of exposure, lead can severely damage the brain and kidneys in adults or children. In addition, high levels of exposure to lead may cause abortion and damage the male reproductive system (the organs responsible for sperm production). The effects of lead are the same regardless of whether it enters the body through breathing or swallowing.

Kidney tumors have developed in rats and mice given large doses of lead. We have no proof that lead causes cancer in humans. Furthermore, the animal studies have been criticized by a panel of EPA scientists because of the very high doses used, among other things, and should not be used to predict what may happen in humans. The Department of Health and Human Services has determined that lead acetate and lead phosphate may reasonably be anticipated to be carcinogens based on these studies in animals, hut that there is inadequate evidence for the carcinogenicity of these lead compounds in humans.

IS THERE A MEDICAL TEST TO DETERMINE WHETHER I HAVE BEEN EXPOSED TO LEAD?

The amount of lead in the blood can be measured to determine if exposure to lead has occurred. This test can give a rough measure of how much lead one has been exposed to. Methods to measure lead in teeth or bones by X-ray techniques, although not widely accessible, also are available. Exposure to lead in the blood can be evaluated by measuring erythrocyte protoporphyrin (EP). EP is a part of red blood cells known to increase when the amount of lead in the blood is high. This method is commonly used to screen children for potential chronic lead poisoning. The Centers for Disease Control and Prevention (CDC) considers children to have an elevated level if the amount of lead in the blood is at least 10 micrograms per deciliter (mg/dL). Medical treatment to lower blood levels has been done if the lead concentrations in blood are higher than 55 mg/dL in children or higher than 70 mg/dL in adults.

WHAT RECOMMENDATIONS HAS THE FEDERAL GOVERNMENT MADE TO PROTECT HUMAN HEALTH?

The CDC recommends that all children should be screened for lead poisoning at least once a year. This is especially important for children between the ages of 6 months and 6 years. A child with an EP level of 35 mg/dL or greater should he tested for blood lead level. A child with a blood lead level of 20 mg/dL or greater should be tested by their doctors for symptoms of lead poisoning.

EPA requires that the concentration of lead in air that the public breathes shall not exceed 1.5 micrograms per cubic meter (mg/m3) averaged over 3 months. EPA regulations now limit the level of lead in leaded gasoline to 0.1 grams per gallon (0.1 g/gal) and the level in unleaded gasoline to 0.05 g/gal. According to the Clean Air Act Amendments (CAAA) of 1990, the sale of leaded gasoline will be illegal as of December 31, l995.

EPA regulations also limit lead in drinking water to 0.015 milligrams per liter (mg/L). The Consumer Product Safety Commission (CPSC), EPA, and the states are required by the 1988 Lead Contamination Control Act to deal with the problem of lead in drinking water coolers by requiring that water coolers containing lead be recalled or repaired and that new coolers be lead-free. In addition, drinking water in schools must be tested for lead and the sources of lead in this water must be removed.

To help protect small children, the CPSC requires that the concentration of lead in most paints available through normal consumer channels be not more than 0.06%. The CDC recommends that inside and outside painted surfaces of dwellings be tested for lead, and that surfaces containing lead equal to or greater than 0.7 milligram per square centimeter (mg/cm2) of surface area be stripped and repainted according to a four-step paint removal and replacement protocol. This is necessary because stripping can release fine particles of lead that can cause lead poisoning.

The Department of Housing and Urban Development (HUD) requires that federally funded housing and renovations, public housing, and Indian housing be tested for lead-based paint hazards and that such hazards be fixed by covering the paint or removing it. HUD is carrying out demonstration projects to determine the best ways of covering or removing this paint in housing.

The Occupational Safety and Health Administration (OSHA) regulations limit the concentration of lead in workroom air to 50 mg/m3 for an 8-hour workday. If a worker has a blood lead level of 40 mg/dL, then OSHA requires that worker be removed from the workroom where lead exposure is occurring.

POLYCYCLIC AROMATIC HYDROCARBONS (PAHS): PUBLIC HEALTH STATEMENT

This statement was prepared to give you information about polycyclic aromatic hydrocarbons (PAHs) and to emphasize the human health effects that may result from exposure to them. The Environmental Protection Agency (EPA) has identified 1,408 hazardous waste sites as the most serious in the nation. These sites make up the National Priorities List (NPL) and are the sites targeted for long-term federal clean-up activities. PAHs have been found in at least 600 of the sites on the NPL. However, the number of NPL sites evaluated for PAHs is not known. As EPA evaluates more sites, the number of sites at which PAHs are found may increase. This information is important because exposure to PAHs may cause harmful health effects and because these sites are potential or actual sources of human exposure to PAHs.

When a substance is released from a large area, such as an industrial plant, or from a container, such as a drum or bottle, it enters the environment. This release does not always lead to exposure. You can be exposed to a substance only when you come in contact with it. You may be exposed by breathing, eating, or drinking substances containing the substance or by skin contact with it.

If you are exposed to substances such as PAHs, many factors will determine whether harmful health effects will occur and what the type and severity of those health effects will be. These factors include the dose (how much), the duration (how long), the route or pathway by which you are exposed (breathing, eating, drinking, or skin contact), the other chemicals to which you are exposed, and your individual characteristics such as age, sex, nutritional status, family traits, lifestyle, and state of health.

WHAT ARE POLYCYCLIC AROMATIC HYDROCARBONS?

PAHs are a group of chemicals that are formed during the incomplete burning of coal, oil, gas, wood, garbage, or other organic substances, such as tobacco and charbroiled meat. There are more than 100 different PAHs. PAHs generally occur as complex mixtures (for example, as part of combustion products such as soot), not as single compounds. PAHs usually occur naturally, but they can be manufactured as individual compounds for research purposes; however, not as the mixtures found in combustion products. As pure chemicals, PAHs generally exist as colorless, white, or pale yellow- green solids. They can have a faint, pleasant odor. A few PAHs are used in medicines and to make dyes, plastics, and pesticides. Others are contained in asphalt used in road construction. They can also be found in substances such as crude oil, coal, tar pitch, creosote, and roofing tar. They are found throughout the environment in the air, water, and soil. They can occur in the air, either attached to dust particles or as solids in soil or sediment.

Although the health effects of individual PAHs are not exactly alike, the following 17 PAHs are considered as a group in this profile:

- acenaphthene
- acenaphthylene
- anthracene
- benz[a]anthracene
- benzo[a]pyrene
- benzo[e]pyrene
- benzo[b]fluoranthene
- benzo[g,h,i]perylene
- benzo[j]fluoranthene
- benzo[k]fluoranthene
- chrysene
- dibenz[a,h]anthracene
- fluoranthene
- fluorene

• indeno[1,2,3-c,d]pyrene
• phenanthrene
• pyrene

These 17 PAHs were chosen to be included in this profile because (1) more information is available on these than on the others; (2) they are suspected to be more harmful than some of the others, and they exhibit harmful effects that are representative of the PAHs; (3) there is a greater chance that you will be exposed to these PAHs than to the others; and (4) of all the PAHs analyzed, these were the PAHs identified at the highest concentrations at NPL hazardous waste sites.

WHAT HAPPENS TO POLYCYCLIC AROMATIC HYDROCARBONS WHEN THEY ENTER THE ENVIRONMENT?

PAHs enter the environment mostly as releases to air from volcanoes, forest fires, residential wood burning, and exhaust from automobiles and trucks. They can also enter surface water through discharges from industrial plants and waste water treatment plants, and they can be released to soils at hazardous waste sites if they escape from storage containers. The movement of PAHs in the environment depends on properties such as how easily they dissolve in water, and how easily they evaporate into the air. PAHs in general do not easily dissolve in water. They are present in air as vapors or stuck to the surfaces of small solid particles. They can travel long distances before they return to earth in rainfall or particle settling. Some PAHs evaporate into the atmosphere from surface waters, but most stick to solid particles and settle to the bottoms of rivers or lakes. In soils, PAHs are most likely to stick tightly to particles. Some PAHs evaporate from surface soils to air. Certain PAHs in soils also contaminate underground water. The PAH content of plants and animals living on the land or in water can be many times higher than the content of PAHs in soil or water. PAHs can break down to longer-lasting products by reacting with sunlight and other chemicals in the air, generally over a period of days to weeks. Breakdown in soil and water generally takes weeks to months and is caused primarily by the actions of microorganisms.

HOW MIGHT I BE EXPOSED TO POLYCYCLIC AROMATIC HYDROCARBONS?

PAHs are present throughout the environment, and you may be exposed to these substances at home, outside, or at the workplace. Typically, you will not be exposed to an individual PAH, but to a mixture of PAHs.

In the environment, you are most likely to be exposed to PAH vapors or PAHs that are attached to dust and other particles in the air. Sources include cigarette smoke, vehicle exhausts, asphalt roads, coal, coal tar, wildfires, agricultural burning, residential wood burning, municipal and industrial waste incineration, and hazardous waste sites. Background levels of some representative PAHs in the air are reported to be 0.02-1.2 nanograms per cubic meter (ng/m3; a nanogram is one-millionth of a milligram) in rural areas and 0.15-19.3 ng/m3 in urban areas. You may be exposed to PAHs in soil near areas where coal, wood, gasoline, or other products have been burned. You may be exposed to PAHs in the soil at or near hazardous waste sites, such as former manufactured-gas factory sites and wood-preserving facilities. PAHs have been found in some drinking water supplies in the United States. Background levels of PAHs in drinking water range from 4 to 24 nanograms per liter (ng/L; a liter is slightly more than a quart).

In the home, PAHs are present in tobacco smoke, from wood fires, creosote-treated wood products, cereals, grains, flour, bread, vegetables, fruits, meat, processed or pickled foods, and contaminated cow's milk or human breast milk. Food grown in contaminated soil or air may also contain PAHs. Cooking meat or other food at high temperatures, which happens during grilling or charring, increases the amount of PAHs in the food. The level of PAHs in the typical U.S. diet is less than 2 parts of total PAHs per billion parts of food (ppb), or less than 2 micrograms per kilogram of food (mg/kg; a microgram is one-thousandth of a milligram).

The primary sources of exposure to PAHs for most of the U.S. population are inhalation of the compounds in tobacco smoke, wood smoke, and ambient air, and consumption of PAHs in foods. For some people, the primary exposure to PAHs occurs in the workplace. PAHs have been found in coal tar production plants, coking plants, bitumen and asphalt production plants, coal-gasification sites, smoke houses, aluminum production plants, coal tarring facilities, and municipal trash incinerators. Workers may be exposed to PAHs by inhaling engine exhaust and by using products that contain PAHs in a variety of industries such as mining, oil refining, metalworking, chemical production, transportation, and the electrical industry. PAHs have also been found in other facilities where petroleum, petroleum products, or coal are used or where wood, cellulose, corn, or oil are burned. People living near waste sites containing PAHs may be exposed through contact with contaminated air, water, and soil.

HOW CAN POLYCYCLIC AROMATIC HYDROCARBONS ENTER AND LEAVE MY BODY?

PAHs can enter your body through your lungs when you breathe air that contains them (usually stuck to particles or dust). Cigarette smoke, wood smoke, coal smoke, and smoke from many industrial sites may contain PAHs. People living near hazardous waste sites can also be exposed by breathing air containing PAHs. However, it is not known how rapidly or completely your lungs absorb PAHs. Drinking water and swallowing food, soil, or dust particles that contain PAHs are other routes for these chemicals to enter your body, but absorption is generally slow when PAHs are swallowed. Under normal conditions of environmental exposure, PAHs could enter your body if your skin comes into contact with soil that contains high levels of PAHs (this could occur near a hazardous waste site) or with used crankcase oil or other products (such as creosote) that contain PAHs. The rate at which PAHs enter your body by eating, drinking, or through the skin can be influenced by the presence of other compounds that you may be exposed to at the same time with PAHs. PAHs can enter all the tissues of your body that contain fat. They tend to be stored mostly in your kidneys, liver, and fat. Smaller amounts are stored in your spleen, adrenal glands, and ovaries. PAHs are changed by all tissues in the body into many different substances. Some of these substances are more harmful and some are less harmful than the original PAHs. Results from animal studies show that PAHs do not tend to be stored in your body for a long time. Most PAHs that enter the body leave within a few days, primarily in the feces and urine.

HOW CAN POLYCYCLIC AROMATIC HYDROCARBONS AFFECT MY HEALTH?

PAHs can be harmful to your health under some circumstances. Several of the PAHs, including benz[a]anthracene, benzo[a]pyrene, benzo[b]fluoranthene, benzo[j]fluoranthene, benzo[k]fluoranthene, chrysene, dibenz[a,h]anthracene, and indeno[1,2,3-c,d]pyrene, have caused tumors in laboratory animals when they breathed these substances in the air, when they ate them, or when they had long periods of skin contact with them. Studies of people show that individuals exposed by breathing or skin contact for long periods to mixtures that contain PAHs and other compounds can also develop cancer.

Mice fed high levels of benzo[a]pyrene during pregnancy had difficulty reproducing and so did their offspring. The offspring of pregnant mice fed benzo[a]pyrene also showed other harmful effects, such as birth defects and decreased body weight. Similar effects could occur in people, but we have no information to show that these effects do occur.

Studies in animals have also shown that PAHs can cause harmful effects on skin, body fluids, and the body's system for fighting disease after both short-and long-term exposure. These effects have not been reported in people.

The Department of Health and Human Services (DHHS) has determined that benz[a]anthracene, benzo[b]fluoranthene, benzo[j]fluoranthene, benzo[k]fluoranthene, benzo[a]pyrene, dibenz[a,h]anthracene, and indeno[1,2,3-c,d]pyrene are known animal carcinogens. The International Agency for Research on Cancer (IARC) has determined the following: benz[a]anthracene and benzo[a]pyrene are probably carcinogenic to humans; benzo[b]fluoranthene, benzo[j]fluoranthene, benzo[k]fluoranthene, and

indeno[1,2,3-c,d]pyrene are possibly carcinogenic to humans; and anthracene, benzo[g,h,i]perylene, benzo[e]pyrene, chrysene, fluoranthene, fluorene, phenanthrene, and pyrene are not classifiable as to their carcinogenicity to humans. EPA has determined that benz[a]anthracene, benzo[a]pyrene, benzo[b]fluoranthene, benzo[k]fluoranthene, chrysene, dibenz[a,h]anthracene, and indeno[1,2,3-c,d]pyrene are probable human carcinogens and that acenaphthylene, anthracene, benzo[g,h,i]perylene, fluoranthene, fluorene, phenanthrene, and pyrene are not classifiable as to human carcinogenicity. Acenaphthene has not been classified for carcinogenic effects by the DHHS, IARC, or EPA.

IS THERE A MEDICAL TEST TO DETERMINE WHETHER I HAVE BEEN EXPOSED TO POLYCYCLIC AROMATIC HYDROCARBONS?

In your body, PAHs are changed into chemicals that can attach to substances within the body. The presence of PAHs attached to these substances can then be measured in body tissues or blood after exposure to PAHs. PAHs or their metabolites can also be measured in urine, blood, or body tissues. Although these tests can show that you have been exposed to PAHs, these tests cannot be used to predict whether any health effects will occur or to determine the extent or source of your exposure to the PAHs. It is not known how effective or informative the tests are after exposure is discontinued. These tests to identify PAHs or their products are not routinely available at a doctor's office because special equipment is required to detect these chemicals.

WHAT RECOMMENDATIONS HAS THE FEDERAL GOVERNMENT MADE TO PROTECT HUMAN HEALTH?

The federal government has set regulations to protect people from the possible health effects of eating, drinking, or breathing PAHs. EPA has suggested that taking into your body each day the following amounts of individual PAHs is not likely to cause any harmful health effects: 0.3 milligrams (mg) of anthracene, 0.06 mg of acenaphthene, 0.04 mg of fluoranthene, 0.04 mg of fluorene, and 0.03 mg of pyrene per kilogram (kg) of your body weight (one kilogram is equal to 2.2 pounds). Actual exposure for most of the United States population occurs from active or passive inhalation of the compounds in tobacco smoke, wood smoke, and contaminated air, and from eating the compounds in foods. Skin contact with contaminated water, soot, tar, and soil may also occur. Estimates for total exposure in the United States population have been listed as 3 mg/day.

From what is currently known about benzo[a]pyrene, the federal government has developed regulatory standards and guidelines to protect people from the potential health effects of PAHs in drinking water. EPA has provided estimates of levels of total cancer-causing PAHs in lakes and streams associated with a risk of human cancer development. If the following amounts of individual PAHs are released to the environment within a 24-hour period, EPA must be notified: 1 pound of benzo[b]fluoranthene, benzo[a]pyrene, or dibenz[a,h]anthracene; 10 pounds of benz[a]anthracene; 100 pounds of acenaphthene, chrysene, fluoranthene, or indeno[1,2,3-c,d]pyrene; or 5,000 pounds of acenaphthylene, anthracene, benzo[k]fluoranthene, benzo[g,h,i]perylene, fluorene, phenanthrene, or pyrene.

PAHs are generally not produced commercially in the United States except as research chemicals. However, PAHs are found in coal, coal tar, and in the creosote oils, oil mists, and pitches formed from the distillation of coal tars. The National Institute for Occupational Safety and Health. (NIOSH) concluded that occupational exposure to coal products can increase the risk of lung and skin cancer in workers. NIOSH established a recommended occupational exposure limit, time-weighted average (REL-TWA) for coal tar products of 0.1 milligram of PAHs per cubic meter of air (0.1 mg/m3 for a 10-hour workday, within a 40-hour workweek. The American Conference of Governmental Industrial Hygienists (ACGIH) recommends an occupational exposure limit for coal tar products of 0.2 mg/m3 for an 8-hour workday, within a 40-hour workweek. The Occupational Safety and Health Administration (OSHA) has established a legally enforceable limit of 0.2 mg/m3 averaged over an 8-hour exposure period.

Mineral oil mists have been given an IARC classification of 1 (sufficient evidence of carcinogenicity). The OSHA Permissible Exposure Limit (PEL) for mineral oil mist is 5 mg/m3 averaged over an 8-hour exposure period. NIOSH has concurred with this limit, and has established a recommended occupational exposure limit (REL-TWA) for mineral oil mists of 5 mg/m3 for a 10-hour work day, 40-hour work week, with a 10 mg/m3 Short Term Exposure Limit (STEL).

NEW MEXICO ENVIRONMENT DEPARTMENT TPH SCREENING GUIDELINES

Some sites with areas of soil contamination resulting from releases of petroleum products such as jet fuel and diesel wish to use total petroleum hydrocarbon (TPH) sampling results to delineate the extent of petroleum-related contamination at these sites and ascertain if the residual level of petroleum products does not represent an unacceptable risk to future users of the site. TPH results represent a complex mixture of compounds, some of which are regulated constituents and some compounds that are not regulated. In addition, the amount and types of the constituent compounds in TPH differ widely depending on which petroleum product was spilled and how the spill has weathered. This variability makes it difficult to determine the toxicity of weathered petroleum products in soil solely from TPH results. **Therefore, remediation of spills and corrective action sites cannot be based solely on results of TPH sampling; these TPH guidelines must be used in conjunction with the screening guidelines for individual petroleum-related contaminants in Table 3 and other contaminants as applicable.**

The screening levels for each petroleum carbon range from the Massachusetts Department of Environmental Protection (MADEP) Volatile Petroleum Hydrocarbons/Extractable Petroleum Hydrocarbons (VPH/EPH) approach and the percent composition table below were used to generate screening levels corresponding to total TPH. Except for waste oil, the information in the compositional assumptions table was obtained from Table 5-1 of the Massachusetts Department of Environmental Protection guidance document *Implementation of the MADEP VPH/EPH Approach Final Draft June 2001*. TPH toxicity was based only on the weighted sum of the toxicity of the hydrocarbon fractions listed in Table 1.

Table 1: TPH Compositional Assumptions in Soil

Petroleum Product	C11-C22 Aromatics	C9-C18 Aliphatics	C19-C36 Aliphatics
Diesel #2/ new crankcase oil	60%	40%	0%
#3 and #6 Fuel Oil	70%	30%	0%
Kerosene and jet fuel	30%	70%	0%
Mineral oil dielectric fluid	20%	40%	40%
Unknown oil [a]	100%	0%	0%
Waste Oil[b]	0%	0%	100%

[a] Sites with oil from unknown sources must be tested for VOCs, SVOCs, metals, and PCBs to determine if other potentially toxic constituents are present. The TPH guidelines in Table 2 are not designed to be protective of exposure to these constituents therefore they must be tested for, and compared to, their individual NMED soil screening guidelines.

[b] Compositional assumption for waste oil developed by NMED is based on review of chromatographs of several types of waste oil. Sites with waste oil must be tested for VOCs, SVOCs, metals, and PCBs to determine if other potentially toxic constituents are present. The TPH guidelines in Table 2 are not designed to be protective of exposure to these constituents therefore they must be tested for, and compared to, their individual NMED soil screening guidelines.

A TPH screening guideline was calculated for each of the types of petroleum product based on the assumed composition from the above table for petroleum products and the direct soil standards incorporating ceiling concentrations given in the MADEP VPH/EPH Excel spreadsheet for each of the carbon fractions. Ground water concentrations are based on the weighted sum of the noncarcinogenic toxicity of the petroleum fractions assuming the water is drinking water.

Table 2: TPH Screening Guidelines

	TPH		
Petroleum Product	Residential Direct Exposure (mg/kg)	Industrial Direct Exposure (mg/kg)	Concentration in Ground Water (mg/L)
Diesel #2/crankcase oil	880	2200	1.8
#3 and #6 Fuel Oil	860	2150	1.4
Kerosene and jet fuel	940	2350	3.0
Mineral oil dielectric fluid	1560	3400	3.7
Unknown oil [a]	800	2000	2.3
Waste Oil[b]	2500	5000	Petroleum-Related Contaminants
Gasoline	Not applicable	Not applicable	Petroleum-Related Contaminants

Mineral oil based hydraulic fluids can be evaluated for petroleum fraction toxicity using the screening guidelines from Table 2 specified for waste oil, because this type of hydraulic fluid is composed of approximately the same range of carbon fractions as waste oil. However, these hydraulic fluids often contain proprietary additives that may be significantly more toxic than the oil itself; these additives must be considered on a site- and product-specific basis (see ATSDR hydraulic fluids profile reference). **Use of alternate screening guideline values requires prior written approval from the New Mexico Environment Department.** TPH screening guidelines in Table 2 must be used in conjunction with the screening levels for petroleum-related contaminants given in Table 3 because the TPH screening levels are NOT designed to be protective of exposure to these individual petroleum-related contaminants. Table 3 petroleum-related contaminants screening levels are based on the New Mexico Environment Department soil screening levels (NMED SSLs) released in December of 2000.

The list of petroleum-related contaminants does not include PAHs with individual screening levels that would exceed the total TPH screening levels (acenaphthene, anthracene, flouranthene, flourene, and pyrene). In addition, these TPH screening guidelines are based solely on human health, not ecological risk considerations, protection of surface water, or potential indoor air impacts from soil vapors. Potential soil vapor impacts to structures or utilities are not addressed by these guidelines. Site-specific investigations for potential soil vapor impacts to structures or utilities must be done to assure that screenings are consistently protective of human health, welfare or use of the property. NMED believes that use of these screening guidelines will allow more efficient screenings of petroleum release sites at sites while protecting human health and

the environment. Copies of the references cited below are available on the MADEP website at http://www.state.ma.us/dep/bwsc/vph_eph.htm and the NMED website at http://www.nmenv.state.nm.us/HWB/guidance.html.

Table 3. Petroleum-Related Contaminants Screening Guidelines

Petroleum-Related Contaminants	Values for Direct Exposure to Soil		NMED DAF 20 GW protection (mg/kg in soil)	NMED DAF 1[f] GW protection (mg/kg in soil)
	NMED residential SSL (mg/kg)	NMED Indus. SSL (mg/kg)		
Benzene	6	14	0.06	0.003
Toluene	180	180	5	0.2
Ethyl benzene	68	68	8	0.4
Xylene	63	63	100	5
Naphthalene	53	180	0.2	0.01
2-methyl naphthalene	1000[e]	2500[e]	---[e]	---[e]
Benzo(a)anthracene	6.2	26	40	2
Benzo(b)fluoranthene	6.2	26	20	0.8
Benzo(k)fluoranthene	62	260	200	8
Benzo(a)pyrene	0.62	2.6	100	6
Chrysene	610	2500	1000	50
Dibenz(a,h) anthracene	0.62	2.6	9	0.5
Indeno(1,2,3-c,d) pyrene	6.2	26	40	2

[e] no NMED value available, value taken from MADEP paper

[f] for contaminated soil in contact with ground water

References

Agency for Toxic Substances and Disease Registry (ATSDR). 1997. Toxicological Profile for Hydraulic fluids.

Massachusetts Department of Environmental Protection, Bureau of Waste Site Cleanup and Office of Research and Standards. 1994. "Background Documentation for the Development of the MCP Numerical Standards."

Massachusetts Department of Environmental Protection, Bureau of Waste Site Cleanup and Office of Research and Standards. 2001. "Characterizing Risks Posed by Petroleum

Contaminated Sites: Implementation of the MADEP VPH/EPH Approach Final Draft June 2001."

New Mexico Environment Department, Hazardous Waste Bureau and Ground Water Quality Bureau Voluntary Remediation Program. 2000. "Technical Background Document for Development of Soil Screening Levels." Document # NMED-00-008.

APPENDIX G HEALTH AND SAFETY PLAN

Terracon

SAFETY AND HEALTH PLAN

INTRUSIVE ENVIRONMENTAL ASSESSMENT
PETROLEUM, METALS, ASBESTOS AND PCB CONTAMINATION ANTICIPATED

OLD LOCOMOTIVE SHOPS, LLC UNION DEVELOPMENT CORPORATION OPTIONS
FORMER AT&SF/BNSF CO. CWE FACILITY
ALBUQUERQUE, BERNALILLO COUNTY, NEW MEXICO

Terracon Project No. 66057007
Start Date: September 12, 2005

1.0 APPLICABILITY

This Safety and Health Plan (Plan) will govern the activities of Terracon personnel engaged in subsurface evaluation and sample collection at the above referenced site. The purpose of this plan is to prevent adverse health effects from potential contaminants and safety hazards which may be present at this site.

2.0 SAFETY AND HEALTH ADMINISTRATION

The Project Manager will be ultimately responsible for ensuring that work is performed in general accordance with the safety and health provisions contained in this safety and health plan (Plan). The designated Site Safety and Health Officer (SSO) will monitor compliance with this Plan during field activities. All field team members engaged in project activities will be required to sign the Plan "Acknowledgment of Instruction" form. The SSO will ensure that a copy of this Plan is available on site for the duration of project activities.

Subcontractors engaged in project activity at this site will comply applicable provisions of the Occupational Safety and Health Act of 1970, the safety and health requirements set forth in Occupational Safety and Health Administration regulation 29 CFR 1910.120, where applicable, and any applicable state, city or local safety codes. Each subcontractor will be responsible for supplying and utilizing necessary equipment required for safety precautions for the subcontractor's employees engaged in this project.

The subcontractor shall maintain an orderly and safe work area around drilling/excavation equipment to minimize the potential for accidents. In addition, the subcontractor shall provide whatever safety barricades or warning devices are deemed necessary by Terracon to prevent accidents or injury to field personnel and the general public.

Subcontractors engaged on this project site may utilize this site Safety and Health Plan for their employees, or each subcontractor may develop and utilize their own site Safety and Health Plan provided the provisions of the subcontractor's site Safety and Health Plan are at least as stringent as the requirements contained in this Plan. Decisions regarding equivalence of safety and health requirements shall be made by Terracon Project Manager and Corporate Safety and Health Manager. Adoption of this Site Safety and Health Plan by subcontract employers shall not relieve any site subcontractor of the responsibility for the health and safety of its employees.

Terracon and subcontractor task leaders (if any) will be responsible for:

- Providing subordinate personnel a copy of this Plan, and briefing them on its content.
- Enforcing the applicable provisions of this Plan.
- Inspecting and maintaining equipment in compliance with applicable federal, state or local safety regulations.
- Enforcement of corrective actions.
- Investigation of accidents or injuries.

The individuals listed below will be responsible for implementation and enforcement of the Plan.

TITLE	NAME	PHONE
Project Manager:	Mary E. Wells, P.E.	505.642.6196
Terracon Safety and Health Manager:	Gary K. Bradley, CSP, CHMM	913.599.6886
Site Safety and Health Officer:	Mary E. Wells	505.642.6196
Terracon Task Leader(s):	Edward James	505.642.6196
	Han Lei	505.320.6187
	John Zellmer	505.239.9305
	Fred Small	505.644.7917
	Victoria Trujillo	505.642.6196

If hazardous conditions develop or appear imminent during the course of project activity, the SSO in conjunction with the Terracon Corporate Safety and Health Manager will coordinate actions required to safeguard site personnel and members of the general public. Additional safety measures will be verbally communicated to all project personnel, recorded in writing and appended to this Plan.

3.0 MEDICAL SURVEILLANCE REQUIREMENTS

All Terracon personnel participating in this project shall be enrolled in a health monitoring program in accordance with the provisions of OSHA 29 CFR 1910.120 and 1910.134. Each project participant shall be certified by a Doctor of Medicine as fit for respirator and semi-permeable/impermeable protective equipment use. All field personnel shall have received an

environmental physical examination within one year prior to the start of project activities. The content of acceptable physical examinations will be determined by a consulting physician.

Follow-up medical examinations will also be provided in the event of job site injury or unprotected exposure to contaminants in excess of eight-hour time weighted average permissible exposure limits.

4.0 EMPLOYEE TRAINING REQUIREMENTS

All Terracon personnel, must have completed 40 hour Hazardous Waste Operations Training and at least three days of supervised field activity per requirements of OSHA 29 CFR 1910.120. In addition, a current 8-hour annual refresher training certificate will be required for all personnel. Training certificates for all project personnel will be maintained by the Corporate Safety and Health Manager.

Prior to the start of site activities, project personnel will participate in a pre-project safety and health briefing outlining the contents of this Plan. A discussion of site hazardous materials, air monitoring protocols, action levels for upgrade/downgrade of personal protective equipment and level of protection to be employed for each project task will be addressed. Periodic "tailgate" safety and health briefings will be presented by the SSO at the start of each work day. In addition to a general review of the proposed daily activity and safety requirements, the results of previous air monitoring and any procedural changes will be addressed.

5.0 RESPIRATORY PROTECTION PROGRAM

The purpose of the Terracon Respiratory Protection Program is to prevent exposure to airborne contaminants in excess of permissible exposure limits and prevent adverse health effects. All respirators employed on site will be NIOSH approved. Cartridges and filters for air purifying respirators will be appropriate for the contaminant(s) of concern. Cartridge/filter selection will be made by the Terracon Corporate Safety and Health Manager.

Project personnel required to wear respiratory protection will be medically cleared for respirator use, trained and successfully fit tested in accordance with OSHA 29 CFR 1910.134. Personnel required to wear supplied air respirators will demonstrate competence in donning/doffing and inspecting the equipment prior to job assignment. All projects requiring the use of respirators will require properly equipped backup personnel ("buddy system").

At a minimum, air purifying respirator cartridges will be changed daily prior to use. More frequent change of respirator cartridges will be based on the results of site air monitoring. Under no circumstances will air purifying respirators be used in areas deficient in oxygen (<19.5%), in

areas classified as immediately dangerous to life and health (IDLH) or in areas where contaminants have not been characterized. Respirators will be inspected and required fit checks will be performed prior to use. Any necessary repairs will be made before proceeding to the project site.

6.0 SITE HISTORY/ SCOPE OF SERVICES

The purpose of the site characterization activities described herein is to assist in meeting the VRP requirement of characterization of the extent of soil impacts associated with historical site operations and development of the preferred remedial alternative and associated costs.

More specifically, project objectives include evaluation of the extent of soil impacts through characterization by excavation procedures, intrusive sampling, and quantitative field heavy hydrocarbon, XRF and laboratory analyses. In addition, Terracon will evaluate potential implications associated with identified conditions and current and prospective land uses. Specific objectives are indicated in the following:

1. Characterize potential historical and current source areas including the wood-block floor within the main machine shop;
2. Refine the vertical and horizontal extent of heavy hydrocarbon and lead contamination in the site soils through characterization by additional subsurface auger borings or through excavation procedures utilizing a backhoe;
3. Assess the potential for asbestos containing materials (ACM) in the building areas that have not been previously sampled;
4. Assess the potential and its condition, if applicable, for lead-based paint (LBP) in the on-site structures;
5. Establish the ownership of the on-site transformer and assess the potential for PCB in the transformer oil and in the surrounding soil;
6. Assess the benzene and PAH concentrations in the groundwater during the investigation and upon completion of hydrocarbon impacted soil removal;
7. Re-calculate volumes of hydrocarbon and lead impacted soils estimated by Dames & Moore, Inc. (05/25/00) and PCB impacted soils (if encountered); and
8. Re-evaluate costs developed by Dames and Moore, Inc. (05/25/00) to remediate the site.

Based on previous assessment findings and available information, several specific areas within the site property boundary have been targeted for additional investigation. The targeted areas and rationale for further investigation are discussed in the following paragraphs.

Previous assessment activities have identified lead impacts to surface soils in the former sandblasting area on the east portion of the site; in the battery storage area directly adjacent to the machine shop; and the roundhouse area. Available data do not indicate that impacts extend to depths greater than four feet below ground surface (and appear to be generally less than two feet below ground surface), and do not extend laterally greater than 150 feet. The presence or absence of lead based paint within the on-site structures has not been ascertained. The soils areas with lead concentrations exceeding the USEPA residential risk target cleanup level of 400 mg/kg will need to be refined to develop updated remediation costs.

Previous assessment activities have identified significant total petroleum hydrocarbon (TPH) impacted soils in the fueling area located generally south of the roundhouse and in the area of the old fuel oil underground storage tank (UST) located north of the CWE shop. These samples did not contain high concentrations of polynuclear aromatic hydrocarbons (PAH). High concentrations of TPH were also detected in soil samples collected from subsurface soils beneath the main machine shop and the boiler shop but these samples were not tested for PAHs. Deeper samples will need to be collected in the areas with previously detected high concentrations of TPH and tested for PAHs to verify that they fall below VRP target cleanup standards. Additionally, the areas with elevated concentrations of TPH need to be better delineated to update the remediation cost associated with hydrocarbon impacted soils.

The on-site transformer that is currently being used by BNSF Railroad (with power supplied by PNM) has not been tested for PCBs nor have the surrounding soils.

Asbestos may be present in the roofing materials of several of the structures. Additionally, approximately 180 linear feet of damaged chrysotile and crocidolite transite pipe and additional lengths of suspected ACM pipe may be present in the area around the former substation and former electrical transformer pad near the northwest portion of the former roundhouse. Asbestos may also be present in the window glazing and caulk but this material has not been characterized.

Low levels of hydrocarbons including benzene, naphthalene, fluorene and phenanthrene have been detected historically in the on-site monitoring wells. Benzene was detected during a December 1999 sampling event at a concentration exceeding the New Mexico Water Quality Control Commission (NMWQCC) standard (18 ug/L), the other detected constituents were not above NMWQCC standards. The wells should be sampled during the investigation and upon removal of the hydrocarbon source areas to verify that the groundwater is not impacted.

Proposed field activities therefore include characterization by drilling and excavation strategies to assess the extent of soil impacts within the above-referenced areas. Soil conditions will be evaluated through systematic drilling and excavation base and sidewall grab sampling. A phased investigation approach is not proposed at this time.

The personal protective equipment and direct-reading air monitoring requirements specified below are designed to prevent personnel exposure to contamination in excess of permissible exposure limits. Personnel must remain aware of the potential for fire if soils saturated with flammable liquids, such as gasoline, are encountered. **SMOKING WITHIN THE SITE EXCLUSION ZONE IS STRICTLY PROHIBITED.**

7.0 HAZARD ASSESSMENT

7.1 Chemical Hazards

Where available, analytical information attached will display the maximum concentrations of petroleum and or chlorinated solvent contaminants previously identified at this project site. A brief chemical/toxicological profile for each anticipated contaminant of concern is presented below. For more complete chemical and physical hazard information regarding potential site contaminants, see chemical product information sheets attached.

Soils at this project site may be contaminated with petroleum hydrocarbons, heavy metals, PCB's, and mineral oil. Benzene is the most significant health hazard contained in petroleum blends and typically comprises less than 1% of regular grade gasoline. Specific health hazard information on petroleum compounds and their most health-significant volatile fractions are provided below.

HEAVY METALS

ARSENIC
Permissible Exposure Limit
0.002 mg/m3 NIOSH PEL

Arsenic is a silver-gray or tin-white, brittle, odorless solid. Routes into the body may include inhalation, skin absorption, ingestion, and skin and/or eye contact. Exposure may affect the liver, kidneys, skin, lungs, and lymphatic system.

CADMIUM
Permissible Exposure Limit
0.005 mg/m3 OSHA PEL

Cadmium is a silver-white, blue-tinged, lustrous, odorless solid. Routes into the body may include inhalation and ingestion. Exposure may affect the respiratory system, kidneys, prostate, and blood. Possible cause of prostatic and lung cancer.

LEAD
Permissible Exposure Limit
0.100 mg/m3 NIOSH PEL
0.050 mg/m3 OSHA PEL

Lead is a heavy, ductile, soft, gray solid. Routes into the body may include inhalation, skin and/or eye contact, and ingestion. Exposure may affect the eyes, gastrointestinal tract, blood, and gingival tissue.

MERCURY
Permissible Exposure Limit
0.1 mg/m3 NIOSH PEL

Mercury is a silver-white, heavy, odorless liquid. Routes into the body may include inhalation, skin absorption, ingestion, and skin and/or eye contact. Exposure may affect the eyes, skin, respiratory system, central nervous system, and kidneys.

NON-METALS

CHLORODIPHENYL – POLYCHLORINATED BIPHENYL (PCB)
Permissible Exposure Limit
0.001 mg/m3 NIOSH PEL
1.0 mg/m3 OSHA PEL

PCB's is a colorless to light colored, viscous liquid with a mild hydrocarbon odor. Routes into the body may include inhalation, skin absorption, ingestion, and skin and/or eye contact. Exposure may affect the skin, eyes, liver, and the reproduction system.

NAPHTHALENE - Naphthalin, Tar camphor
Permissible Exposure Limit
10 ppm OSHA PEL-TWA

Naphthalene is a solid, colorless, with a mothball odor. It solidifies and floats or sinks in water. Routes into the body may include inhalation, skin and/or eye contact, skin absorption, and ingestion. Naphthalene is irritating to skin and eyes. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. Vapors or fumes are irritating to eyes, nose, and throat and may cause headaches, dizziness, nausea, etc. Solid may be irritating to skin.

BENZENE

Permissible Exposure Limit
1 ppm OSHA PEL/0.5 ppm OSHA Action Level
5 ppm OSHA 10 min Ceiling

Benzene is a central nervous system depressant and an eye and skin irritant. Poisoning may cause hemorrhages and immunosuppression. A relationship has been discovered between benzene exposure and leukemia. Benzene is regulated as an occupational carcinogen. Acute exposure may cause dizziness, excitation, weakness, headache, and chest constriction.

TOLUENE
Permissible Exposure Limit
50 ppm ACGIH TLV
(Skin Absorbable)

Toluene is an eye, skin and mucous membrane irritant and a central nervous system depressant. Poisoning may affect the liver and kidneys. Prolonged exposure may affect the heart and blood. The ingestion of alcoholic beverages may enhance the toxic effects of toluene. Symptoms of exposure include respiratory tract irritation, headache, dizziness and eye irritation. Absorption of the compound through the skin can add to overall exposure. Skin contact must be prevented by use of appropriate personal protective equipment.

XYLENE
Permissible Exposure Limit
100 ppm OSHA PEL
150 ppm OSHA STEL

Xylene is a mild eye and mucous membrane irritant, primary skin irritant and a central nervous system depressant. Ingestion causes severe gastrointestinal upset and creates an aspiration hazard. Chronic inhalation results in symptoms resembling acute poisoning.

ETHYL BENZENE
Permissible Exposure Limit
100 ppm OSHA PEL
125 ppm OSHA STEL

Ethyl benzene is a skin, eye and mucous membrane irritant. It is moderately toxic by ingestion and slightly toxic by skin absorption. Ethyl benzene is a central nervous system depressant. Poisoning may affect the liver. Symptoms of exposure may include a sense of chest constriction and nervous disorders. Skin contact may result in first and second degree burns. The odor can be detected at 140 ppm and irritation occurs at 200 ppm.

TRICHLOROETHYLENE

Permissible Exposure Limit
100 ppm OSHA PEL
300 ppm OSHA Ceiling Concentration
50 ppm ACGIH TLV

Trichloroethylene is a clear, colorless volatile liquid with a sweet, chloroform-like odor. Trichloroethylene is a narcotic, an irritant to the skin and mucous membranes, a liver and kidney toxin and is believed by NIOSH to be a potential human carcinogen. Workers exposed to concentrations averaging 10 ppm complained of headache, dizziness and sleepiness. Prolonged inhalation of vapors may result in central nervous system depression, nausea, narcosis, headache and nausea. Skin contact may cause drying, redness and irritation. Chronic exposure to trichloroethylene vapors may cause kidney and liver damage.

ASBESTOS
Permissible Exposure Limit
OSHA PEL for asbestos fibers is an 8-hour TWA airborne concentration of 0.1 fiber (longer than 5 micrometers and having a length-to-diameter ratio of at least 3 to 1) per cubic centimeter of air (0.1 fiber/cm3), as

Asbestos are white or greenish (chrysotile), blue (crocidolite), or gray-green (amosite) fibrous, odorless solids. Potential routes of exposure include inhalation; Ingestion; Skin and/or eye contact. Potential Symptoms of Exposure asbestosis (chronic exposure): dyspnea (breathing difficulty), interstitial fibrosis, restricted pulmonary function, finger clubbing; irritation eyes; potential occupational carcinogen, If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Inhalation - First Aid if a person breathes large amounts of this chemical, move the exposed person to fresh air at once. Other measures are usually unnecessary.

7.2 Physical Hazards

Prior to the commencement of each soil boring, underground utilities must be located and clearly marked. Wherever borings are required within 5 feet of an underground utility, the boring will be initially probed and hand augered to ensure clearance prior to initiating powered auger borings.

Activities to be performed on site will involve powered drilling equipment. Personnel must remain alert to the fact that as personal protective equipment increases, dexterity and visibility are impaired increasing the difficulty of many manual tasks. Tape all loose protective clothing to avoid entanglement in rotating equipment. Other standard safe operating procedures and precautions to be taken on this site are as follows:

- All crews shall consist of at least two persons. The drill rig operator will ensure that personnel assigned to drilling operations understand emergency shut down procedures and the location of emergency devices.

- No loose fitting clothing, jewelry or unsecured long hair is permitted near drill rigs.

- Keep hands and feet away from all moving parts while drilling is in progress.

- Daily inspection of all ropes, cables and moving parts is mandatory.

- A first aid kit and fire extinguisher will be available at all times.

- No drilling is permitted during impeding electrical storms, tornados or when rain or icing creates a hazardous work environment.

- In compliance with OSHA 29 CFR 1926.550 and Terracon standard operating policies, a minimum clearance distance of 10 feet will be maintained between any part of the drill rig and energized power lines. Spotters will be properly located to help the rig operator position the vehicle when in proximity to power lines, buildings, etc.

8.0 ACCIDENT PREVENTION AND SAFE OPERATING PROCEDURES

- Before drilling/probing are permitted, underground utilities will be located and marked.

- The Site Safety Officer will hold daily safety briefings at the beginning of each day of site activity.

- If site activities interrupt the normal flow of pedestrian or vehicular traffic, appropriate barricades will be erected around the project site. Safety orange work vests will be worn by personnel working within 10 feet of any active roadway.

- The Site Safety Officer will ensure that unauthorized personnel do not enter the work zone. Authorized visitors will be briefed on site contaminants, personal protective equipment requirements and the decon provisions of this Plan.

- The Site Safety Officer will continually inspect the work area for infractions of Health and Safety requirements contained in this plan.

- The Site Safety Officer will investigate and immediately report all accidents to the Corporate Safety and Health Manager.

- Site activities will be conducted only during daylight hours unless adequate portable lighting is mobilized to the project site.

- The "buddy system" will be observed at all times during intrusive site investigations. A minimum of two people will work together and remain within eye sight or not greater than 100 ft. apart.

9.0 SITE CONTROL

The drill rig or backhoe will be positioned on the UPWIND side of each proposed boring/test pit location. As permitted by site topography, the area within a 30 foot radius of each soil probe/boring location will be considered the Exclusion Zone. Only those personnel designated by the Project Manager/SSO are allowed to enter the Exclusion Zone. Where practical, or where there is considered necessary to prevent public injury, temporary signs or barricade fencing will be established to define the Exclusion Zone.

If unauthorized personnel attempt to enter the Exclusion Zone, the SSO will verbally inform the individual(s) to leave the project site. If unauthorized individuals refuse to leave the Exclusion Zone or are considered to in danger or pose danger to project personnel, the SSO will cease project activities (i.e., shut down gas van, drill rigs, excavation equipment, etc.) and notify the local police of the situation. Site activities will only resume when unauthorized personnel have vacated the project site.

10.0 AIR MONITORING AND SITE ACTION LEVELS

The following air monitoring protocols are designed to prevent personnel exposure to airborne contaminants in excess of published permissible exposure limits. The results of field monitoring will be used to determine the adequacy of personal protective equipment.

Air monitoring equipment required for this site will include the following:

PHOTOIONIZATION DETECTOR

NOTE: The ionization potential of some chlorinated solvents is either beyond or at the extreme end of the standard 10.0 or 10.6 eV ultraviolet PID lamp. It is highly recommended that a higher energy **(11.7 or 11.8 eV)** lamp be utilized on chlorinated hydrocarbon project sites. The higher energy lamps may be rented for the duration of the project.

The Task Leader(s) will be knowledgeable in the operation of the photoionization detector. A manual on the operation of each instrument and the appropriate calibration kit will be mobilized

to the site with the instruments. Photoionization detectors will be calibrated under field conditions each day prior to use. Task Leaders are instructed to consult the manufacturer's specifications for appropriate calibration gas and calibration techniques.

10.1 Monitoring Frequency

A photoionization detector will be used to monitor the breathing zone of project personnel. Continuous breathing zone air monitoring will be conducted during the advancement of each probe/boring. If air monitoring results remain below specified action levels through target depth, monitoring periods may be reduced to 10 minute intervals. If monitoring results exceed Level C action levels, monitoring will be continuous.

10.2 Site Action Levels

INSTRUMENT	LEVEL D/D MOD	LEVEL C	SITE EVACUATION
PID	< 10 ppm	> 10 ppm	> 50 ppm

The Action Levels indicated above are for air in the breathing zone and **NOT** applicable to vapor above containerized soil samples. The Action Levels are established to prevent exposure to airborne gases and vapors in excess of published permissible exposure limits.

If sustained organic vapors in the breathing zone of project personnel exceed 10 ppm, personnel will immediately don full face air purifying respirators with organic vapor/HEPA cartridges. If sustained organic vapor readings exceed 50 ppm, personnel will evacuate to the UPWIND side of the project site and immediately contact the Project Manager and Corporate Safety and Health Manager for discussion and arrangements for supplied air respirators.

Although the Site Evacuation Action Level specified for organic vapors is potentially within the protective capacity of the air purifying respirator cartridges to be employed, personnel will evacuate to the UPWIND side of the site if the continuous breathing zone vapor concentrations exceed these limits. The SSO will contact the Corporate Safety and Health Manager for discussion and re-evaluation of personal protective equipment and air monitoring requirements if airborne contamination exceeds Site Evacuation Action Levels. In the event that Site Evacuation is effected, a modification of this safety and health plan will be issued with contingencies for combustible gas monitoring and upgrading to Level B personal protective equipment. **THIS PLAN IS NOT VALID FOR LEVEL B SITE ACTIVITIES.**

11.0 PERSONAL PROTECTIVE EQUIPMENT REQUIREMENTS

The air monitoring regimen identified above will allow initial project activity to begin in LEVEL D personal protective equipment to include:

- Hard Hat
- Safety Vest
- Chemically Protective Safety Boots (Hazmax, other as approved by S&H Mgr.)
- Nitrile, Neoprene Rubber or Silver Shield Outer Gloves
- Nitrile or Latex Inner Liners
- Safety Eye Wear (ANSI Z-87 approved)

If saturated soils and probability for splashing and skin or clothing contact appear high during soil boring and sampling activities, personnel will upgrade to protective coveralls. Protective coveralls will consist of the following:

- Polyethylene Laminated Tyvek Coveralls.

If organic vapor monitoring exceeds the Action Level specified for upgrade to LEVEL C personal protective equipment, personnel will don the above Level D Modified equipment plus:

- Full Face Air Purifying Respirator
- Equipped with Combination Organic Vapor/Acid Gas/HEPA Cartridges

All Terracon personnel will mobilize their company issued response bag to the job site. Each Terracon employee is responsible for periodically inventorying the bag and ensuring that the full complement of personal protective equipment is maintained. Chemical cartridges will be changed daily prior to start of site activity.

12.0 DECONTAMINATION

12.1 Personnel Decontamination

Personnel decontamination is necessary for personnel engaged in site activities. Personnel decontamination for this site will consist of washing off safety footwear, proper cleaning or disposal of outer and inner gloves and thorough washing of face, arms and hands. A full body shower will be required as soon as possible upon leaving the project site. Expendable personal protective equipment will be placed in plastic trash bags, sealed and disposed of per client agreement. Decontamination solutions will be containerized or disposed of as arranged by Project Manager.

12.2 Equipment Decontamination

Decontamination of equipment will be performed to limit the migration of contaminants off-site. All equipment will be cleaned prior to site entry to remove grease, oil and encrusted soil. Personnel are reminded that decontamination of augers, or other sampling equipment which encounter coal tar sludges may be difficult to adequately decontaminate.

Decontamination of large equipment will consist of physically removing gross contamination with shovels, brushes etc. followed by detergent and water high pressure wash with a clean water rinse. The Project Manager is responsible for determining if decontamination solutions must be containerized. If so, a decontamination sump or polyethylene sheeting and fluid containers will be mobilized and established in the decontamination area. Decontamination of hand samplers and similar small equipment will be performed at a designated location within the Contaminant Reduction Zone. Decontamination of such equipment will consist of detergent solution wash and clean water rinse.

13.0 SITE COMMUNICATIONS

Communication between personnel within the Exclusion Zone will be via verbal communication or hand signals. Visual contact between members of task teams should be possible throughout the course of project activities. Contact with the SSO will be through direct verbal communication. The hand signals listed below will be used by personnel wherever respiratory protection and/or equipment noise limit verbal communication.

SIGNAL	MEANING
Thumbs Up	OK, all is well
Grab throat with both hands	Can't breathe
Shake head, thumbs down	NO, negative
Point right (when facing equipment operator)	Move/steer left
Point left (when facing equipment operator)	Move/steer right
Grab partner's wrist	Leave area immediately

14.0 EMERGENCY RESPONSE PROCEDURES

The Project Manager is responsible for obtaining and recording the following emergency information prior to site mobilization:

Ambulance	911
Fire Department	911
Police	911
Poison Control Center	1.800.432.6866
Project Manager	M. Wells: Office: 505.527.1700, Cell: 505.642.6196
Corporate Safety and Health Manager	913.599.6886
Location of Nearest Telephone	On-site: 505.320.6187 or 505.642.6196
Nearest Hospital/ Clinic	Presbyterian Health
Estimated Drive Time	6 minutes
Directions:	Start out going EAST on BRIDGE BLVD SW toward BROADWAY BLVD SE / NM-47 S., Turn RIGHT onto BROADWAY BLVD SE / NM-47 S., Turn LEFT onto GIBSON BLVD SE., Turn SLIGHT RIGHT onto YALE BLVD SE., Turn RIGHT onto RENARD PL SE., Turn LEFT onto BUENA VISTA DR SE., End at Presbyterian Health 2501 Buena Vista Dr Se, Albuquerque, NM 87106, US

14.1 Heat Stress

If ambient temperature during project activities are expected to exceed 70° Fahrenheit (F), the following heat stress preventive measures will be implemented throughout the course of this project:

- Have at least two gallons of water (or sports beverage) available for each field employee during each day of site activity. Drinking water for site personnel will be considered an integral component of safety equipment mobilized to the site.

- The designated Site Safety and Health Officer and one designee will observe personnel for signs of heat stress (excessive perspiration, flushed skin, nausea, etc.). If such signs are observed, affected workers will be required to leave the Contaminant Zone, loosen protective clothing and rest. During the rest period, affected personnel will drink at least one 8-oz. glass of cool water. Pulse will be checked at the beginning of the rest period. Personnel will not return to work until pulse rate is less than 90 beats/min.

In addition to the above precautions, the following work/rest regimens will be implemented when ambient temperature exceeds 70° F and personal protective equipment is Level D or Level D modified. If personnel must upgrade to LEVEL C personal protective equipment, a Wet Bulb Globe Thermometer/heat stress monitor will be required on site and this section will be amended prior to continuation of site activity. Wet Bulb Globe Thermometer will be used to factor humidity into the calculation of work/rest schedules and physiological monitoring (body temperature, pulse rate) will be implemented.

LEVEL D/D Modified Work/Rest Schedule

CALCULATION FOR PERCENT CLOUD COVER	
1.0	No Clouds
0.75	25% Clouds
0.5	50% Clouds
0.25	75% Clouds
0.0	100% Clouds

Calculate the adjusted temperature using the following formula:

ADJUSTED TEMPERATURE = 13(% CLOUD COVER) + DRY TEMPERATURE

Rest regimens specified below will be implemented at frequencies dependent upon adjusted temperature.

ADJUSTED TEMPERATURE	REST PERIOD/MONITORING FREQUENCY

90+	After 15 minutes
87.5-90	After 30 minutes
82.5-87.4	After 60 minutes
77.5-82.5	After 90 minutes
70.5-77.4	After 120 minutes

Fluid replacement will be encouraged during each rest period. The use of stimulants and alcoholic beverages in off hours will be discouraged.

14.2 Personal Injury

For minor injuries, such as cuts, burns, exhaustion, heat cramps, insect stings, etc., the affected employee will be removed to an uncontaminated area. The SSO or other designated employee will administer appropriate first aid. If the injury warrants additional medical attention, the affected employee will be properly decontaminated and transported to the nearest hospital or emergency medical facility.

For more serious injuries the Site Safety Officer or designee will summon an ambulance to the project site. No attempt will be made by Terracon personnel to move the victim, without the aid and/or instructions of qualified medical personnel.

In the absence of toxic gases or vapors, the ambulance will be directed to the affected employee. If site conditions warrant and as time permits, the wheels of the ambulance will be decontaminated with high pressure wash. The SSO or designee will accompany the ambulance to the medical facility, and provide guidance concerning additional decontamination which may be required for the injured employee, ambulance or attendants.

Whenever an injury occurs on sites with contamination requiring personal protective equipment greater than Level D modified, a minimum of two employees will don appropriate equipment and proceed to the victim. An ambulance will be called immediately. If the extent of injuries permit, the injured employee will be removed to fresh air. Appropriate first aid will be administered.

If rescuer(s) assess that the victim cannot be removed without a stretcher or other specialized equipment, the victim will be removed at the earliest possible moment by appropriately attired Terracon personnel with the direction and/or assistance of qualified medical response personnel. The injured employee will be immediately decontaminated and transported to the nearest medical facility. A crew member designated by the SSO will inform the ambulance crew of contaminants of concern and provide assistance with any additional decontamination, if required.

ACKNOWLEDGMENT OF INSTRUCTION

All Terracon personnel are required to sign the following acknowledgment of instruction form prior to conducting project activities. This acknowledgment is not a waiver. It is the primary method used in compiling environmental experience and contaminant exposure records for Terracon personnel. Upon written request, a copy of your environmental work record will be provided by the Corporate Safety and Health Manager.

PROJECT NAME: OLD LOCOMOTIVE SHOPS, LLC UNION DEVELOPMENT CORPORATION OPTIONS
TERRACON JOB NO: 66057007

I understand that this project involves the investigation of a project site with potential petroleum and chlorinated hydrocarbon impact to soils and groundwater. Based on previous information regarding this project site, the potential for encountering health significant concentrations of organic vapors must be considered high. I have read this Safety and Health Plan and have received instructions for safe work practices, personal protective equipment and air monitoring requirements. I further understand that if I encounter unanticipated contamination I am to leave the site and immediately notify the Project Manager and Corporate Safety and Health Manager of conditions.

NAME (PRINT)	SIGNATURE	DATE

PERSONAL PROTECTIVE EQUIPMENT UTILIZED:

_____ LEVEL D _____ LEVEL D MOD. ____ LEVEL C

Safety briefing performed by: _____ Date: _____

Measurement Specifications for Field Portable X-Ray Fluorescence Spectrometry for Lead at the Albuquerque Railyards

Based on EPA Method 6200 Revision 0 February 2007

Sample Preparation

In situ samples

In situ sampling is only to be used for quick assessments and must be confirmed with bagged sample. Results from in situ sampling must be clearly marked so they can be separated for reporting.

Sample area should be compacted, dry or only slightly moist and not wet, and smoothed with a trowel or metal tool.

Bagged Samples

Bagged samples are the preferred method.

- Collection

Sample shall be collected in a volume of approximately a 4" by 4" area 1" deep. _____

Record location, color, description and estimated moisture content. Sample to be soil and not debris.

- Sample treatment

Wet samples, greater than 20% moisture, must be dried (only ambient or toaster oven NOT microwave).

Samples shall be sieved through ~~a #60 sieve~~. #10

If 90% of sample cannot be sieved, the sample must be ground or noted in record.

- Bagging

Sample to be placed in new zip lock bag and mixed so that sample is as uniform as possible. Intent is to get mixture of sample grain sizes mixed and not segregated.

Bag should be full so that it is greater than 0.5" thick for X-ray.

Label bag with sample ID, approximate depth, and grid location.

Splitting Sample for Laboratory Analysis

Sample for laboratory analysis will be taken from ziplock bag used for XRF testing.

Samples must not be dried using microwave oven as this has caused differences in XRF and laboratory results.

XRF Setup and Testing

XRF Initialization

Follow XRF INNOV-X Systems Alpha Series X-Ray Fluorescence Spectrometer August 2005 Version 2.1 Instruction Manual.

Turn on XRF at least 15 to 30 minutes prior to first sample. Record all power on and power off times in log book.

XRF will run energy calibration on startup.

XRF to be used on clean table with no dirt or materials nearby.

Additional Measurements to be Taken

- Instrument Blank

Instrument blank must be run 1 per day, but also throughout day to check on contamination or possible reading shifts. Temperature changes greater than 10 degree F can cause signal drift.

May be run 1 per 20 samples as check on readings.

Trouble shoot if not 0 and clean.

Record instrument blanks in log book and on Quick Guide sheet.

- Calibration Verification (NIST Standard)

Calibration check is to be run at beginning, middle, and end of day. NMED uses every 4 hour frequency.

Reading must be within 20% of standard.

Record in log book and Quick Guide sheet.

- Duplicate, Precision Check

1 duplicate a day, but it consists of 1 sample tested 7 times. Testing does not need to be done back to back, but can be done throughout the day.

Record and check if precision is adequate. Use Quick Guide sheet as well.

Measurements

- Time of Reading

Measurements should be 120 seconds unless duplicates show similar results at shorter times._____

In situ measurements can be shorter as these results will be reported separately.

- Sample and XRF placement

Sample should fill bag consistently. Sample thickness must be greater than 0.5" under the XRF. Sample should be flat against XRF as best reading will be from a uniform contact between sample and XRF.

Area under sample should be clean.

Record time, technician, temperature, reading, soil description, approximate depth, grid location, and other relevant information.

Quick Guide

Frequency or Timing	What	Requirement
15 to 30 minutes before 1st Sample, 1/day	Turn XRF on	Red light turns on and is solid
	Energy Calibration of XRF	Performed by XRF when turned on
1/day or 20 samples or concerned temperature change has been great	Instrument Blank Test Blank	Must read 0 or clean everything and restart XRF
Beginning, middle and end of day	Calibration Verification Test Standard	Test standard and must ready within 20% of sample
None	Gain Check	XRF doesn't require it but can explain reading shifts such as calibration or blank readings
1/day	Duplicate, run 1 sample 7 times	Doesn't have to be run back to back, but as time allows during day, must meet requirement shown below

Tracking Sample Checks

XRF On Time 1010 First Sample 15 to 30 minutes later Time 10:45

*Note in log book all times XRF turned off and on 2:40 off, 2:42 pm on, 4:30 pm off, _____, _____/_____, _____/_____, _____/_____, _____/_____, _____/_____

Instrument Blank Time 1020 Result 227

Calibration Verification Start of Day Time 1027 (NIST 2702) Result 107 ± 7 Is within 20% Y

Middle of Day Time 1357 Result 105 ± 5 Is within 20% yes

End of Day Time 14:20 Result _____ Is within 20% _____

Duplicate Check

Sample ID XRF 3 Date 5-13-19

Reading 1 385 Time 11:45 Reading 2 371 Time 11:48

Reading 3 401 ~~386~~ ~~405~~ Time 12:24 ~~12:17~~ Reading 4 369 ~~387~~ Time 12:30 ~~12:19~~

Reading 5 12:38 ~~378~~ 301 Time ~~12:22~~ 12:38 Reading 6 385 Time 12:48

Reading 7 374 Time 12:52

Standard Deviation 37.04 Mean Reading 363.7

RSD = 100 x (Standard Deviation / Mean Reading) = 10.18 % must be 20% or less ✓

Quick Guide

NIST 2702 standard
132 ppm lead

Frequency or Timing	What	Requirement
15 to 30 minutes before 1st Sample, 1/day	Turn XRF on	Red light turns on and is solid
	Energy Calibration of XRF	Performed by XRF when turned on
1/day or 20 samples or concerned temperature change has been great	Instrument Blank Test Blank	Must read 0 or clean everything and restart XRF
Beginning, middle and end of day	Calibration Verification Test Standard	Test standard and must ready within 20% of sample
None	Gain Check	XRF doesn't require it but can explain reading shifts such as calibration or blank readings
1/day	Duplicate, run 1 sample 7 times	Doesn't have to be run back to back, but as time allows during day, must meet requirement shown below

Tracking Sample Checks

XRF On Time 5-14-19 8:00 am First Sample 15 to 30 minutes later Time 8:35

*Note in log book all times XRF turned off and on 11:10 / 11:15 , 1450 / 1457 ,

_____ / _____ , _____ / _____ , _____ / _____ , _____ / _____

Instrument Blank Time 8:08 Result ND <6

Calibration Verification Start of Day Time 8:10 Result 112 (NIST 2702) Is within 20% ✓ yes

Middle of Day Time ~~11:38~~ 11:18 Result 120 Is within 20% yes

End of Day Time 1522 Result 107 Is within 20% Yes

Duplicate Check

Sample ID XRF-16 Date 5-14-19

Reading 1 287 ± 6 Time 10:09 Reading 2 259 ± 6 Time 10:35

Reading 3 ~~[illegible]~~ 326 ± 7 Time 10:38 Reading 4 285 ± 6 Time 11:05

Reading 5 281 ± 6 Time 12:02 Reading 6 292 ± 6 Time 12:05

Reading 7 239 ± 6 Time 1325

Standard Deviation 27.22 Mean Reading 281.3

RSD = 100 x (Standard Deviation / Mean Reading) = 9.68 must be 20% or less ✓

Quick Guide

Frequency or Timing	What	Requirement
15 to 30 minutes before 1st Sample, 1/day	Turn XRF on	Red light turns on and is solid
	Energy Calibration of XRF	Performed by XRF when turned on
1/day or 20 samples or concerned temperature change has been great	Instrument Blank Test Blank	Must read 0 or clean everything and restart XRF
Beginning, middle and end of day	Calibration Verification Test Standard	Test standard and must ready within 20% of sample
None	Gain Check	XRF doesn't require it but can explain reading shifts such as calibration or blank readings
1/day	Duplicate, run 1 sample 7 times	Doesn't have to be run back to back, but as time allows during day, must meet requirement shown below

Tracking Sample Checks

XRF On Time 910 First Sample 15 to 30 minutes later Time yes

*Note in log book all times XRF turned off and on 1345 / 1350 , ____ / ____ ,

____ / ____ , ____ / ____ , ____ / ____ , ____ / ____

Instrument Blank Time 933 Result 226

Calibration Verification Start of Day Time 936 Result 108 ± 5 Is within 20% ✓

Middle of Day Time 12:29 Result 103 ± 5 Is within 20% ✓

End of Day Time 1619 Result 107 ± 5 Is within 20% ✓

Duplicate Check

Sample ID XRF23 Date 5/15/19

Reading 1 687 Time 948 Reading 2 777 Time 1416

Reading 3 603 Time 1429 Reading 4 665 Time 1450

Reading 5 613 Time 1519 Reading 6 792 Time 1528

Reading 7 847 Time 1616

Standard Deviation 94.30 Mean Reading 712

RSD = 100 x (Standard Deviation / Mean Reading) = 13.25 must be 20% or less

Quick Guide

Frequency or Timing	What	Requirement
15 to 30 minutes before 1st Sample, 1/day	Turn XRF on	Red light turns on and is solid
1/day	Energy Calibration of XRF	Performed by XRF when turned on
1/day or 20 samples or concerned temperature change has been great	Instrument Blank Test Blank	Must read 0 or clean everything and restart XRF
Beginning, middle and end of day	Calibration Verification Test Standard	Test standard and must ready within 20% of sample
None	Gain Check	XRF doesn't require it but can explain reading shifts such as calibration or blank readings
1/day	Duplicate, run 1 sample 7 times	Doesn't have to be run back to back, but as time allows during day, must meet requirement shown below

5-16-19

Tracking Sample Checks

XRF On Time 8:00 AM First Sample 15 to 30 minutes later Time 8:54

*Note in log book all times XRF turned off and on 1230 / 1231 , ____ / ____ ,

____ / ____ , ____ / ____ , ____ / ____ , ____ / ____

Instrument Blank Time 842 Result N.D. < 8

Calibration Verification Start of Day Time 9:34 Result 112 Pb Is within 20% ✓

NIST 2702 132 ± 8 Pb Middle of Day Time ~~1235~~ 1231 Result ~~150 Pb~~ 108 Is within 20% ~~No~~ Yes

End of Day Time ____ Result ____ Is within 20% ____

Duplicate Check

Sample ID XRF-42 Date 5-16-19

Reading 1 416 Time 9:41 Reading 2 408 Time 9:44

Reading 3 393 ± 7 Time 10:50 Reading 4 346 ± 7 Time 10:58

Reading 5 428 ± 7 Time 11:02 Reading 6 488 Time 11:04

Reading 7 414 Time 1245

Standard Deviation 111.76 Mean Reading 441.85

RSD = 100 x (Standard Deviation / Mean Reading) = 25.29 must be 20% or less NO

Quick Guide

Frequency or Timing	What	Requirement
15 to 30 minutes before 1st Sample,	Turn XRF on	Red light turns on and is solid
1/day	Energy Calibration of XRF	Performed by XRF when turned on
1/day or 20 samples or concerned temperature change has been great	Instrument Blank Test Blank	Must read 0 or clean everything and restart XRF
Beginning, middle and end of day	Calibration Verification Test Standard	Test standard and must ready within 20% of sample
None	Gain Check	XRF doesn't require it but can explain reading shifts such as calibration or blank readings
1/day	Duplicate, run 1 sample 7 times	Doesn't have to be run back to back, but as time allows during day, must meet requirement shown below

Tracking Sample Checks

5-17-19

XRF On Time 09:00 First Sample 15 to 30 minutes later Time _____

*Note in log book all times XRF turned off and on _____/_____, _____/_____,

_____/_____, _____/_____, _____/_____, _____/_____

Instrument Blank Time 09:46 Result ND < 7

Calibration Verification Start of Day Time 09:51 Result Pb 113 Is within 20% ✓

Middle of Day Time _____ Result _____ Is within 20% _____

End of Day Time _____ Result _____ Is within 20% _____

Duplicate Check

Sample ID _____ Date _____

Reading 1 _____ Time _____ Reading 2 _____ Time _____

Reading 3 _____ Time _____ Reading 4 _____ Time _____

Reading 5 _____ Time _____ Reading 6 _____ Time _____

Reading 7 _____ Time _____

Standard Deviation _____ Mean Reading _____

RSD = 100 x (Standard Deviation / Mean Reading) = _____ must be 20% or less

Quick Guide

Frequency or Timing	What	Requirement
15 to 30 minutes before 1st Sample, 1/day	Turn XRF on	Red light turns on and is solid
	Energy Calibration of XRF	Performed by XRF when turned on
1/day or 20 samples or concerned temperature change has been great	Instrument Blank Test Blank	Must read 0 or clean everything and restart XRF
Beginning, middle and end of day	Calibration Verification Test Standard	Test standard and must ready within 20% of sample
None	Gain Check	XRF doesn't require it but can explain reading shifts such as calibration or blank readings
1/day	Duplicate, run 1 sample 7 times	Doesn't have to be run back to back, but as time allows during day, must meet requirement shown below

Tracking Sample Checks

5-20-19

XRF On Time 8:55 First Sample 15 to 30 minutes later Time 9:58

*Note in log book all times XRF turned off and on 8:55 / 12:30, 12:37 / ~~14:~~, 15:55 / 14:08, ____/____, ____/____, ____/____

Instrument Blank Time ____ Result ____

Calibration Verification — NIST 2702

Start of Day Time 9:47 Result 117 Is within 20% ✓

Middle of Day Time 12:38 Result 120 Is within 20% ✓

End of Day Time 16:23 Result 113 Is within 20% ____

Duplicate Check

Sample ID XRF 63 Date 5-20-19

Reading 1 54 Time 10:12 Reading 2 42±3 Time 12:29

Reading 3 ~~50±3 54 53~~ Time ~~14:22 14:10~~ Reading 4 57 Time 14:30

Reading 5 43 Time 15:30 Reading 6 47±3 Time 16:26

Reading 7 44 Time 16:35

Standard Deviation ____ Mean Reading ____

RSD = 100 x (Standard Deviation / Mean Reading) = ____ must be 20% or less

Quick Guide

Frequency or Timing	What	Requirement
15 to 30 minutes before 1st Sample,	Turn XRF on	Red light turns on and is solid
1/day	Energy Calibration of XRF	Performed by XRF when turned on
1/day or 20 samples or concerned temperature change has been great	Instrument Blank Test Blank	Must read 0 or clean everything and restart XRF
Beginning, middle and end of day	Calibration Verification Test Standard	Test standard and must ready within 20% of sample
None	Gain Check	XRF doesn't require it but can explain reading shifts such as calibration or blank readings
1/day	Duplicate, run 1 sample 7 times	Doesn't have to be run back to back, but as time allows during day, must meet requirement shown below

5-21-19

Tracking Sample Checks

XRF On Time 8:10 First Sample 15 to 30 minutes later Time _____

*Note in log book all times XRF turned off and on 8:10 / 4:30 Pm, _____/_____,

_____/_____, _____/_____, _____/_____, _____/_____

Instrument Blank Time _____ Result _____ Nist 2702

Calibration Verification Start of Day Time 9:24 Result 118 Is within 20% _____

Middle of Day Time _____ Result _____ Is within 20% _____

End of Day Time _____ Result _____ Is within 20% _____

Duplicate Check

Sample ID XRF 84 Date 5-21-19

Reading 1 410 Time 7 Reading 2 320± 6 Time 1332

Reading 3 _____ Time _____ Reading 4 _____ Time _____

Reading 5 _____ Time _____ Reading 6 _____ Time _____

Reading 7 _____ Time _____

Standard Deviation _____ Mean Reading _____

RSD = 100 x (Standard Deviation / Mean Reading) = _____ must be 20% or less

Quick Guide

Frequency or Timing	What	Requirement
15 to 30 minutes before 1st Sample, 1/day	Turn XRF on	Red light turns on and is solid
	Energy Calibration of XRF	Performed by XRF when turned on
1/day or 20 samples or concerned temperature change has been great	Instrument Blank Test Blank	Must read 0 or clean everything and restart XRF
Beginning, middle and end of day	Calibration Verification Test Standard	Test standard and must ready within 20% of sample
None	Gain Check	XRF doesn't require it but can explain reading shifts such as calibration or blank readings
1/day	Duplicate, run 1 sample 7 times	Doesn't have to be run back to back, but as time allows during day, must meet requirement shown below

Tracking Sample Checks

XRF On Time 8:55 First Sample 15 to 30 minutes later Time _____

*Note in log book all times XRF turned off and on _____/_____, _____/_____,

_____/_____, _____/_____, _____/_____, _____/_____

Instrument Blank Time 9:17 Result ND ±6

Calibration Verification Start of Day Time 9:15 Result 115 ±6 Is within 20% _____

Middle of Day Time 13:14 Result ~~308~~ Is within 20% _____

End of Day Time _____ Result _____ Is within 20% _____

Duplicate Check

Sample ID XRF 97 Date 5-22-19

Reading 1 829 ± 11 Time 10:07 Reading 2 788 ± 10 Time 1150

Reading 3 884 ± 11 Time 11:58 Reading 4 964 ± 12 Time 1353

Reading 5 ~~928 ± 11~~ ~~308~~ Time 1414 Reading 6 957 ± 12 Time 1423

Reading 7 943 ± 12 Time 14:26

Standard Deviation _____ Mean Reading _____

RSD = 100 x (Standard Deviation / Mean Reading) = _____ must be 20% or less

Quick Guide

6/18/19

Frequency or Timing	What	Requirement
15 to 30 minutes before 1st Sample,	Turn XRF on	Red light turns on and is solid
1/day	Energy Calibration of XRF	Performed by XRF when turned on
1/day or 20 samples or concerned temperature change has been great	Instrument Blank Test Blank	Must read 0 or clean everything and restart XRF
Beginning, middle and end of day	Calibration Verification Test Standard	Test standard and must ready within 20% of sample
None	Gain Check	XRF doesn't require it but can explain reading shifts such as calibration or blank readings
1/day	Duplicate, run 1 sample 7 times	Doesn't have to be run back to back, but as time allows during day, must meet requirement shown below

Tracking Sample Checks

XRF On Time 0844 First Sample 15 to 30 minutes later Time _____

*Note in log book all times XRF turned off and on 1446/1447, ____/____, ____/____, ____/____, ____/____, ____/____

Instrument Blank Time ~~0845~~ 0855 Result ~~ND~~ ND

Calibration Verification Start of Day Time 0840 Result 5542 Is within 20% X ~~yes~~ 2% ICA 5520

Middle of Day Time 1258 Result 5663 Is within 20% ~~X yes~~

End of Day Time 1537 Result ~~5640~~ Is within 20% Yes

Duplicate Check

Sample ID TLC82 Date 6/18/19

Reading 1 348 Time 930 Reading 2 383 Time 1256

Reading 3 391 Time 1304 Reading 4 435 Time 1355

Reading 5 415 Time 1446 Reading 6 430 Time 15:45

Reading 7 382 Time 1547

Standard Deviation _____ Mean Reading _____

RSD = 100 x (Standard Deviation / Mean Reading) = _____ must be 20% or less

Quick Guide

Frequency or Timing	What	Requirement
15 to 30 minutes before 1st Sample,	Turn XRF on	Red light turns on and is solid
1/day	Energy Calibration of XRF	Performed by XRF when turned on
1/day or 20 samples or concerned temperature change has been great	Instrument Blank Test Blank	Must read 0 or clean everything and restart XRF
Beginning, middle and end of day	Calibration Verification Test Standard	Test standard and must ready within 20% of sample
None	Gain Check	XRF doesn't require it but can explain reading shifts such as calibration or blank readings
1/day	Duplicate, run 1 sample 7 times	Doesn't have to be run back to back, but as time allows during day, must meet requirement shown below

Tracking Sample Checks

Calibration @ 0854

XRF On Time 0853 First Sample 15 to 30 minutes later Time _____

*Note in log book all times XRF turned off and on _____/_____, _____/_____,

_____/_____, _____/_____, _____/_____, _____/_____

Instrument Blank Time 902 Result ND ± 4.0 2760A 5552

Calibration Verification Start of Day Time 905 Result 5559 Is within 20% Yes

Middle of Day Time 1042 Result 5633 Is within 20% Yes

End of Day Time 1143 Result 5692 Is within 20% Yes

Duplicate Check

Sample ID _____ Date 6-19-19

Reading 1 _____ Time _____ Reading 2 _____ Time _____

Reading 3 _____ Time _____ Reading 4 _____ Time _____

Reading 5 _____ Time _____ Reading 6 _____ Time _____

Reading 7 _____ Time _____

Standard Deviation _____ Mean Reading _____

RSD = 100 x (Standard Deviation / Mean Reading) = _____ must be 20% or less

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

June 12, 2019

Bart Faris
City of Albuquerque Environmental Health Dept
1 Civic Plaza, Room 3023
Albuquerque, NM 87103
TEL: (505) 768-2658
FAX

RE: Rail Yards OrderNo.: 1905F32

Dear Bart Faris:

Hall Environmental Analysis Laboratory received 12 sample(s) on 5/31/2019 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0901

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

CLIENT: City of Albuquerque Environmental Healt
Client Sample ID: SS-106
Project: Rail Yards
Collection Date: 5/30/2019 11:40:00 AM
Lab ID: 1905F32-001
Matrix: SOIL
Received Date: 5/31/2019 3:20:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 7471: MERCURY						Analyst: **pmf**
Mercury	0.15	0.032		mg/Kg	1	6/4/2019 6:40:47 PM
EPA METHOD 6010B: SOIL METALS						Analyst: **ELS**
Arsenic	ND	4.9		mg/Kg	2	6/4/2019 9:19:19 AM
Barium	180	0.20		mg/Kg	2	6/4/2019 9:19:19 AM
Cadmium	ND	0.20		mg/Kg	2	6/4/2019 9:19:19 AM
Chromium	12	0.59		mg/Kg	2	6/4/2019 9:19:19 AM
Lead	320	2.4		mg/Kg	10	6/4/2019 9:49:49 AM
Selenium	ND	4.9		mg/Kg	2	6/4/2019 9:19:19 AM
Silver	ND	0.49		mg/Kg	2	6/4/2019 9:19:19 AM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit
P	Sample pH Not In Range
PQL	Practical Quanitative Limit
RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix

Hall Environmental Analysis Laboratory, Inc.

CLIENT: City of Albuquerque Environmental Healt
Client Sample ID: SS-107
Project: Rail Yards
Collection Date: 5/30/2019 11:50:00 AM
Lab ID: 1905F32-002
Matrix: SOIL
Received Date: 5/31/2019 3:20:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 7471: MERCURY						Analyst: **pmf**
Mercury	0.098	0.032		mg/Kg	1	6/4/2019 6:42:46 PM
EPA METHOD 6010B: SOIL METALS						Analyst: **ELS**
Arsenic	ND	4.9		mg/Kg	2	6/4/2019 9:26:42 AM
Barium	110	0.20		mg/Kg	2	6/4/2019 9:26:42 AM
Cadmium	ND	0.20		mg/Kg	2	6/4/2019 9:26:42 AM
Chromium	5.2	0.59		mg/Kg	2	6/4/2019 9:26:42 AM
Lead	240	2.5		mg/Kg	10	6/4/2019 9:51:29 AM
Selenium	ND	4.9		mg/Kg	2	6/4/2019 9:26:42 AM
Silver	ND	0.49		mg/Kg	2	6/4/2019 9:26:42 AM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

CLIENT: City of Albuquerque Environmental Healt
Client Sample ID: SS-108
Project: Rail Yards
Collection Date: 5/30/2019 11:55:00 AM
Lab ID: 1905F32-003
Matrix: SOIL
Received Date: 5/31/2019 3:20:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 7471: MERCURY						Analyst: **pmf**
Mercury	0.21	0.032		mg/Kg	1	6/4/2019 6:44:44 PM
EPA METHOD 6010B: SOIL METALS						Analyst: **ELS**
Arsenic	ND	5.0		mg/Kg	2	6/4/2019 9:28:23 AM
Barium	170	0.20		mg/Kg	2	6/4/2019 9:28:23 AM
Cadmium	ND	0.20		mg/Kg	2	6/4/2019 9:28:23 AM
Chromium	3.5	0.60		mg/Kg	2	6/4/2019 9:28:23 AM
Lead	400	2.5		mg/Kg	10	6/4/2019 9:53:08 AM
Selenium	ND	5.0		mg/Kg	2	6/4/2019 9:28:23 AM
Silver	ND	0.50		mg/Kg	2	6/4/2019 9:28:23 AM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

CLIENT: City of Albuquerque Environmental Healt
Client Sample ID: SS-109
Project: Rail Yards
Collection Date: 5/30/2019 1:13:00 PM
Lab ID: 1905F32-004
Matrix: SOIL
Received Date: 5/31/2019 3:20:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 7471: MERCURY						Analyst: **pmf**
Mercury	0.31	0.031		mg/Kg	1	6/4/2019 6:46:44 PM
EPA METHOD 6010B: SOIL METALS						Analyst: **ELS**
Arsenic	ND	4.9		mg/Kg	2	6/4/2019 9:30:04 AM
Barium	260	0.19		mg/Kg	2	6/4/2019 9:30:04 AM
Cadmium	ND	0.19		mg/Kg	2	6/4/2019 9:30:04 AM
Chromium	6.1	0.58		mg/Kg	2	6/4/2019 9:30:04 AM
Lead	980	12		mg/Kg	50	6/4/2019 9:54:48 AM
Selenium	ND	4.9		mg/Kg	2	6/4/2019 9:30:04 AM
Silver	ND	0.49		mg/Kg	2	6/4/2019 9:30:04 AM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

CLIENT: City of Albuquerque Environmental Healt
Client Sample ID: SS-110
Project: Rail Yards
Collection Date: 5/30/2019 1:19:00 PM
Lab ID: 1905F32-005 **Matrix:** SOIL
Received Date: 5/31/2019 3:20:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 7471: MERCURY						Analyst: **pmf**
Mercury	0.21	0.033		mg/Kg	1	6/4/2019 6:48:43 PM
EPA METHOD 6010B: SOIL METALS						Analyst: **ELS**
Arsenic	ND	5.0		mg/Kg	2	6/4/2019 9:31:48 AM
Barium	200	0.20		mg/Kg	2	6/4/2019 9:31:48 AM
Cadmium	ND	0.20		mg/Kg	2	6/4/2019 9:31:48 AM
Chromium	4.2	0.60		mg/Kg	2	6/4/2019 9:31:48 AM
Lead	250	2.5		mg/Kg	10	6/4/2019 9:56:27 AM
Selenium	ND	5.0		mg/Kg	2	6/4/2019 9:31:48 AM
Silver	ND	0.50		mg/Kg	2	6/4/2019 9:31:48 AM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

CLIENT: City of Albuquerque Environmental Healt
Client Sample ID: SS-111
Project: Rail Yards
Collection Date: 5/30/2019 1:23:00 PM
Lab ID: 1905F32-006
Matrix: SOIL
Received Date: 5/31/2019 3:20:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 7471: MERCURY						Analyst: **pmf**
Mercury	ND	0.031		mg/Kg	1	6/4/2019 6:50:44 PM
EPA METHOD 6010B: SOIL METALS						Analyst: **ELS**
Arsenic	ND	5.0		mg/Kg	2	6/4/2019 9:33:29 AM
Barium	120	0.20		mg/Kg	2	6/4/2019 9:33:29 AM
Cadmium	ND	0.20		mg/Kg	2	6/4/2019 9:33:29 AM
Chromium	3.6	0.60		mg/Kg	2	6/4/2019 9:33:29 AM
Lead	23	0.50		mg/Kg	2	6/4/2019 9:33:29 AM
Selenium	ND	5.0		mg/Kg	2	6/4/2019 9:33:29 AM
Silver	ND	0.50		mg/Kg	2	6/4/2019 9:33:29 AM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit
P	Sample pH Not In Range
PQL	Practical Quanitative Limit
RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix

Hall Environmental Analysis Laboratory, Inc.

CLIENT: City of Albuquerque Environmental Healt
Client Sample ID: SS-114
Project: Rail Yards
Collection Date: 5/31/2019 12:50:00 PM
Lab ID: 1905F32-007
Matrix: SOIL
Received Date: 5/31/2019 3:20:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 7471: MERCURY						Analyst: **pmf**
Mercury	ND	0.032		mg/Kg	1	6/4/2019 6:52:44 PM
EPA METHOD 6010B: SOIL METALS						Analyst: **ELS**
Arsenic	ND	5.0		mg/Kg	2	6/4/2019 9:41:07 AM
Barium	390	0.20		mg/Kg	2	6/4/2019 9:41:07 AM
Cadmium	ND	0.20		mg/Kg	2	6/4/2019 9:41:07 AM
Chromium	11	0.59		mg/Kg	2	6/4/2019 9:41:07 AM
Lead	940	12		mg/Kg	50	6/4/2019 10:05:35 AM
Selenium	ND	5.0		mg/Kg	2	6/4/2019 9:41:07 AM
Silver	ND	0.50		mg/Kg	2	6/4/2019 9:41:07 AM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: City of Albuquerque Environmental Healt
Client Sample ID: SS-113
Project: Rail Yards
Collection Date: 5/31/2019 1:05:00 PM
Lab ID: 1905F32-008
Matrix: SOIL
Received Date: 5/31/2019 3:20:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 7471: MERCURY						Analyst: **pmf**
Mercury	0.26	0.032		mg/Kg	1	6/4/2019 6:54:45 PM
EPA METHOD 6010B: SOIL METALS						Analyst: **ELS**
Arsenic	14	4.8		mg/Kg	2	6/4/2019 9:42:48 AM
Barium	270	0.19		mg/Kg	2	6/4/2019 9:42:48 AM
Cadmium	ND	0.19		mg/Kg	2	6/4/2019 9:42:48 AM
Chromium	22	0.58		mg/Kg	2	6/4/2019 9:42:48 AM
Lead	780	4.8		mg/Kg	20	6/4/2019 10:07:17 AM
Selenium	ND	4.8		mg/Kg	2	6/4/2019 9:42:48 AM
Silver	ND	0.48		mg/Kg	2	6/4/2019 9:42:48 AM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

CLIENT: City of Albuquerque Environmental Healt
Client Sample ID: SS-112
Project: Rail Yards
Collection Date: 5/31/2019 1:10:00 PM
Lab ID: 1905F32-009
Matrix: SOIL
Received Date: 5/31/2019 3:20:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 7471: MERCURY						Analyst: **pmf**
Mercury	0.14	0.033		mg/Kg	1	6/4/2019 7:00:57 PM
EPA METHOD 6010B: SOIL METALS						Analyst: **ELS**
Arsenic	7.2	4.9		mg/Kg	2	6/4/2019 9:44:34 AM
Barium	220	0.19		mg/Kg	2	6/4/2019 9:44:34 AM
Cadmium	ND	0.19		mg/Kg	2	6/4/2019 9:44:34 AM
Chromium	10	0.58		mg/Kg	2	6/4/2019 9:44:34 AM
Lead	380	2.4		mg/Kg	10	6/4/2019 10:08:57 AM
Selenium	ND	4.9		mg/Kg	2	6/4/2019 9:44:34 AM
Silver	ND	0.49		mg/Kg	2	6/4/2019 9:44:34 AM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

CLIENT: City of Albuquerque Environmental Healt
Client Sample ID: SS-116
Project: Rail Yards
Collection Date: 5/31/2019 1:20:00 PM
Lab ID: 1905F32-010
Matrix: SOIL
Received Date: 5/31/2019 3:20:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 7471: MERCURY						Analyst: **pmf**
Mercury	0.80	0.16		mg/Kg	5	6/4/2019 7:16:25 PM
EPA METHOD 6010B: SOIL METALS						Analyst: **ELS**
Arsenic	12	4.9		mg/Kg	2	6/4/2019 9:46:20 AM
Barium	240	0.20		mg/Kg	2	6/4/2019 9:46:20 AM
Cadmium	0.30	0.20		mg/Kg	2	6/4/2019 9:46:20 AM
Chromium	13	0.59		mg/Kg	2	6/4/2019 9:46:20 AM
Lead	340	2.5		mg/Kg	10	6/4/2019 10:10:38 AM
Selenium	ND	4.9		mg/Kg	2	6/4/2019 9:46:20 AM
Silver	ND	0.49		mg/Kg	2	6/4/2019 9:46:20 AM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

CLIENT: City of Albuquerque Environmental Healt
Client Sample ID: SS-115
Project: Rail Yards
Collection Date: 5/31/2019 1:22:00 PM
Lab ID: 1905F32-011
Matrix: SOIL
Received Date: 5/31/2019 3:20:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 7471: MERCURY						Analyst: **pmf**
Mercury	0.41	0.16		mg/Kg	5	6/4/2019 7:18:28 PM
EPA METHOD 6010B: SOIL METALS						Analyst: **ELS**
Arsenic	18	5.0		mg/Kg	2	6/4/2019 9:48:04 AM
Barium	240	0.20		mg/Kg	2	6/4/2019 9:48:04 AM
Cadmium	ND	0.20		mg/Kg	2	6/4/2019 9:48:04 AM
Chromium	26	0.60		mg/Kg	2	6/4/2019 9:48:04 AM
Lead	800	5.0		mg/Kg	20	6/4/2019 10:12:18 AM
Selenium	5.1	5.0		mg/Kg	2	6/4/2019 9:48:04 AM
Silver	ND	0.50		mg/Kg	2	6/4/2019 9:48:04 AM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

CLIENT: City of Albuquerque Environmental Healt
Client Sample ID: Stockpile 9
Project: Rail Yards
Collection Date: 5/31/2019 2:22:00 PM
Lab ID: 1905F32-012 **Matrix:** SOIL
Received Date: 5/31/2019 3:20:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
MERCURY, TCLP						Analyst: **pmf**
Mercury	ND	0.020		mg/L	1	6/7/2019 12:28:31 PM
EPA METHOD 6010B: TCLP METALS						Analyst: **ELS**
Arsenic	ND	5.0		mg/L	1	6/8/2019 11:34:56 AM
Barium	ND	100		mg/L	1	6/8/2019 10:39:24 AM
Cadmium	ND	1.0		mg/L	1	6/8/2019 10:39:24 AM
Chromium	ND	5.0		mg/L	1	6/8/2019 10:39:24 AM
Lead	ND	5.0		mg/L	1	6/8/2019 11:34:56 AM
Selenium	ND	1.0		mg/L	1	6/8/2019 10:39:24 AM
Silver	ND	5.0		mg/L	1	6/8/2019 10:39:24 AM
EPA METHOD 8270C TCLP						Analyst: **JDC**
2-Methylphenol	ND	200		mg/L	1	6/10/2019 6:05:19 PM
3+4-Methylphenol	ND	200		mg/L	1	6/10/2019 6:05:19 PM
2,4-Dinitrotoluene	ND	0.13		mg/L	1	6/10/2019 6:05:19 PM
Hexachlorobenzene	ND	0.13		mg/L	1	6/10/2019 6:05:19 PM
Hexachlorobutadiene	ND	0.50		mg/L	1	6/10/2019 6:05:19 PM
Hexachloroethane	ND	3.0		mg/L	1	6/10/2019 6:05:19 PM
Nitrobenzene	ND	2.0		mg/L	1	6/10/2019 6:05:19 PM
Pentachlorophenol	ND	100		mg/L	1	6/10/2019 6:05:19 PM
Pyridine	ND	5.0		mg/L	1	6/10/2019 6:05:19 PM
2,4,5-Trichlorophenol	ND	400		mg/L	1	6/10/2019 6:05:19 PM
2,4,6-Trichlorophenol	ND	2.0		mg/L	1	6/10/2019 6:05:19 PM
Cresols, Total	ND	200		mg/L	1	6/10/2019 6:05:19 PM
Surr: 2-Fluorophenol	62.0	22.2-88.7		%Rec	1	6/10/2019 6:05:19 PM
Surr: Phenol-d5	43.8	16.4-74.1		%Rec	1	6/10/2019 6:05:19 PM
Surr: 2,4,6-Tribromophenol	79.5	28.1-108		%Rec	1	6/10/2019 6:05:19 PM
Surr: Nitrobenzene-d5	85.8	20.1-112		%Rec	1	6/10/2019 6:05:19 PM
Surr: 2-Fluorobiphenyl	79.5	19.1-97.5		%Rec	1	6/10/2019 6:05:19 PM
Surr: 4-Terphenyl-d14	78.4	31.1-114		%Rec	1	6/10/2019 6:05:19 PM
EPA METHOD 8260B: TCLP COMPOUNDS						Analyst: **DJF**
Benzene	ND	0.50		ppm	10	6/6/2019 3:27:25 AM
1,2-Dichloroethane (EDC)	ND	0.50		ppm	10	6/6/2019 3:27:25 AM
2-Butanone	ND	200		ppm	10	6/6/2019 3:27:25 AM
Carbon tetrachloride	ND	0.50		ppm	10	6/6/2019 3:27:25 AM
Chlorobenzene	ND	100		ppm	10	6/6/2019 3:27:25 AM
Chloroform	ND	6.0		ppm	10	6/6/2019 3:27:25 AM
1,4-Dichlorobenzene	ND	7.5		ppm	10	6/6/2019 3:27:25 AM
1,1-Dichloroethene	ND	0.70		ppm	10	6/6/2019 3:27:25 AM
Tetrachloroethene (PCE)	ND	0.70		ppm	10	6/6/2019 3:27:25 AM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit
P	Sample pH Not In Range
PQL	Practical Quanitative Limit
RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix

Hall Environmental Analysis Laboratory, Inc.

CLIENT: City of Albuquerque Environmental Healt
Client Sample ID: Stockpile 9
Project: Rail Yards
Collection Date: 5/31/2019 2:22:00 PM
Lab ID: 1905F32-012 **Matrix:** SOIL
Received Date: 5/31/2019 3:20:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: TCLP COMPOUNDS						Analyst: **DJF**
Trichloroethene (TCE)	ND	0.50		ppm	10	6/6/2019 3:27:25 AM
Vinyl chloride	ND	0.20		ppm	10	6/6/2019 3:27:25 AM
Surr: 1,2-Dichloroethane-d4	87.8	70-130		%Rec	10	6/6/2019 3:27:25 AM
Surr: 4-Bromofluorobenzene	103	70-130		%Rec	10	6/6/2019 3:27:25 AM
Surr: Dibromofluoromethane	73.6	70-130		%Rec	10	6/6/2019 3:27:25 AM
Surr: Toluene-d8	104	70-130		%Rec	10	6/6/2019 3:27:25 AM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit
P	Sample pH Not In Range
PQL	Practical Quanitative Limit
RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1905F32**
12-Jun-19

Client: City of Albuquerque Environmental Health Dept
Project: Rail Yards

Sample ID: **mb-45359** SampType: **MBLK** TestCode: **EPA Method 8260B: TCLP Compounds**
Client ID: **PBS** Batch ID: **45359** RunNo: **60422**
Prep Date: **6/4/2019** Analysis Date: **6/6/2019** SeqNo: **2044083** Units: **ppm**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.050								
1,2-Dichloroethane (EDC)	ND	0.050								
2-Butanone	ND	20								
Carbon tetrachloride	ND	0.050								
Chlorobenzene	ND	10								
Chloroform	ND	0.60								
1,4-Dichlorobenzene	ND	0.75								
1,1-Dichloroethene	ND	0.070								
Tetrachloroethene (PCE)	ND	0.070								
Trichloroethene (TCE)	ND	0.050								
Vinyl chloride	ND	0.020								
Surr: 1,2-Dichloroethane-d4	0.46		0.5000		91.6	70	130			
Surr: 4-Bromofluorobenzene	0.47		0.5000		94.5	70	130			
Surr: Dibromofluoromethane	0.39		0.5000		78.5	70	130			
Surr: Toluene-d8	0.47		0.5000		94.1	70	130			

Sample ID: **lcs-45359** SampType: **LCS** TestCode: **EPA Method 8260B: TCLP Compounds**
Client ID: **LCSS** Batch ID: **45359** RunNo: **60422**
Prep Date: **6/4/2019** Analysis Date: **6/6/2019** SeqNo: **2044084** Units: **ppm**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.98	0.050	1.000	0	97.9	70	130			
Chlorobenzene	0.95	0.050	1.000	0	95.4	70	130			
1,1-Dichloroethene	0.95	0.050	1.000	0	94.8	50.8	164			
Trichloroethene (TCE)	0.83	0.050	1.000	0	82.8	70	130			
Surr: 1,2-Dichloroethane-d4	0.48		0.5000		96.5	70	130			
Surr: 4-Bromofluorobenzene	0.44		0.5000		88.6	70	130			
Surr: Dibromofluoromethane	0.39		0.5000		77.7	70	130			
Surr: Toluene-d8	0.51		0.5000		101	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1905F32**
12-Jun-19

Client: City of Albuquerque Environmental Health Dept
Project: Rail Yards

Sample ID: **lcs-45434** SampType: **LCS** TestCode: **EPA Method 8270C TCLP**
Client ID: **LCSS** Batch ID: **45434** RunNo: **60530**
Prep Date: **6/7/2019** Analysis Date: **6/10/2019** SeqNo: **2047748** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
2-Methylphenol	0.071	0.040	0.1000	0	70.7	42.2	104			
3+4-Methylphenol	0.14	0.098	0.2000	0	72.1	42.3	108			
2,4-Dinitrotoluene	0.067	0.066	0.1000	0	66.8	45.8	87.8			
Hexachlorobenzene	0.077	0.043	0.1000	0	77.3	54.5	104			
Hexachlorobutadiene	0.053	0.048	0.1000	0	52.9	35.2	95.8			
Hexachloroethane	0.053	0.039	0.1000	0	52.6	32.3	91.8			
Nitrobenzene	0.073	0.042	0.1000	0	72.8	53.1	98.9			
Pentachlorophenol	0.056	0.034	0.1000	0	56.1	30.3	104			
Pyridine	ND	0.053	0.1000	0	0	15	90			S
2,4,5-Trichlorophenol	0.071	0.056	0.1000	0	70.5	42.1	107			
2,4,6-Trichlorophenol	0.075	0.059	0.1000	0	75.2	43.8	110			
Cresols, Total	0.21	0.14	0.3000	0	71.6	44.1	111			
Surr: 2-Fluorophenol	0.12		0.2000		58.2	22.2	88.7			
Surr: Phenol-d5	0.085		0.2000		42.5	16.4	74.1			
Surr: 2,4,6-Tribromophenol	0.16		0.2000		79.3	28.1	108			
Surr: Nitrobenzene-d5	0.080		0.1000		79.8	20.1	112			
Surr: 2-Fluorobiphenyl	0.079		0.1000		78.7	19.1	97.5			
Surr: 4-Terphenyl-d14	0.078		0.1000		78.0	31.1	114			

Sample ID: **mb-45434** SampType: **MBLK** TestCode: **EPA Method 8270C TCLP**
Client ID: **PBS** Batch ID: **45434** RunNo: **60530**
Prep Date: **6/7/2019** Analysis Date: **6/10/2019** SeqNo: **2047750** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
2-Methylphenol	ND	200								
3+4-Methylphenol	ND	200								
2,4-Dinitrotoluene	ND	0.13								
Hexachlorobenzene	ND	0.13								
Hexachlorobutadiene	ND	0.50								
Hexachloroethane	ND	3.0								
Nitrobenzene	ND	2.0								
Pentachlorophenol	ND	100								
Pyridine	ND	5.0								
2,4,5-Trichlorophenol	ND	400								
2,4,6-Trichlorophenol	ND	2.0								
Cresols, Total	ND	200								
Surr: 2-Fluorophenol	0.13		0.2000		66.9	22.2	88.7			
Surr: Phenol-d5	0.094		0.2000		47.1	16.4	74.1			
Surr: 2,4,6-Tribromophenol	0.17		0.2000		83.3	28.1	108			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1905F32**
12-Jun-19

Client: City of Albuquerque Environmental Health Dept
Project: Rail Yards

Sample ID: **mb-45434** SampType: **MBLK** TestCode: **EPA Method 8270C TCLP**
Client ID: **PBS** Batch ID: **45434** RunNo: **60530**
Prep Date: **6/7/2019** Analysis Date: **6/10/2019** SeqNo: **2047750** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: Nitrobenzene-d5	0.089		0.1000		89.4	20.1	112			
Surr: 2-Fluorobiphenyl	0.083		0.1000		82.7	19.1	97.5			
Surr: 4-Terphenyl-d14	0.082		0.1000		82.4	31.1	114			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1905F32**
12-Jun-19

Client: City of Albuquerque Environmental Health Dept
Project: Rail Yards

Sample ID: **MB-45353**	SampType: **MBLK**	TestCode: **EPA Method 7471: Mercury**
Client ID: **PBS**	Batch ID: **45353**	RunNo: **60402**
Prep Date: **6/3/2019**	Analysis Date: **6/4/2019**	SeqNo: **2042757** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	ND	0.033								

Sample ID: **LLLCS-45353**	SampType: **LCSLL**	TestCode: **EPA Method 7471: Mercury**
Client ID: **BatchQC**	Batch ID: **45353**	RunNo: **60402**
Prep Date: **6/3/2019**	Analysis Date: **6/4/2019**	SeqNo: **2042758** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	ND	0.033	0.006660	0	89.2	70	130			

Sample ID: **LCS-45353**	SampType: **LCS**	TestCode: **EPA Method 7471: Mercury**
Client ID: **LCSS**	Batch ID: **45353**	RunNo: **60402**
Prep Date: **6/3/2019**	Analysis Date: **6/4/2019**	SeqNo: **2042759** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.17	0.033	0.1667	0	105	80	120			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1905F32**

12-Jun-19

Client: City of Albuquerque Environmental Health Dept

Project: Rail Yards

Sample ID: **MB-45428**	SampType: **MBLK**	TestCode: **MERCURY, TCLP**
Client ID: **PBW**	Batch ID: **45428**	RunNo: **60483**
Prep Date: **6/6/2019**	Analysis Date: **6/7/2019**	SeqNo: **2046121** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	ND	0.020								

Sample ID: **LCS-45428**	SampType: **LCS**	TestCode: **MERCURY, TCLP**
Client ID: **LCSW**	Batch ID: **45428**	RunNo: **60483**
Prep Date: **6/6/2019**	Analysis Date: **6/7/2019**	SeqNo: **2046122** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	ND	0.020	0.005000	0	96.3	80	120			

Sample ID: **1905F32-012AMS**	SampType: **MS**	TestCode: **MERCURY, TCLP**
Client ID: **Stockpile 9**	Batch ID: **45428**	RunNo: **60483**
Prep Date: **6/6/2019**	Analysis Date: **6/7/2019**	SeqNo: **2046124** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	ND	0.020	0.005000	0	102	75	125			

Sample ID: **1905F32-012AMSD**	SampType: **MSD**	TestCode: **MERCURY, TCLP**
Client ID: **Stockpile 9**	Batch ID: **45428**	RunNo: **60483**
Prep Date: **6/6/2019**	Analysis Date: **6/7/2019**	SeqNo: **2046125** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	ND	0.020	0.005000	0	102	75	125	0	20	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1905F32**

12-Jun-19

Client: City of Albuquerque Environmental Health Dept

Project: Rail Yards

Sample ID: **LCS-45343** SampType: **LCS** TestCode: **EPA Method 6010B: Soil Metals**

Client ID: **LCSS** Batch ID: **45343** RunNo: **60369**

Prep Date: **6/3/2019** Analysis Date: **6/4/2019** SeqNo: **2041374** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	25	2.5	25.00	0	98.4	80	120			
Barium	24	0.10	25.00	0	96.1	80	120			
Cadmium	25	0.10	25.00	0	99.6	80	120			
Chromium	24	0.30	25.00	0	97.7	80	120			
Lead	25	0.25	25.00	0	100	80	120			
Selenium	24	2.5	25.00	0	95.9	80	120			
Silver	5.0	0.25	5.000	0	100	80	120			

Sample ID: **MB-45343** SampType: **MBLK** TestCode: **EPA Method 6010B: Soil Metals**

Client ID: **PBS** Batch ID: **45343** RunNo: **60369**

Prep Date: **6/3/2019** Analysis Date: **6/4/2019** SeqNo: **2041376** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	2.5								
Barium	ND	0.10								
Cadmium	ND	0.10								
Chromium	ND	0.30								
Lead	ND	0.25								
Selenium	ND	2.5								
Silver	ND	0.25								

Sample ID: **1905F32-001AMS** SampType: **MS** TestCode: **EPA Method 6010B: Soil Metals**

Client ID: **SS-106** Batch ID: **45343** RunNo: **60369**

Prep Date: **6/3/2019** Analysis Date: **6/4/2019** SeqNo: **2041411** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	25	4.8	24.22	3.904	86.7	75	125			
Barium	180	0.19	24.22	180.4	-2.96	75	125			S
Cadmium	22	0.19	24.22	0	91.0	75	125			
Chromium	30	0.58	24.22	12.05	72.8	75	125			S
Selenium	21	4.8	24.22	0	85.4	75	125			
Silver	3.2	0.48	4.845	0	65.5	75	125			S

Sample ID: **1905F32-001AMSD** SampType: **MSD** TestCode: **EPA Method 6010B: Soil Metals**

Client ID: **SS-106** Batch ID: **45343** RunNo: **60369**

Prep Date: **6/3/2019** Analysis Date: **6/4/2019** SeqNo: **2041412** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	25	5.0	24.79	3.904	85.7	75	125	0.936	20	
Barium	180	0.20	24.79	180.4	-3.36	75	125	0.0648	20	S

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1905F32**
12-Jun-19

Client: City of Albuquerque Environmental Health Dept
Project: Rail Yards

Sample ID: **1905F32-001AMSD** SampType: **MSD** TestCode: **EPA Method 6010B: Soil Metals**
Client ID: **SS-106** Batch ID: **45343** RunNo: **60369**
Prep Date: **6/3/2019** Analysis Date: **6/4/2019** SeqNo: **2041412** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Cadmium	23	0.20	24.79	0	92.7	75	125	4.13	20	
Chromium	32	0.60	24.79	12.05	78.9	75	125	6.31	20	
Selenium	21	5.0	24.79	0	86.6	75	125	3.67	20	
Silver	3.6	0.50	4.958	0	72.7	75	125	12.7	20	S

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1905F32**

12-Jun-19

Client: City of Albuquerque Environmental Health Dept

Project: Rail Yards

Sample ID: **MB-45451**	SampType: **MBLK**	TestCode: **EPA Method 6010B: TCLP Metals**
Client ID: **PBW**	Batch ID: **45451**	RunNo: **60503**
Prep Date: **6/7/2019**	Analysis Date: **6/8/2019**	SeqNo: **2046542** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	5.0								
Barium	ND	100								
Cadmium	ND	1.0								
Chromium	ND	5.0								
Selenium	ND	1.0								
Silver	ND	5.0								

Sample ID: **LCS-45451**	SampType: **LCS**	TestCode: **EPA Method 6010B: TCLP Metals**
Client ID: **LCSW**	Batch ID: **45451**	RunNo: **60503**
Prep Date: **6/7/2019**	Analysis Date: **6/8/2019**	SeqNo: **2046543** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	5.0	0.5000	0	97.8	80	120			
Barium	ND	100	0.5000	0	93.9	80	120			
Cadmium	ND	1.0	0.5000	0	96.6	80	120			
Chromium	ND	5.0	0.5000	0	95.0	80	120			
Selenium	ND	1.0	0.5000	0	103	80	120			
Silver	ND	5.0	0.1000	0	102	80	120			

Sample ID: **MB-45451**	SampType: **MBLK**	TestCode: **EPA Method 6010B: TCLP Metals**
Client ID: **PBW**	Batch ID: **45451**	RunNo: **60503**
Prep Date: **6/7/2019**	Analysis Date: **6/8/2019**	SeqNo: **2046559** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	ND	5.0								

Sample ID: **LCS-45451**	SampType: **LCS**	TestCode: **EPA Method 6010B: TCLP Metals**
Client ID: **LCSW**	Batch ID: **45451**	RunNo: **60503**
Prep Date: **6/7/2019**	Analysis Date: **6/8/2019**	SeqNo: **2046560** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	ND	5.0	0.5000	0	97.0	80	120			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: City of Albuquerque Env Work Order Number: 1905F32 RcptNo: 1

Received By: **Desiree Dominguez** 5/31/2019 3:20:00 PM DD

Completed By: **Desiree Dominguez** 5/31/2019 3:56:40 PM DD

Reviewed By: 5-31-19 TWN

Chain of Custody

1. Is Chain of Custody complete?	Yes ☑	No ☐	Not Present ☐
2. How was the sample delivered?	Client		

Log In

3. Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
4. Were all samples received at a temperature of >0° C to 6.0°C	Yes ☐	No ☑	NA ☐
5. Sample(s) in proper container(s)?	Yes ☑ (Not required)	No ☐	
6. Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
7. Are samples (except VOA and ONG) properly preserved?	Yes ☑	No ☐	
8. Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
9. VOA vials have zero headspace?	Yes ☐	No ☐	No VOA Vials ☑
10. Were any sample containers received broken?	Yes ☐	No ☑	
11. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ☑	No ☐	
12. Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	
13. Is it clear what analyses were requested?	Yes ☑	No ☐	
14. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes ☑	No ☐	

# of preserved bottles checked for pH: _____ (<2 or >12 unless noted)

Adjusted? _____

Checked by: JC 5-31-19

Special Handling (if applicable)

15. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified: _____ Date: _____

By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: _____

Client Instructions: _____

16. Additional remarks:

17. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	19.6	Good	Not Present			

Chain-of-Custody Record

Client: Env. Services Division
CEHD
Mailing Address: One Civic Plaza, Suite 3023
Albq. NM 87103
Phone #: 505 768-2658
email or Fax#: bfaris@cabq.gov
QA/QC Package:
☐ Standard ☐ Level 4 (Full Validation)
Accreditation: ☐ Az Compliance
☐ NELAC ☐ Other
☐ EDD (Type)

Turn-Around Time:
☒ Standard ☐ Rush
Project Name: Rail Yards
Project #: Pb contaminated Soil
Project Manager: Bart Faris
Sampler:
On Ice: ☒ Yes ☐ No
# of Coolers: 1
Cooler Temp(including CF): 19.6°C

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 1905F32	BTEX / MTBE / TMB's (8021)	TPH:8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	Cl, F, Br, NO_3, NO_2, PO_4, SO_4	8260 (VOA) TCLP	8270 (Semi-VOA) TCLP	Total Coliform (Present/Absent)
5-30-19	1140	soil	SS 106	Jar		-001						X				
	1150		SS 107			-002										
	1155		SS 108			-003										
	1313		SS 109			-004										
	1319		SS 110			-005										
	1323		SS 111			-006										
5-31-19	1250		SS 114			-007										
	1305		SS 113			-008										
	1310		SS 112			-009										
	1320		SS 116			-010										
	1322		SS 115			-011						X				
5-31-19	1422	X	Stockpile 9	X		-012						X		X	X	

Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
5-31-19	15:20	Bart Faris		CDO	5/31/19	15:20
Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time

Remarks: note sample stockpile 9 is TCLP for RCRA metal, VOA, semi VOA

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

June 24, 2019

Ken Ziegler

City of Albuquerque Environmental Health Dept
1 Civic Plaza, Room 3023
Albuquerque, NM 87103
TEL:
FAX

RE: Railyards Excavation Ph 3 OrderNo.: 1906B06

Dear Ken Ziegler:

Hall Environmental Analysis Laboratory received 5 sample(s) on 6/20/2019 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0901

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

CLIENT: City of Albuquerque Environmental Healt
Client Sample ID: Railss 120
Project: Railyards Excavation Ph 3
Collection Date: 6/20/2019 1:16:00 PM
Lab ID: 1906B06-001 **Matrix:** SOIL
Received Date: 6/20/2019 2:15:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 7471: MERCURY						Analyst: **rde**
Mercury	ND	0.032		mg/Kg	1	6/21/2019 7:28:27 PM
EPA METHOD 6010B: SOIL METALS						Analyst: **ELS**
Arsenic	ND	4.9		mg/Kg	2	6/21/2019 9:12:18 AM
Barium	310	0.20		mg/Kg	2	6/21/2019 9:12:18 AM
Cadmium	ND	0.20		mg/Kg	2	6/21/2019 9:12:18 AM
Chromium	8.5	0.59		mg/Kg	2	6/21/2019 9:12:18 AM
Lead	9.2	0.49		mg/Kg	2	6/22/2019 9:03:17 AM
Selenium	ND	4.9		mg/Kg	2	6/21/2019 9:12:18 AM
Silver	ND	0.49		mg/Kg	2	6/21/2019 9:12:18 AM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

CLIENT: City of Albuquerque Environmental Healt
Client Sample ID: Railss 128
Project: Railyards Excavation Ph 3
Collection Date: 6/20/2019 1:16:00 PM
Lab ID: 1906B06-002 **Matrix:** SOIL
Received Date: 6/20/2019 2:15:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 7471: MERCURY						Analyst: **rde**
Mercury	0.19	0.033		mg/Kg	1	6/21/2019 7:30:24 PM
EPA METHOD 6010B: SOIL METALS						Analyst: **ELS**
Arsenic	9.5	4.9		mg/Kg	2	6/21/2019 9:22:37 AM
Barium	890	0.49		mg/Kg	5	6/21/2019 10:44:34 AM
Cadmium	ND	0.20		mg/Kg	2	6/21/2019 9:22:37 AM
Chromium	27	0.59		mg/Kg	2	6/21/2019 9:22:37 AM
Lead	310	2.5		mg/Kg	10	6/22/2019 9:13:44 AM
Selenium	ND	4.9		mg/Kg	2	6/21/2019 9:22:37 AM
Silver	ND	0.49		mg/Kg	2	6/21/2019 9:22:37 AM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

CLIENT: City of Albuquerque Environmental Healt
Client Sample ID: Railss 133
Project: Railyards Excavation Ph 3
Collection Date: 6/20/2019 1:17:00 PM
Lab ID: 1906B06-003 **Matrix:** SOIL
Received Date: 6/20/2019 2:15:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 7471: MERCURY						Analyst: **rde**
Mercury	ND	0.031		mg/Kg	1	6/21/2019 7:32:22 PM
EPA METHOD 6010B: SOIL METALS						Analyst: **ELS**
Arsenic	ND	4.8		mg/Kg	2	6/21/2019 9:25:52 AM
Barium	110	0.19		mg/Kg	2	6/21/2019 9:25:52 AM
Cadmium	ND	0.19		mg/Kg	2	6/21/2019 9:25:52 AM
Chromium	5.1	0.58		mg/Kg	2	6/21/2019 9:25:52 AM
Lead	43	0.48		mg/Kg	2	6/22/2019 9:15:15 AM
Selenium	ND	4.8		mg/Kg	2	6/21/2019 9:25:52 AM
Silver	ND	0.48		mg/Kg	2	6/21/2019 9:25:52 AM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit
P	Sample pH Not In Range
PQL	Practical Quanitative Limit
RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix

Hall Environmental Analysis Laboratory, Inc.

CLIENT: City of Albuquerque Environmental Healt
Client Sample ID: Railss 124
Project: Railyards Excavation Ph 3
Collection Date: 6/20/2019 1:17:00 PM
Lab ID: 1906B06-004 **Matrix:** SOIL
Received Date: 6/20/2019 2:15:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 7471: MERCURY						Analyst: **rde**
Mercury	ND	0.033		mg/Kg	1	6/21/2019 7:34:20 PM
EPA METHOD 6010B: SOIL METALS						Analyst: **ELS**
Arsenic	ND	4.8		mg/Kg	2	6/21/2019 9:27:25 AM
Barium	270	0.19		mg/Kg	2	6/21/2019 9:27:25 AM
Cadmium	ND	0.19		mg/Kg	2	6/21/2019 9:27:25 AM
Chromium	10	0.57		mg/Kg	2	6/21/2019 9:27:25 AM
Lead	7.4	0.48		mg/Kg	2	6/22/2019 9:16:44 AM
Selenium	ND	4.8		mg/Kg	2	6/21/2019 9:27:25 AM
Silver	ND	0.48		mg/Kg	2	6/21/2019 9:27:25 AM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

CLIENT: City of Albuquerque Environmental Healt
Client Sample ID: Railss 134
Project: Railyards Excavation Ph 3
Collection Date: 6/20/2019 1:18:00 PM
Lab ID: 1906B06-005 **Matrix:** SOIL
Received Date: 6/20/2019 2:15:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 7471: MERCURY						Analyst: **rde**
Mercury	0.067	0.032		mg/Kg	1	6/21/2019 7:36:19 PM
EPA METHOD 6010B: SOIL METALS						Analyst: **ELS**
Arsenic	ND	4.9		mg/Kg	2	6/21/2019 9:28:58 AM
Barium	250	0.20		mg/Kg	2	6/21/2019 9:28:58 AM
Cadmium	ND	0.20		mg/Kg	2	6/21/2019 9:28:58 AM
Chromium	4.5	0.59		mg/Kg	2	6/21/2019 9:28:58 AM
Lead	130	1.2		mg/Kg	5	6/22/2019 9:18:15 AM
Selenium	ND	4.9		mg/Kg	2	6/21/2019 9:28:58 AM
Silver	ND	0.49		mg/Kg	2	6/21/2019 9:28:58 AM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1906B06**
24-Jun-19

Client: City of Albuquerque Environmental Health Dept
Project: Railyards Excavation Ph 3

Sample ID: **MB-45724** SampType: **MBLK** TestCode: **EPA Method 7471: Mercury**
Client ID: **PBS** Batch ID: **45724** RunNo: **60851**
Prep Date: **6/20/2019** Analysis Date: **6/21/2019** SeqNo: **2060097** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	ND	0.033								

Sample ID: **LCS-45724** SampType: **LCS** TestCode: **EPA Method 7471: Mercury**
Client ID: **LCSS** Batch ID: **45724** RunNo: **60851**
Prep Date: **6/20/2019** Analysis Date: **6/21/2019** SeqNo: **2060098** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.17	0.033	0.1667	0	99.6	80	120			

Sample ID: **LLLCS-45724** SampType: **LCSLL** TestCode: **EPA Method 7471: Mercury**
Client ID: **BatchQC** Batch ID: **45724** RunNo: **60851**
Prep Date: **6/20/2019** Analysis Date: **6/21/2019** SeqNo: **2060099** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	ND	0.033	0.006660	0	91.8	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1906B06**

24-Jun-19

Client: City of Albuquerque Environmental Health Dept

Project: Railyards Excavation Ph 3

Sample ID: **LCS-45719** SampType: **LCS** TestCode: **EPA Method 6010B: Soil Metals**

Client ID: **LCSS** Batch ID: **45719** RunNo: **60823**

Prep Date: **6/20/2019** Analysis Date: **6/21/2019** SeqNo: **2058780** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	24	2.5	25.00	0	94.6	80	120			
Barium	24	0.10	25.00	0	96.5	80	120			
Cadmium	24	0.10	25.00	0	97.8	80	120			
Chromium	24	0.30	25.00	0	98.0	80	120			
Selenium	24	2.5	25.00	0	95.4	80	120			
Silver	5.0	0.25	5.000	0	101	80	120			

Sample ID: **1906B06-001AMS** SampType: **MS** TestCode: **EPA Method 6010B: Soil Metals**

Client ID: **Railss 120** Batch ID: **45719** RunNo: **60823**

Prep Date: **6/20/2019** Analysis Date: **6/21/2019** SeqNo: **2058808** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	22	4.9	24.34	0	90.8	75	125			
Barium	330	0.19	24.34	312.8	81.4	75	125			
Cadmium	22	0.19	24.34	0	92.3	75	125			
Chromium	31	0.58	24.34	8.537	91.9	75	125			
Selenium	23	4.9	24.34	0	93.9	75	125			
Silver	4.6	0.49	4.868	0	95.2	75	125			

Sample ID: **1906B06-001AMSD** SampType: **MSD** TestCode: **EPA Method 6010B: Soil Metals**

Client ID: **Railss 120** Batch ID: **45719** RunNo: **60823**

Prep Date: **6/20/2019** Analysis Date: **6/21/2019** SeqNo: **2058809** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	23	4.9	24.37	0	96.1	75	125	5.78	20	
Barium	330	0.19	24.37	312.8	62.1	75	125	1.42	20	S
Cadmium	23	0.19	24.37	0	94.2	75	125	2.24	20	
Chromium	31	0.58	24.37	8.537	93.5	75	125	1.33	20	
Selenium	23	4.9	24.37	0	95.0	75	125	1.31	20	
Silver	4.8	0.49	4.873	0	98.4	75	125	3.50	20	

Sample ID: **LCS-45719** SampType: **LCS** TestCode: **EPA Method 6010B: Soil Metals**

Client ID: **LCSS** Batch ID: **45719** RunNo: **60823**

Prep Date: **6/20/2019** Analysis Date: **6/21/2019** SeqNo: **2058826** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	24	2.5	25.00	0	96.1	80	120			
Barium	24	0.10	25.00	0	95.7	80	120			
Cadmium	24	0.10	25.00	0	96.7	80	120			
Chromium	24	0.30	25.00	0	95.1	80	120			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1906B06**
24-Jun-19

Client: City of Albuquerque Environmental Health Dept
Project: Railyards Excavation Ph 3

Sample ID: **LCS-45719** SampType: **LCS** TestCode: **EPA Method 6010B: Soil Metals**
Client ID: **LCSS** Batch ID: **45719** RunNo: **60823**
Prep Date: **6/20/2019** Analysis Date: **6/21/2019** SeqNo: **2058826** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Selenium	23	2.5	25.00	0	91.1	80	120			
Silver	5.0	0.25	5.000	0	101	80	120			

Sample ID: **MB-45719** SampType: **MBLK** TestCode: **EPA Method 6010B: Soil Metals**
Client ID: **PBS** Batch ID: **45719** RunNo: **60823**
Prep Date: **6/20/2019** Analysis Date: **6/21/2019** SeqNo: **2058828** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	2.5								
Barium	ND	0.10								
Cadmium	ND	0.10								
Chromium	ND	0.30								
Selenium	ND	2.5								
Silver	ND	0.25								

Sample ID: **MB-45719** SampType: **MBLK** TestCode: **EPA Method 6010B: Soil Metals**
Client ID: **PBS** Batch ID: **45719** RunNo: **60843**
Prep Date: **6/20/2019** Analysis Date: **6/22/2019** SeqNo: **2059550** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	ND	0.25								

Sample ID: **LCS-45719** SampType: **LCS** TestCode: **EPA Method 6010B: Soil Metals**
Client ID: **LCSS** Batch ID: **45719** RunNo: **60843**
Prep Date: **6/20/2019** Analysis Date: **6/22/2019** SeqNo: **2059551** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	25	0.25	25.00	0	100	80	120			

Sample ID: **1906B06-001AMS** SampType: **MS** TestCode: **EPA Method 6010B: Soil Metals**
Client ID: **Railss 120** Batch ID: **45719** RunNo: **60843**
Prep Date: **6/20/2019** Analysis Date: **6/22/2019** SeqNo: **2059554** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	29	0.49	24.34	9.163	82.4	75	125			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1906B06**
24-Jun-19

Client: City of Albuquerque Environmental Health Dept
Project: Railyards Excavation Ph 3

Sample ID: **1906B06-001AMSD** SampType: **MSD** TestCode: **EPA Method 6010B: Soil Metals**
Client ID: **Railss 120** Batch ID: **45719** RunNo: **60843**
Prep Date: **6/20/2019** Analysis Date: **6/22/2019** SeqNo: **2059555** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	32	0.49	24.37	9.163	92.2	75	125	7.98	20	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: **City of Albuquerque Env** Work Order Number: **1906B06** RcptNo: 1

Received By: **Erin Melendrez** **6/20/2019 2:15:00 PM**

Completed By: **Yazmine Garduno** **6/20/2019 2:59:49 PM**

Reviewed By: DAD 6/20/19

Chain of Custody

1. Is Chain of Custody complete? Yes ☑ No ☐ Not Present ☐
2. How was the sample delivered? Client

Log In

3. Was an attempt made to cool the samples? Yes ☑ No ☐ NA ☐
4. Were all samples received at a temperature of >0° C to 6.0°C Yes ☐ No ☑ NA ☐

Samples were collected the same day and chilled.

5. Sample(s) in proper container(s)? Yes ☑ No ☐
6. Sufficient sample volume for indicated test(s)? Yes ☑ No ☐
7. Are samples (except VOA and ONG) properly preserved? Yes ☑ No ☐
8. Was preservative added to bottles? Yes ☐ No ☑ NA ☐
9. VOA vials have zero headspace? Yes ☐ No ☐ No VOA Vials ☑
10. Were any sample containers received broken? Yes ☐ No ☑
11. Does paperwork match bottle labels? (Note discrepancies on chain of custody) Yes ☑ No ☐
12. Are matrices correctly identified on Chain of Custody? Yes ☑ No ☐
13. Is it clear what analyses were requested? Yes ☑ No ☐
14. Were all holding times able to be met? (If no, notify customer for authorization.) Yes ☑ No ☐

# of preserved bottles checked for pH: _____ (<2 or >12 unless noted)
Adjusted? _____
Checked by: _____

TMM 6-20-19

Special Handling (if applicable)

15. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified: _____ Date _____
By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person
Regarding: _____
Client Instructions: _____

16. Additional remarks:

17. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	29.4	Good	Yes			

Chain-of-Custody Record

Client: City of Albuquerque Planning Dept.

Mailing Address: 1 Civic Plaza NW Albuquerque, NM 87102

Phone #: 505-768-2669

email or Fax#: KrZiegler@cabq.gov

QA/QC Package:
☑ Standard ☐ Level 4 (Full Validation)

Accreditation
☐ NELAP ☐ Other _____

☐ EDD (Type) _____

Turn-Around Time:
☐ Standard ☑ Rush _____

Project Name: Railyards Excavation P43

Project #:

Project Manager: Ken Ziegler

Sampler: Ken Ziegler

On Ice: ☑ Yes ☐ No

Sample Temperature: 29.7-0.3(CF)=29.4

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1906B06	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	Air Bubbles (Y or N)
6/20/19	1316	SO	Railss 120			-001							X					
6/20/19	1316	SO	Railss 128			-002							X					
6/20/19	1317	SO	Railss 133			-003							X					
6/20/19	1317	SO	Railss 124			-004							X					
6/20/19	1318	SO	Railss 134			-005							X					

Date:	Time:	Relinquished by:	Received by:	Date	Time
6/20/19	1414	CoA		6/20/19	1541
Date:	Time:	Relinquished by:	Received by:	Date	Time

Remarks: 6/20/19

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

July 17, 2019

Ken Ziegler

City of Albuquerque Environmental Health Dept
1 Civic Plaza, Room 3023
Albuquerque, NM 87103
TEL: (505) 768-2658
FAX:

RE: Rail Yard Soil Excavation 2019 OrderNo.: 1905872

Dear Ken Ziegler:

Hall Environmental Analysis Laboratory received 14 sample(s) on 5/16/2019 for the analyses presented in the following report.

This report is a revised report and it replaces the original report issued May 22, 2019.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. All samples are reported as received unless otherwise indicated.

Please don't hesitate to contact HEAL for any additional information or clarifications.

Sincerely,

Andy Freeman

Laboratory Manager

4901 Hawkins NE
Albuquerque, NM 87109

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Case Narrative

WO#: **1905872**
Date: **7/17/2019**

CLIENT: City of Albuquerque Environmental Health Dept
Project: Rail Yard Soil Excavation 2019

Analytical Notes Regarding EPA Method 6010B:
The matrix spike (MS) and matrix spike duplicate (MSD) had low recoveries for several elements, which are marked with an "S" flag. The low recoveries are likely due to a heterogenous sample matrix.

Hall Environmental Analysis Laboratory, Inc.

CLIENT: City of Albuquerque Environmental Healt
Client Sample ID: RAILSS01-20190513-SO-3
Project: Rail Yard Soil Excavation 2019
Collection Date: 5/13/2019 10:40:00 AM
Lab ID: 1905872-001 **Matrix:** SOIL
Received Date: 5/16/2019 3:00:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 7471: MERCURY						Analyst: **pmf**
Mercury	0.066	0.033		mg/Kg	1	5/20/2019 6:19:37 PM
EPA METHOD 6010B: SOIL METALS						Analyst: **ELS**
Arsenic	ND	5.1		mg/Kg	2	5/21/2019 8:56:50 AM
Barium	130	0.20		mg/Kg	2	5/21/2019 8:56:50 AM
Cadmium	0.52	0.20		mg/Kg	2	5/21/2019 8:56:50 AM
Chromium	22	0.61		mg/Kg	2	5/21/2019 8:56:50 AM
Lead	200	1.3		mg/Kg	5	5/21/2019 9:40:00 AM
Selenium	ND	5.1		mg/Kg	2	5/21/2019 8:56:50 AM
Silver	ND	0.51		mg/Kg	2	5/21/2019 8:56:50 AM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

CLIENT: City of Albuquerque Environmental Healt
Client Sample ID: RAILSS08-20190513-SO-3.5
Project: Rail Yard Soil Excavation 2019
Collection Date: 5/13/2019 9:18:00 PM
Lab ID: 1905872-002 **Matrix:** SOIL
Received Date: 5/16/2019 3:00:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 7471: MERCURY						Analyst: **pmf**
Mercury	0.098	0.034		mg/Kg	1	5/20/2019 6:25:38 PM
EPA METHOD 6010B: SOIL METALS						Analyst: **ELS**
Arsenic	ND	4.9		mg/Kg	2	5/21/2019 9:03:25 AM
Barium	280	0.20		mg/Kg	2	5/21/2019 9:03:25 AM
Cadmium	ND	0.20		mg/Kg	2	5/21/2019 9:03:25 AM
Chromium	14	0.59		mg/Kg	2	5/21/2019 9:03:25 AM
Lead	190	1.2		mg/Kg	5	5/21/2019 9:46:28 AM
Selenium	ND	4.9		mg/Kg	2	5/21/2019 9:03:25 AM
Silver	ND	0.49		mg/Kg	2	5/21/2019 9:03:25 AM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

CLIENT: City of Albuquerque Environmental Healt
Client Sample ID: RAILSS13-20190514-SO-4
Project: Rail Yard Soil Excavation 2019
Collection Date: 5/14/2019 8:50:00 AM
Lab ID: 1905872-003 **Matrix:** SOIL
Received Date: 5/16/2019 3:00:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 7471: MERCURY						Analyst: **pmf**
Mercury	0.038	0.032		mg/Kg	1	5/20/2019 6:31:47 PM
EPA METHOD 6010B: SOIL METALS						Analyst: **ELS**
Arsenic	ND	5.0		mg/Kg	2	5/21/2019 9:10:52 AM
Barium	190	0.20		mg/Kg	2	5/21/2019 9:10:52 AM
Cadmium	ND	0.20		mg/Kg	2	5/21/2019 9:10:52 AM
Chromium	10	0.60		mg/Kg	2	5/21/2019 9:10:52 AM
Lead	68	0.50		mg/Kg	2	5/21/2019 9:10:52 AM
Selenium	ND	5.0		mg/Kg	2	5/21/2019 9:10:52 AM
Silver	ND	0.50		mg/Kg	2	5/21/2019 9:10:52 AM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

CLIENT: City of Albuquerque Environmental Healt
Client Sample ID: RAILSS14-20190514-SO-4
Project: Rail Yard Soil Excavation 2019
Collection Date: 5/14/2019 9:10:00 AM
Lab ID: 1905872-004 **Matrix:** SOIL
Received Date: 5/16/2019 3:00:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 7471: MERCURY						Analyst: **pmf**
Mercury	0.12	0.033		mg/Kg	1	5/20/2019 6:33:49 PM
EPA METHOD 6010B: SOIL METALS						Analyst: **ELS**
Arsenic	ND	5.0		mg/Kg	2	5/21/2019 9:12:31 AM
Barium	210	0.20		mg/Kg	2	5/21/2019 9:12:31 AM
Cadmium	ND	0.20		mg/Kg	2	5/21/2019 9:12:31 AM
Chromium	11	0.60		mg/Kg	2	5/21/2019 9:12:31 AM
Lead	500	2.5		mg/Kg	10	5/21/2019 9:48:09 AM
Selenium	ND	5.0		mg/Kg	2	5/21/2019 9:12:31 AM
Silver	ND	0.50		mg/Kg	2	5/21/2019 9:12:31 AM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: City of Albuquerque Environmental Healt
Client Sample ID: RAILSS16-20190514-SO-4
Project: Rail Yard Soil Excavation 2019
Collection Date: 5/14/2019 10:00:00 AM
Lab ID: 1905872-005 **Matrix:** SOIL
Received Date: 5/16/2019 3:00:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 7471: MERCURY						Analyst: **pmf**
Mercury	0.16	0.033		mg/Kg	1	5/20/2019 6:35:51 PM
EPA METHOD 6010B: SOIL METALS						Analyst: **ELS**
Arsenic	ND	5.0		mg/Kg	2	5/21/2019 9:14:15 AM
Barium	160	0.20		mg/Kg	2	5/21/2019 9:14:15 AM
Cadmium	ND	0.20		mg/Kg	2	5/21/2019 9:14:15 AM
Chromium	8.1	0.60		mg/Kg	2	5/21/2019 9:14:15 AM
Lead	240	2.5		mg/Kg	10	5/21/2019 9:55:35 AM
Selenium	ND	5.0		mg/Kg	2	5/21/2019 9:14:15 AM
Silver	ND	0.50		mg/Kg	2	5/21/2019 9:14:15 AM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

CLIENT: City of Albuquerque Environmental Healt
Client Sample ID: RAILSS21-20190514-SO-4
Project: Rail Yard Soil Excavation 2019
Collection Date: 5/14/2019 12:47:00 PM
Lab ID: 1905872-006 **Matrix:** SOIL
Received Date: 5/16/2019 3:00:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 7471: MERCURY						Analyst: **pmf**
Mercury	ND	0.033		mg/Kg	1	5/20/2019 6:37:53 PM
EPA METHOD 6010B: SOIL METALS						Analyst: **ELS**
Arsenic	ND	5.0		mg/Kg	2	5/21/2019 9:15:53 AM
Barium	210	0.20		mg/Kg	2	5/21/2019 9:15:53 AM
Cadmium	ND	0.20		mg/Kg	2	5/21/2019 9:15:53 AM
Chromium	9.6	0.60		mg/Kg	2	5/21/2019 9:15:53 AM
Lead	11	0.50		mg/Kg	2	5/21/2019 9:15:53 AM
Selenium	ND	5.0		mg/Kg	2	5/21/2019 9:15:53 AM
Silver	ND	0.50		mg/Kg	2	5/21/2019 9:15:53 AM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: City of Albuquerque Environmental Healt
Client Sample ID: RAILSS22-20190514-SO-4
Project: Rail Yard Soil Excavation 2019
Collection Date: 5/14/2019 2:38:00 PM
Lab ID: 1905872-007 **Matrix:** SOIL
Received Date: 5/16/2019 3:00:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 7471: MERCURY						Analyst: **pmf**
Mercury	ND	0.033		mg/Kg	1	5/20/2019 6:39:56 PM
EPA METHOD 6010B: SOIL METALS						Analyst: **ELS**
Arsenic	ND	5.1		mg/Kg	2	5/21/2019 9:17:32 AM
Barium	210	0.20		mg/Kg	2	5/21/2019 9:17:32 AM
Cadmium	ND	0.20		mg/Kg	2	5/21/2019 9:17:32 AM
Chromium	10	0.61		mg/Kg	2	5/21/2019 9:17:32 AM
Lead	3.7	0.51		mg/Kg	2	5/21/2019 9:17:32 AM
Selenium	ND	5.1		mg/Kg	2	5/21/2019 9:17:32 AM
Silver	ND	0.51		mg/Kg	2	5/21/2019 9:17:32 AM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: City of Albuquerque Environmental Healt
Client Sample ID: RAILSS24-20190515-SO4.5
Project: Rail Yard Soil Excavation 2019
Collection Date: 5/15/2019 10:14:00 AM
Lab ID: 1905872-008 **Matrix:** SOIL
Received Date: 5/16/2019 3:00:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 7471: MERCURY						Analyst: **pmf**
Mercury	ND	0.032		mg/Kg	1	5/20/2019 6:41:51 PM
EPA METHOD 6010B: SOIL METALS						Analyst: **ELS**
Arsenic	ND	4.9		mg/Kg	2	5/21/2019 9:19:10 AM
Barium	200	0.20		mg/Kg	2	5/21/2019 9:19:10 AM
Cadmium	ND	0.20		mg/Kg	2	5/21/2019 9:19:10 AM
Chromium	9.8	0.59		mg/Kg	2	5/21/2019 9:19:10 AM
Lead	3.7	0.49		mg/Kg	2	5/21/2019 9:19:10 AM
Selenium	ND	4.9		mg/Kg	2	5/21/2019 9:19:10 AM
Silver	ND	0.49		mg/Kg	2	5/21/2019 9:19:10 AM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: City of Albuquerque Environmental Healt
Client Sample ID: RAILSS28-20190515-SO-3
Project: Rail Yard Soil Excavation 2019
Collection Date: 5/15/2019 11:52:00 AM
Lab ID: 1905872-009 **Matrix:** SOIL
Received Date: 5/16/2019 3:00:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 7471: MERCURY						Analyst: **pmf**
Mercury	0.044	0.033		mg/Kg	1	5/20/2019 6:43:48 PM
EPA METHOD 6010B: SOIL METALS						Analyst: **ELS**
Arsenic	ND	5.0		mg/Kg	2	5/21/2019 9:20:48 AM
Barium	230	0.20		mg/Kg	2	5/21/2019 9:20:48 AM
Cadmium	ND	0.20		mg/Kg	2	5/21/2019 9:20:48 AM
Chromium	8.3	0.60		mg/Kg	2	5/21/2019 9:20:48 AM
Lead	42	0.50		mg/Kg	2	5/21/2019 9:20:48 AM
Selenium	ND	5.0		mg/Kg	2	5/21/2019 9:20:48 AM
Silver	ND	0.50		mg/Kg	2	5/21/2019 9:20:48 AM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: City of Albuquerque Environmental Healt
Client Sample ID: RAILSS30-20190515-SO4
Project: Rail Yard Soil Excavation 2019
Collection Date: 5/15/2019 12:57:00 PM
Lab ID: 1905872-010 **Matrix:** SOIL
Received Date: 5/16/2019 3:00:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 7471: MERCURY						Analyst: **pmf**
Mercury	0.087	0.033		mg/Kg	1	5/20/2019 6:45:45 PM
EPA METHOD 6010B: SOIL METALS						Analyst: **ELS**
Arsenic	ND	5.0		mg/Kg	2	5/21/2019 9:22:26 AM
Barium	180	0.20		mg/Kg	2	5/21/2019 9:22:26 AM
Cadmium	ND	0.20		mg/Kg	2	5/21/2019 9:22:26 AM
Chromium	10	0.60		mg/Kg	2	5/21/2019 9:22:26 AM
Lead	220	1.2		mg/Kg	5	5/21/2019 9:57:16 AM
Selenium	ND	5.0		mg/Kg	2	5/21/2019 9:22:26 AM
Silver	ND	0.50		mg/Kg	2	5/21/2019 9:22:26 AM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: City of Albuquerque Environmental Healt
Client Sample ID: RAILSS40B-20190515-SO-3
Project: Rail Yard Soil Excavation 2019
Collection Date: 5/15/2019 3:40:00 PM
Lab ID: 1905872-011 **Matrix:** SOIL
Received Date: 5/16/2019 3:00:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 7471: MERCURY						Analyst: **pmf**
Mercury	ND	0.033		mg/Kg	1	5/20/2019 6:47:41 PM
EPA METHOD 6010B: SOIL METALS						Analyst: **ELS**
Arsenic	ND	5.0		mg/Kg	2	5/21/2019 9:24:10 AM
Barium	85	0.20		mg/Kg	2	5/21/2019 9:24:10 AM
Cadmium	ND	0.20		mg/Kg	2	5/21/2019 9:24:10 AM
Chromium	3.3	0.60		mg/Kg	2	5/21/2019 9:24:10 AM
Lead	3.5	0.50		mg/Kg	2	5/21/2019 9:24:10 AM
Selenium	ND	5.0		mg/Kg	2	5/21/2019 9:24:10 AM
Silver	ND	0.50		mg/Kg	2	5/21/2019 9:24:10 AM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: City of Albuquerque Environmental Healt
Client Sample ID: RAILSS41B-20190515-SO-3.5
Project: Rail Yard Soil Excavation 2019
Collection Date: 5/15/2019 3:50:00 PM
Lab ID: 1905872-012 **Matrix:** SOIL
Received Date: 5/16/2019 3:00:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 7471: MERCURY						Analyst: **pmf**
Mercury	ND	0.033		mg/Kg	1	5/20/2019 6:49:38 PM
EPA METHOD 6010B: SOIL METALS						Analyst: **ELS**
Arsenic	ND	5.0		mg/Kg	2	5/21/2019 9:25:47 AM
Barium	66	0.20		mg/Kg	2	5/21/2019 9:25:47 AM
Cadmium	ND	0.20		mg/Kg	2	5/21/2019 9:25:47 AM
Chromium	3.0	0.60		mg/Kg	2	5/21/2019 9:25:47 AM
Lead	14	0.50		mg/Kg	2	5/21/2019 9:25:47 AM
Selenium	ND	5.0		mg/Kg	2	5/21/2019 9:25:47 AM
Silver	ND	0.50		mg/Kg	2	5/21/2019 9:25:47 AM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

CLIENT: City of Albuquerque Environmental Healt
Client Sample ID: RAILSS44-20190516-SO-3
Project: Rail Yard Soil Excavation 2019
Collection Date: 5/16/2019 11:11:00 AM
Lab ID: 1905872-013 **Matrix:** SOIL
Received Date: 5/16/2019 3:00:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 7471: MERCURY						Analyst: **pmf**
Mercury	ND	0.033		mg/Kg	1	5/20/2019 6:55:45 PM
EPA METHOD 6010B: SOIL METALS						Analyst: **ELS**
Arsenic	ND	5.0		mg/Kg	2	5/21/2019 9:33:11 AM
Barium	210	0.20		mg/Kg	2	5/21/2019 9:33:11 AM
Cadmium	ND	0.20		mg/Kg	2	5/21/2019 9:33:11 AM
Chromium	9.0	0.60		mg/Kg	2	5/21/2019 9:33:11 AM
Lead	18	0.50		mg/Kg	2	5/21/2019 9:33:11 AM
Selenium	ND	5.0		mg/Kg	2	5/21/2019 9:33:11 AM
Silver	ND	0.50		mg/Kg	2	5/21/2019 9:33:11 AM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

CLIENT: City of Albuquerque Environmental Healt
Client Sample ID: RAILSS45-20190516-SO-3
Project: Rail Yard Soil Excavation 2019
Collection Date: 5/16/2019 11:25:00 AM
Lab ID: 1905872-014 **Matrix:** SOIL
Received Date: 5/16/2019 3:00:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 7471: MERCURY						Analyst: **pmf**
Mercury	0.15	0.033		mg/Kg	1	5/20/2019 6:57:43 PM
EPA METHOD 6010B: SOIL METALS						Analyst: **ELS**
Arsenic	ND	5.0		mg/Kg	2	5/21/2019 9:34:52 AM
Barium	110	0.20		mg/Kg	2	5/21/2019 9:34:52 AM
Cadmium	ND	0.20		mg/Kg	2	5/21/2019 9:34:52 AM
Chromium	4.9	0.60		mg/Kg	2	5/21/2019 9:34:52 AM
Lead	54	0.50		mg/Kg	2	5/21/2019 9:34:52 AM
Selenium	ND	5.0		mg/Kg	2	5/21/2019 9:34:52 AM
Silver	ND	0.50		mg/Kg	2	5/21/2019 9:34:52 AM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1905872**
17-Jul-19

Client: City of Albuquerque Environmental Health Dept
Project: Rail Yard Soil Excavation 2019

Sample ID: **MB-45000** SampType: **MBLK** TestCode: **EPA Method 7471: Mercury**
Client ID: **PBS** Batch ID: **45000** RunNo: **60023**
Prep Date: **5/17/2019** Analysis Date: **5/20/2019** SeqNo: **2025717** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	ND	0.033								

Sample ID: **LLLCS-45000** SampType: **LCSLL** TestCode: **EPA Method 7471: Mercury**
Client ID: **BatchQC** Batch ID: **45000** RunNo: **60023**
Prep Date: **5/17/2019** Analysis Date: **5/20/2019** SeqNo: **2025718** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	ND	0.033	0.006660	0	87.6	70	130			

Sample ID: **LCS-45000** SampType: **LCS** TestCode: **EPA Method 7471: Mercury**
Client ID: **LCSS** Batch ID: **45000** RunNo: **60023**
Prep Date: **5/17/2019** Analysis Date: **5/20/2019** SeqNo: **2025719** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.18	0.033	0.1667	0	107	80	120			

Sample ID: **1905872-001AMS** SampType: **MS** TestCode: **EPA Method 7471: Mercury**
Client ID: **RAILSS01-20190513** Batch ID: **45000** RunNo: **60023**
Prep Date: **5/17/2019** Analysis Date: **5/20/2019** SeqNo: **2025780** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.26	0.034	0.1694	0.06572	116	80	120			

Sample ID: **1905872-001AMSD** SampType: **MSD** TestCode: **EPA Method 7471: Mercury**
Client ID: **RAILSS01-20190513** Batch ID: **45000** RunNo: **60023**
Prep Date: **5/17/2019** Analysis Date: **5/20/2019** SeqNo: **2025781** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.25	0.033	0.1657	0.06572	110	80	120	5.25	20	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1905872**
17-Jul-19

Client: City of Albuquerque Environmental Health Dept
Project: Rail Yard Soil Excavation 2019

Sample ID: **MB-44999** SampType: **MBLK** TestCode: **EPA Method 6010B: Soil Metals**
Client ID: **PBS** Batch ID: **44999** RunNo: **60026**
Prep Date: **5/17/2019** Analysis Date: **5/21/2019** SeqNo: **2026426** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	2.5								
Barium	ND	0.10								
Cadmium	ND	0.10								
Chromium	ND	0.30								
Lead	ND	0.25								
Selenium	ND	2.5								
Silver	ND	0.25								

Sample ID: **LCS-44999** SampType: **LCS** TestCode: **EPA Method 6010B: Soil Metals**
Client ID: **LCSS** Batch ID: **44999** RunNo: **60026**
Prep Date: **5/17/2019** Analysis Date: **5/21/2019** SeqNo: **2026427** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	26	2.5	25.00	0	103	80	120			
Barium	24	0.10	25.00	0	97.8	80	120			
Cadmium	25	0.10	25.00	0	101	80	120			
Chromium	25	0.30	25.00	0	101	80	120			
Lead	25	0.25	25.00	0	98.6	80	120			
Selenium	24	2.5	25.00	0	97.3	80	120			
Silver	5.1	0.25	5.000	0	102	80	120			

Sample ID: **1905872-001AMS** SampType: **MS** TestCode: **EPA Method 6010B: Soil Metals**
Client ID: **RAILSS01-20190513** Batch ID: **44999** RunNo: **60026**
Prep Date: **5/17/2019** Analysis Date: **5/21/2019** SeqNo: **2026444** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	21	5.0	24.83	0	83.4	75	125			
Barium	130	0.20	24.83	132.6	-0.131	75	125			S
Cadmium	23	0.20	24.83	0.5241	90.5	75	125			
Chromium	33	0.60	24.83	22.33	42.8	75	125			S
Selenium	18	5.0	24.83	0	71.6	75	125			S
Silver	3.4	0.50	4.967	0	69.2	75	125			S

Sample ID: **1905872-001AMSD** SampType: **MSD** TestCode: **EPA Method 6010B: Soil Metals**
Client ID: **RAILSS01-20190513** Batch ID: **44999** RunNo: **60026**
Prep Date: **5/17/2019** Analysis Date: **5/21/2019** SeqNo: **2026445** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	23	5.0	24.98	0	91.6	75	125	9.93	20	
Barium	150	0.20	24.98	132.6	63.5	75	125	11.3	20	S

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1905872**
17-Jul-19

Client: City of Albuquerque Environmental Health Dept
Project: Rail Yard Soil Excavation 2019

Sample ID: **1905872-001AMSD** SampType: **MSD** TestCode: **EPA Method 6010B: Soil Metals**
Client ID: **RAILSS01-20190513** Batch ID: **44999** RunNo: **60026**
Prep Date: **5/17/2019** Analysis Date: **5/21/2019** SeqNo: **2026445** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Cadmium	23	0.20	24.98	0.5241	88.9	75	125	1.21	20	
Chromium	32	0.60	24.98	22.33	40.0	75	125	1.90	20	S
Selenium	17	5.0	24.98	0	68.9	75	125	3.18	20	S
Silver	3.4	0.50	4.996	0	67.3	75	125	2.18	20	S

Sample ID: **1905872-001AMS** SampType: **MS** TestCode: **EPA Method 6010B: Soil Metals**
Client ID: **RAILSS01-20190513** Batch ID: **44999** RunNo: **60026**
Prep Date: **5/17/2019** Analysis Date: **5/21/2019** SeqNo: **2026467** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	170	1.2	24.83	195.2	-110	75	125			S

Sample ID: **1905872-001AMSD** SampType: **MSD** TestCode: **EPA Method 6010B: Soil Metals**
Client ID: **RAILSS01-20190513** Batch ID: **44999** RunNo: **60026**
Prep Date: **5/17/2019** Analysis Date: **5/21/2019** SeqNo: **2026468** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	150	1.2	24.98	195.2	-183	75	125	11.5	20	S

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: **City of Albuquerque Env** Work Order Number: **1905872** RcptNo: 1

Received By: **Jackie Bolte** **5/16/2019 3:00:00 PM** Jackie Bell

Completed By: **Desiree Dominguez** **5/16/2019 3:19:26 PM** DD

Reviewed By: VVZ 5/16/19

LB: Thm 5-16-19

Chain of Custody

1. Is Chain of Custody complete?	Yes ☑	No ☐	Not Present ☐
2. How was the sample delivered?	Client		

Log In

3. Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
4. Were all samples received at a temperature of >0° C to 6.0°C	Yes ☐	No ☑	NA ☐
5. Sample(s) in proper container(s)?	Yes ☑ (Not required)	No ☐	
6. Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
7. Are samples (except VOA and ONG) properly preserved?	Yes ☑	No ☐	
8. Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
9. VOA vials have zero headspace?	Yes ☐	No ☐	No VOA Vials ☑
10. Were any sample containers received broken?	Yes ☐	No ☑	
11. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ☑	No ☐	
12. Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	
13. Is it clear what analyses were requested?	Yes ☑	No ☐	
14. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes ☑	No ☐	

# of preserved bottles checked for pH: _____ (<2 or >12 unless noted)

Adjusted? _____

Checked by: _____

Thm 5-16-19

Special Handling (if applicable)

15. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified: _____ Date: _____

By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: _____

Client Instructions: _____

16. Additional remarks:

17. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	29.4	Good	Not Present			

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed and accurate.

COC # 20190516-1115 | Task: RAILYARD_SOIL_EXCAVATION_2019
Total # of Samples: 14 | Event Complete?
Turn Around Time: Rush 4-Day

Lab Information:
Lab Name: Hall Environmental
Address: 4901 Hawkins St NE # a-D
Albuquerque, NM 87109
Lab PM: Andy Freeman
Phone/Fax: 505-345-3975
Lab PM email:
Applicable Lab Quote #:

Project Information:
Site ID #: City of Albuquerque
Project #: RAILYARDS EXCAVATION
Site Address:
City: Alb State, Zip. NM
Site PM Name: Ken Ziegler
Phone/Fax: 505-768-2669
Site PM Email: krziegler@cabq.gov

Other Information:
Send Invoice to: Ken Ziegler, City of Albuquerque PLANNING DEPARTMENT
Address: One Civic Plaza
City/State: Albuquerque, NM 87102 Phone #: 505-768-2669
PO #: TBD
Send EDD to: krziegler@cabq.gov
CC Hardcopy report to: krziegler@cabq.gov, and via mail
CC Hardcopy report to:

ITEM #	SAMPLE ID (Samples IDs MUST BE UNIQUE)	SAMPLE LOCATION	MATRIX CODE	G=GRAB C=COMP	SAMPLE DATE	#OF CONTAINERS	Comments/Lab Sample I.D. 1905872	Analysis: HALL RCRA 8 METALS
1	RAILSS01-20190513-SO-3	RAILSS01	SO	G	05/13/2019 10:40	001	XRF1.	X
2	RAILSS08-20190513-SO-3.5	RAILSS08	SO	G	05/13/2019 21:18	002	XRF8.	X
3	RAILSS13-20190514-SO-4	RAILSS13	SO	G	05/14/2019 08:50	003	XRF13.	X
4	RAILSS14-20190514-SO-4	RAILSS14	SO	G	05/14/2019 09:10	004	XRF14.	X
5	RAILSS16-20190514-SO-4	RAILSS16	SO	G	05/14/2019 10:00	005	XRF16.	X
6	RAILSS21-20190514-SO-4	RAILSS21	SO	G	05/14/2019 12:47	006	XRF21.	X
7	RAILSS22-20190514-SO-4	RAILSS22	SO	G	05/14/2019 14:38	007	XRF22.	X
8	RAILSS24-20190515-SO-4.5	RAILSS24	SO	G	05/15/2019 10:14	008	XRF24.	X
9	RAILSS28-20190515-SO-3	RAILSS28	SO	G	05/15/2019 11:52	009	XRF28.	X
10	RAILSS30-20190515-SO-4	RAILSS30	SO	G	05/15/2019 12:57	010	XRF30.	X
11	RAILSS40B-20190515-SO-3	RAILSS40B	SO	G	05/15/2019 15:40	011	XRF40B.	X
12	RAILSS41B-20190515-SO-3.5	RAILSS41B	SO	G	05/15/2019 15:50	012	XRF41B.	X
13	RAILSS44-20190516-SO-3	RAILSS44	SO	G	05/16/2019 11:11	013	XRF44.	X
14	RAILSS45-20190516-SO-3	RAILSS45	SO	G	05/16/2019 11:25	014	XRF45.	X

Additional Comments/Special Instructions:

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
COA	5/16/19	1500		5/16/19	15:00

Sample Receipt Conditions

Temp in 0C	Samples on Ice?	Sample intact?	Trip Blank?
29.3+	Y/N	Y/N	Y/N
0.1 =	Y/N	Y/N	Y/N
29.4°C	Y/N	Y/N	Y/N
	Y/N	Y/N	Y/N

SHIPPING INFO: Company: Tracking #:
SAMPLER NAME AND SIGNATURE: PRINT Name of SAMPLER: SIGNATURE of SAMPLER: DATE Signed: Time:

Hall Environmental Analysis Laboratory, Inc.

Analytical Report
Lab Order **1905A67**
Date Reported:

CLIENT: City of Albuquerque Environmental Hea
Client Sample ID: SS-68
Project: Railyards Soil Samples
Collection Date: 5/20/2019 12:48:00 PM
Lab ID: 1905A67-001 **Matrix:** AQUEOUS **Received Date:** 5/21/2019 9:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 7471: MERCURY						Analyst: **pmf**
Mercury	0.12	0.033		mg/Kg	1	5/24/2019 2:22:45 PM
EPA METHOD 6010B: SOIL METALS						Analyst: **ELS**
Arsenic	ND	5.0		mg/Kg	2	5/24/2019 10:41:41 AM
Barium	130	0.20		mg/Kg	2	5/24/2019 9:14:23 AM
Cadmium	ND	0.20		mg/Kg	2	5/24/2019 9:14:23 AM
Chromium	17	0.60		mg/Kg	2	5/24/2019 9:14:23 AM
Lead	110	1.2		mg/Kg	5	5/24/2019 10:47:33 AM
Selenium	ND	5.0		mg/Kg	2	5/24/2019 9:14:23 AM
Silver	ND	0.50		mg/Kg	2	5/24/2019 9:14:23 AM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: City of Albuquerque Environmental Hea
Client Sample ID: SS-62
Project: Railyards Soil Samples
Collection Date: 5/20/2019 9:58:00 AM
Lab ID: 1905A67-002 **Matrix:** AQUEOUS **Received Date:** 5/21/2019 9:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 7471: MERCURY						Analyst: **pmf**
Mercury	ND	0.032		mg/Kg	1	5/24/2019 2:24:46 PM
EPA METHOD 6010B: SOIL METALS						Analyst: **ELS**
Arsenic	ND	4.9		mg/Kg	2	5/24/2019 10:53:27 AM
Barium	210	0.20		mg/Kg	2	5/24/2019 9:21:37 AM
Cadmium	ND	0.20		mg/Kg	2	5/24/2019 9:21:37 AM
Chromium	3.4	0.59		mg/Kg	2	5/24/2019 9:21:37 AM
Lead	4.9	0.49		mg/Kg	2	5/24/2019 10:53:27 AM
Selenium	ND	4.9		mg/Kg	2	5/24/2019 9:21:37 AM
Silver	ND	0.49		mg/Kg	2	5/24/2019 9:21:37 AM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: City of Albuquerque Environmental Hea
Client Sample ID: SS-66
Project: Railyards Soil Samples
Collection Date: 5/20/2019 11:39:00 AM
Lab ID: 1905A67-003 **Matrix:** AQUEOUS **Received Date:** 5/21/2019 9:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 7471: MERCURY						Analyst: **pmf**
Mercury	0.11	0.033		mg/Kg	1	5/24/2019 2:26:49 PM
EPA METHOD 6010B: SOIL METALS						Analyst: **ELS**
Arsenic	ND	5.0		mg/Kg	2	5/24/2019 10:59:24 AM
Barium	140	0.20		mg/Kg	2	5/24/2019 9:23:15 AM
Cadmium	ND	0.20		mg/Kg	2	5/24/2019 9:23:15 AM
Chromium	2.7	0.60		mg/Kg	2	5/24/2019 9:23:15 AM
Lead	46	0.50		mg/Kg	2	5/24/2019 10:59:24 AM
Selenium	ND	5.0		mg/Kg	2	5/24/2019 9:23:15 AM
Silver	ND	0.50		mg/Kg	2	5/24/2019 9:23:15 AM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

CLIENT: City of Albuquerque Environmental Hea
Client Sample ID: SS-60
Project: Railyards Soil Samples
Collection Date: 5/17/2019 10:36:00 AM
Lab ID: 1905A67-004 **Matrix:** AQUEOUS **Received Date:** 5/21/2019 9:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 7471: MERCURY						Analyst: **pmf**
Mercury	0.13	0.032		mg/Kg	1	5/24/2019 2:28:51 PM
EPA METHOD 6010B: SOIL METALS						Analyst: **ELS**
Arsenic	ND	4.9		mg/Kg	2	5/24/2019 11:00:53 AM
Barium	180	0.20		mg/Kg	2	5/24/2019 9:24:53 AM
Cadmium	ND	0.20		mg/Kg	2	5/24/2019 9:24:53 AM
Chromium	12	0.59		mg/Kg	2	5/24/2019 9:24:53 AM
Lead	270	2.5		mg/Kg	10	5/24/2019 11:02:22 AM
Selenium	ND	4.9		mg/Kg	2	5/24/2019 9:24:53 AM
Silver	ND	0.49		mg/Kg	2	5/24/2019 9:24:53 AM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

CLIENT: City of Albuquerque Environmental Hea
Client Sample ID: SS-70
Project: Railyards Soil Samples
Collection Date: 5/20/2019 1:15:00 PM
Lab ID: 1905A67-005 **Matrix:** AQUEOUS **Received Date:** 5/21/2019 9:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 7471: MERCURY						Analyst: **pmf**
Mercury	0.11	0.032		mg/Kg	1	5/24/2019 2:30:55 PM
EPA METHOD 6010B: SOIL METALS						Analyst: **ELS**
Arsenic	ND	4.9		mg/Kg	2	5/24/2019 11:03:50 AM
Barium	110	0.20		mg/Kg	2	5/24/2019 9:26:30 AM
Cadmium	ND	0.20		mg/Kg	2	5/24/2019 9:26:30 AM
Chromium	3.6	0.59		mg/Kg	2	5/24/2019 9:26:30 AM
Lead	48	0.49		mg/Kg	2	5/24/2019 11:03:50 AM
Selenium	ND	4.9		mg/Kg	2	5/24/2019 9:26:30 AM
Silver	ND	0.49		mg/Kg	2	5/24/2019 9:26:30 AM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

CLIENT: City of Albuquerque Environmental Hea
Client Sample ID: SS-64
Project: Railyards Soil Samples
Collection Date: 5/20/2019 10:39:00 AM
Lab ID: 1905A67-006 **Matrix:** AQUEOUS **Received Date:** 5/21/2019 9:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 7471: MERCURY						Analyst: **pmf**
Mercury	ND	0.033		mg/Kg	1	5/24/2019 2:32:58 PM
EPA METHOD 6010B: SOIL METALS						Analyst: **ELS**
Arsenic	ND	4.9		mg/Kg	2	5/24/2019 11:05:17 AM
Barium	150	0.20		mg/Kg	2	5/24/2019 9:33:45 AM
Cadmium	ND	0.20		mg/Kg	2	5/24/2019 9:33:45 AM
Chromium	3.7	0.59		mg/Kg	2	5/24/2019 9:33:45 AM
Lead	3.3	0.49		mg/Kg	2	5/24/2019 11:05:17 AM
Selenium	ND	4.9		mg/Kg	2	5/24/2019 11:05:17 AM
Silver	ND	0.49		mg/Kg	2	5/24/2019 9:33:45 AM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: City of Albuquerque Environmental Hea
Client Sample ID: SS-69
Project: Railyards Soil Samples
Collection Date: 5/20/2019 12:59:00 PM
Lab ID: 1905A67-007 **Matrix:** AQUEOUS **Received Date:** 5/21/2019 9:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 7471: MERCURY						Analyst: **pmf**
Mercury	0.071	0.032		mg/Kg	1	5/24/2019 2:35:03 PM
EPA METHOD 6010B: SOIL METALS						Analyst: **ELS**
Arsenic	ND	4.9		mg/Kg	2	5/24/2019 11:06:46 AM
Barium	160	0.20		mg/Kg	2	5/24/2019 9:35:22 AM
Cadmium	ND	0.20		mg/Kg	2	5/24/2019 9:35:22 AM
Chromium	7.1	0.59		mg/Kg	2	5/24/2019 9:35:22 AM
Lead	56	0.49		mg/Kg	2	5/24/2019 11:06:46 AM
Selenium	ND	4.9		mg/Kg	2	5/24/2019 11:06:46 AM
Silver	ND	0.49		mg/Kg	2	5/24/2019 9:35:22 AM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: City of Albuquerque Environmental Hea
Client Sample ID: SS-72
Project: Railyards Soil Samples
Collection Date: 5/20/2019 1:44:00 PM
Lab ID: 1905A67-008 **Matrix:** AQUEOUS **Received Date:** 5/21/2019 9:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 7471: MERCURY						Analyst: **pmf**
Mercury	0.14	0.033		mg/Kg	1	5/24/2019 2:36:59 PM
EPA METHOD 6010B: SOIL METALS						Analyst: **ELS**
Arsenic	ND	4.9		mg/Kg	2	5/24/2019 11:08:15 AM
Barium	210	0.19		mg/Kg	2	5/24/2019 9:37:00 AM
Cadmium	ND	0.19		mg/Kg	2	5/24/2019 9:37:00 AM
Chromium	36	0.58		mg/Kg	2	5/24/2019 9:37:00 AM
Lead	350	2.4		mg/Kg	10	5/24/2019 11:09:43 AM
Selenium	ND	4.9		mg/Kg	2	5/24/2019 11:08:15 AM
Silver	ND	0.49		mg/Kg	2	5/24/2019 9:37:00 AM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

CLIENT: City of Albuquerque Environmental Hea
Client Sample ID: SS-71
Project: Railyards Soil Samples
Collection Date: 5/20/2019 1:31:00 PM
Lab ID: 1905A67-009 **Matrix:** AQUEOUS **Received Date:** 5/21/2019 9:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 7471: MERCURY						Analyst: **pmf**
Mercury	0.12	0.031		mg/Kg	1	5/24/2019 2:38:57 PM
EPA METHOD 6010B: SOIL METALS						Analyst: **ELS**
Arsenic	ND	4.9		mg/Kg	2	5/24/2019 11:11:11 AM
Barium	140	0.20		mg/Kg	2	5/24/2019 9:38:37 AM
Cadmium	ND	0.20		mg/Kg	2	5/24/2019 9:38:37 AM
Chromium	3.5	0.59		mg/Kg	2	5/24/2019 9:38:37 AM
Lead	260	2.5		mg/Kg	10	5/24/2019 11:12:39 AM
Selenium	ND	4.9		mg/Kg	2	5/24/2019 11:11:11 AM
Silver	ND	0.49		mg/Kg	2	5/24/2019 9:38:37 AM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Projects (continued)

5-13-19
BT, KZ, PD

Fireshop Battery Acid

1. arrived on site @ 8:45
met Enviro Works:
Sean Grosette
Duncan Blumberg – project manager
Jesse – foreman
a) Duncan will run excavator
b) Jesse " " skeer skid

2. At 9:20 all EHD staff arrived
3. Conducted H&S review & signed doc.

4. Reviewed excavation plane
a) remove old fence line to 1.5'
~~[illegible]~~ & segregate as duty
b) Remove clean fill to 1.5 from E to west

c) follow 20' away from excavation w/ XRF sampling

5. Pad left side ~ 9:50

6. Set up work station W. of excavation

7. Started XRF @ ~ 10:10
8. XRF stdg @ 10:20
resolution 227

10:20 Duncan began excavating fence line
foto 1 & 2

10:00 Gabe Rivera arrived & opened side gate for parking & left at 10:30

10:45 XRF 1 @ ~ 3' near E. fence
soil mixed dark, moist.
Pb 198 ppm
10:50 197 ppm dupe

10:51 Stockpile 1 (to be used ~~throughout~~ throughout day as QA/QC
*
234 ppm Pb. composite

11:10 XRF 2 @ ~ 25' in fence line
499 ppm Pb
- Duncan will excavate the fence line to 3 ft
-- 3 x 5 (wide) to marked area
- once fence line is excavated the over burden will be removed stockpiled seperately.

~11:00 K. Ziegler left site

11:30 P. Olsen returned to site

11:45 XRF 3 @ ~ 3' = 385 ppm Pb
XRF 3 Reading #15 371 ppm Pb

11:55 Ken Ziegler left site, arrived about 11:40a ~

12:13 XRF 3 third reading 425

12:13 Excavator had mechanical issues & shut down - mechanic called

12:19 XRF 3 4th Reading 381
12:20 5th " 318 (101 sec #18)
12:20 Mechanic arrived on-site to fix air conditioning - operator needs to have doors closed.

12:23 XRF 6th reading (#19)
* note repeat since cover on XRF

* 12:24 XRF-3 (Test #20) 401 ppm Pb
12:30 " (Test #21) 369
12:38 " (Test/reading 23) 361
12:48 " (Reading 24) 385
12:52 " (" 25) 374

12:52 Paul returned to site

12:57 standard calibration
Nist 2702, 107 ± 5

13:06 Blank Test Non detect <8
Reading #27

1326 Reading #28 1130 only 5 sec
XRF 4

1329 Reading #29 XRF 4
857 ± 11 ppm
Temperature 76° F

1352 XRF 5 (Reading 30) 1632 ± 18

Excavator still shutdown
1359 skid steer shutdown

14:10 Excavator repair man returned

14:20 XRF 6 2214 ± 22
14:35 XRF 7 (reading 33) 22 ± 3
(same location as XRF 6)
15:00 Began excavating overburden

15:20 XRF 8 top of black soil
after overburden on NE (16')
from SW corner 170 ppm Pb

15:30 XRF 9 (8' west of XRF 8)
355 ppm Pb

15:37 Jake Rivera arrived on-site

15:52 XRF 10 (by XRF 9 but 1-1.5 deeper)
1209 ppm Pb

16:00 XRF 11 (by XRF 8 but 1.5' deeper)
907

5-14-19

7:10 arrived on site & Duncan & Jesse were present along with excavator repair man to fix air conditioning
- water trailer on-site

7:38 Jesse went to fill the water trailer

8:00 Standardize & Calibrated the XRF
- NIST 2702 112 ppm Pb ± 6
4:08 - Blank ND for Pb <6

note: & forgot to charge Emlid GPS unit
left charging @ office & will use
when charged - Ken will bring out

8:22 Mechanic fixed excavator & left site

8:22 Duncan began excavating N of fence line trench

8:35 XRF 12 6664 ±10 ppm Pb
@ ~ 3' about 5' S & 3' west of light pole (close to XRF 9 but deeper)

-directed Duncan to remove more

8:50 XRF 13 39 ± 4
@ 4' top of brown/red clay
see photos-location of shovel
* can use this sample for lab
see photo of screen & XRF

8:52 Water truck/trailer arrived & Jesse sprayed working area

9:10 XRF-14 167 ± 5
@ 3.5-4' top of clay ~ 10' West of XRF-13
-possible analysis
- See photo of shovel & bucket

9:20 Ken & Paul arrived on-site & set up EnviroL & brought the quick guide

9:40 XRF-15 670 ± 10
gps EnviroL ~ 15' W of XRF-14
-instructed to keep digging

10:09 XRF-16 287 ± 6
~ 15' W of XRF-15
possible analysis

10:19 XRF-17 316 ± 6
~ 6' W and N of XRF-15

10:33 XRF-16 Only 45sec Reading #10
Result 280 ppm

10:37 XRF-16 Reading #11
259 ± 6 ppm

10:38 XRF-16 Reading #12
320 ± 7 ppm

11:05 XRF-16 Reading #13
285 ± 6

11:16 ~~11:38~~ XRF NIST 2702 calibration 1210 ± 5

11:34 XRF-16 250 ± 6

~ 11:40 Jade Rivera & Ed Adams arrived on-site

11:41 XRF-19 461 ± 8
- S side of fence line ~ 25' W of other fence
- sample ~~dotto~~ below clean fill/ overburden

1154 XRF. ~~Sap~~ temp clean stock pile composite
- taken from overburden by excavator prior to placement in larger complete stock pile.
Pb 72 ±4

1205 XRF-20 433 ±7
~ 3' deep S of fence line ~ 25 W of current fence
- deeper than XRF-19

12:15 Gabe Rivera left side
12:30 Ed Adams " "

12:47 XRF 21 21 ppm Pb ± 3
possible analysis (~ 4')
- South side of fence line + ~~south~~ West of fence ~ @ 25'

12:50 Excavator broke

14:00 Excavator started (mechanic here) blowing black smoke, sounds odd

14:11 Excavator shutdown, mechanic looking at it

14:24 - Mechanic gave up on excavator

1438 - XRF 22 - 4 feet bgs - ND for lead ~~<5~~ <8

1457 - Changed Battery in XRF
Standardization after Restart - Resolution = 226

1506 Composite Road sample for dust control.
318 ppm Pb

Not excavating 2:30 pm

1530 Skeer Skid moved all excaded soils to respective pile finished @ 16:10

1530 Paul & Ken left side

16:40 Faris left side

5-15-19

9:00 Faris arrived on site
- new excavator & larger front end loader delivered & working

9:10 started XRF
will standardize a check

9:18 Ken & Paul arrived on-site

930 XRF Standardized
Resolution = 226

933 Blank Run = ND for [redacted] Pb

936 Standard N.I.S.T 2702 108 ± 5 81% of standard

940 XRF23 Collected - Sidewall = 45 feet west of Fence

948 Analyzed XRF23 687 ± 11

1009 XRF24 Collected Sample 4.5 feet bgs

1016 XRF 24 10 ± 3

10:33 Bart and Ken left site

10:45 Sample XRF 25

10:50 Sample XRF26 taken

XRF 25 10:55 5/15/2019
Results 12 ± 3 Reading #6

XRF 26 11:00 5/15/2019
Result 248 ± 6 Reading #7

XRF 27 only 62 seconds
Results 821 ppm ± 15 Reading #8

11:55 XRF 28 on bottom where native slopes up to west little bit fill mixed in
Results 55 ± 3 Reading #9

11:56 Marking excavation area on westside of building

~11:50 lunch for contractors

12:00 Readsource dropping off Pathy

XRF 29 12:10 Reading #10
Result: ~~510~~ 507 ± 9 ppm

12:~~1~~5 Contractors working

12:25 Ken arrived

12:29 Standard taken 2702
Reading #11 Pb 113 ± 5 ppm

1:01 Foreman left site to refill water tank

XRF 30 12:57 Results 231 ± 6
Reading #13

1315 Site Security walked by

1313 XRF31 Taken

1320 XRF31 Analyzed 532 ±9

1320 XRF32 Sample Taken

1325 XRF32 Sample Analyzed 624 ±10

1330 XRF33 Sample analyzed 517±9

~~1342 we~~

1331 XRF34 Sample Taken

1339 XRF34 Analyzed 463 ±8

1342 Water Truck Back on-site

1343 XRF Standardized resolution 24s
1345 XRF OFF - charged Battery
1349 Bart Faris on site
1350 XRF ON
1353 Standardization resolution → 228
1356 Next 270s ~~Pb~~ Pb 112±7

1358 XRF 35 293 ppm ±6
S end of excavation W. side of building
@ below overburden
— excavation to not extend S.

XRF 36 275 ±6
- a bucket pit to find depth not to dig below
- located ~ 25'N of south extent & ~25' west of building

1423 XRF37 @ near (within 1 foot) of XRF33 @ 4 feet bgs

1427 Precision check - XRF 23 603±10

1433 XRF 37 470 ±6

14:59 XRF 38 269 ±6
bucket pit west of northern excavation area near terracon SB10
~ 2' ~~below~~ bgs

1509 XRF 39 515 ±8
bucket pit on west side of south area ~ 25' N of SW corner stake
- to determine western extent
- ~3' from original soil/elevation

1530 Alan Varela ~~Varela~~ on-site - Hand HSA and test Provided

1532 USIC one call onsite

1538 XRF 40a 382 ±8
~~W wall North~~ furthest N west wall @ ~2.5 ft bgs, dark fill material

1540 XRF 40b 12 ± 3 ppm Pb
@ ~~35~~ ft bgs
- clean tan sand

1548 XRF 41a 393 ± 7
. West wall center of excavation
~ 30' S of existing fence
@ 2.5 ft bgs, dark fill material

XRF 41b 23 ± 3
@ ~~35~~ ft bgs
good for analytical, clean tan sand

XRF ~~40c~~ 41c 28 ± 3
- dark klinker
- ~ 4.5 ft bgs

1616 XRF 23 Precision Read 39
847 ± 12

Clear, Warm

5-16-59

6:45 Received (B7) call from Duncan that Earth Tech had not doing chained gate correctly

7:00 Sent Ken to site to cut lock
7:10 Ken + Paul arrived @ cut lock
7:15 arrived on-site + Duncan was to set up barrier by pit
7:28 left site

8:00 Turned on XRF @ office
8:10 arrived back on-site + set up sampling station

8:30 XRF standardization

8:34 XRF Nist 2702 112 ppm Pb
8:42 XRF Blank ND < 8 ppm Pb

8:54 XRF 42 375 ppm Pb ± 7
- N end of South area in middle ~ 2.5' bgs
- instructed to dig 6" more
9:50 Paul Olson arrived

9:01 Ken Ziegler arrived

9:01 Jesse + H2O truck/trailer arrived @ washing field

9:10 Paul left site @

9:48 gravel / fine waste(?) found on West side of middle South area @ ~ 3' bgs / Klunker?
XRF 43

10:21 stockpile 2 - South side overburden composite sample
69 ppm ±4

11:11 XRF 44 25 ppm ±3
same location as XRF 42 but ~~#ed~~
~1ft deeper, clay bottom with industrial mixed soil

11:25 XRF 45
- South middle of S. excavation area,
- ~3ft bgs, industrial mix

11:40 XRF 46 650 ± 9
- West sidewall, North end of South area
industrial mix, ~1.5'

11:50 XRF 47 673 ± 10
West sidewall, South end of S. area
industrial mix, ~ 1.5 ft

11:55 Faris left site

12:10 XRF 48 - Sample taken 1.5 feet Down
mid-depth of trench west side of excavation even w/ north end of flue shop 460 ± 8

12:21 XRF 49 2' west of XRF 48 at 2' depth in excavation sidewall
Result 343 ± 7 dupe 347 ± 7

1230 XRF off - Battery Change
1231 XRF ON - standardization
1234 - Standardization Resolution = 218
1234 Jesse (ENVIROWORKS) onsite

1239 NIST 2702 - Pb 108 ± 5

1309 XRF 50 3' deep sidewall under parking slab. 1/2 way East - West
1292 ± 16 North side

1312 XRF 51 3' deep sidewall under Parking Slab 3/4 way East - West, North side
999 ± 13

1316 Bart ON SITE!

1325 Sean Grantham on-site

1330 Paul Olson offsite

13:40 Sean Grastelli off site

13:48 XRF 52 366 ± 7
- sidewalk west side ~~middle~~ South of south area
- ~ 1.5 ft
- dupe ~~34~~ 390 ± 7

* Directed excavation to remove 3' of west wall

14:05 XRF 53 - 315 ± ~~8~~ 7
- S sidewall of south area
- for analysis (end of excavation time)

1430 ~~Ken~~ Ken Ziegler offsite
(H2k loss)

13:08 XRF 54 455 ppm ± 7, 397 duplicate
- North side of W. sidewall, S. area
~ 1.5 ft bgs, industrial unit, dry

13:10 XRF 55 334 ppm ± 7
- South side of W. sidewall S. area

1510 Paul Olson arrives on site

1515 Ken on site

~~XRF 56~~

3:44 pm XRF 56 60-10
Located 10' south and 60' west of NW corner of flue shop (new part not original bldg)
3' from cleared surface
taken after additional removal west of XRF 54.
XRF 56 452 ppm Pb ± 8

4:00 Paul off-site

3:50 Chamber of Commerce tour out outside of work zone
- Covered dirty stockpile with 8 mm plastic cover

4:35 Enviro wanks left site

4:40 Faris left site

XRF 5-17-19 MB/KZ

On-site at appx 09:30

- XRF turned on at 09:00

1st Sample collected at 10:10 (XRF 57)
≈ location 1.5' down at Eastern Sidewall, West of Flue Shop 10' South of NE corner of flue shop extension

10:19 XRF 57 390 ppm +/- 7

10:28 XRF 58 East Sidewall, west of Flue Shop extension, 4' from NE corner, below 1st set of windows, 1.5' down.
558 pb +/- 13

10:32 XRF 59 2.0' down, South Sidewall, N of flue shop ext, 6' E of NE corner, under window. 482 ppb +/- 8

10:36 XRF 60 Sidewall Eastern most Even with eastern most corner of flue shop extension. 10' South of NE corner of fence (1.5' down)
315 ppm +/- 6

10:40 XRF 61 North of flue shop, 1' W and 1' S of electrical pole. ≈ 4' South of fence. (1.5' down)
421 ppm +/- 8

5-20-19

7:10 Faris arrived on-site
- Duncan & Jesse were present & prepping
- Went over sand blasting area excavation w/ Duncan
- Jesse had to leave side for training
- Duncan would begin excavation
- Faris left site @ 7:25

8:40 Duncan called Faris stating he left site to return keys @ office, would return by 9:30-10:00

9:45 Faris arrived on-site & set up sampling station

9:40 Bunker set up drone flight just outside of site

9:15 Ed Adams arrived on-site

9:15 Charles finished drone flight
9:20 " left site

9:32 XRF Standardize & Cal - OK
9:47 XRF Nist 2702 117 ± 7
951 XRF Blank ND < 7

Sand blasting Area Excavation

9:58 XRF 62 11 ppm Pb ± 3
- bottom of Excavation
~ 10' N of S. fence & 25' W of E. fence
~ 2' bgs
- tan clean sand, moist
- for analysis

10:12 XRF 63 54 ppm Pb ± 3
- very dark layer, W side (photo)
sidewall ~ 1.5-2' bgs, sandy industrial mix
- will do duplicate

10:39 XRF-64 ND Pb ± 8
- S. West bottom ~ 25' N of S. fence
- @ ~ 2.5-3' bgs, tan clean sand
for analysis

10:50 Jake Rivera on-site
11:10 Duncan returned - began stockpiling cont. soil

11:15 XRF 65 503 ± 8
- S sidewall, middle, ~ 1-1.5 bgs
- industrial mix
- will need to expand past fence

11:39 XRF 66 48 ppm ± 3
- industrial mix, dark
- for analysis
- bottom of excavation center W. side

11:53 XRF 67 418 ppm Pb ± 7
West sidewall

12:38 XRF off/on
Standardize & Calibrate to 20%

12:48 XRF 68 69 ± 3
bottom of excavation in middle N.
~ 1.5' bgs
- for analysis

12:59 XRF 69 69 ppm ± 3
E sidewall, ~ 25' N of S. fence
& 10' W of E. fence
- mixed industrial
for analysis

13:15 XRF 70 52 ppm ± 3
- E sidewall north end
- ~ @ 1.5 ft bgs, industrial mix
- for analysis

1331 XRF-71 286 ppm ±6
- N. Sidewall middle
- Industrial mix
~ 1.5' bgs
- for analysis

1344 XRF 72 230 ± 5
- West sidewall north
~ 5' N of power/light pole
- for analysis

14:35 XRF 73 164 ppm ± 5
- by SB-25
~ 2' bgs, industrial mix dark
- pot hole is clean
* no need to look for more in area

1457 XRF 74 444 ppm ± 8
- pot hole S. of fence line tracing back to find the southern extent mixed waste, ~ 1.5' bgs
- area will need to be excavated following removal of fence

15:20 had Duncan pull top of asphalt off near MW-9 to dry to waste
- used metal detector
- couldn't find MW-9

15:30 Duncan pot holes 2 areas W! of Battery Storage area to sampled tomorrow
- will meet @ 8:00 AM

15:55 left site (Faris)
1550 Barber left site

14:06 Re-started XRF for end of day calibration
+ last duplicate check.
- Standardization OK
- Cal NIST 2702

5-21-19

7:03 Received (Faris) call from Duncan that gate lock was not daisy chained

7:32 arrived on-site to cut Earthtech lock
- directed Duncan to begin removing soil @ fence (south) of sandblasting area
- Faris left site @ 7:55
-

810 Turned on XRF

9:15 - Faris + Olsan arrived on-site
- Duncan had excavated S of fence

9:20 XRF standardization
9:24 XRF calibration Nist 2702 118 ppm

9:43 XRF 75 613 ± 9
- South sidewall of excavation S of fenceline / sandblasting area
- mixed soil, dry, 1.5'

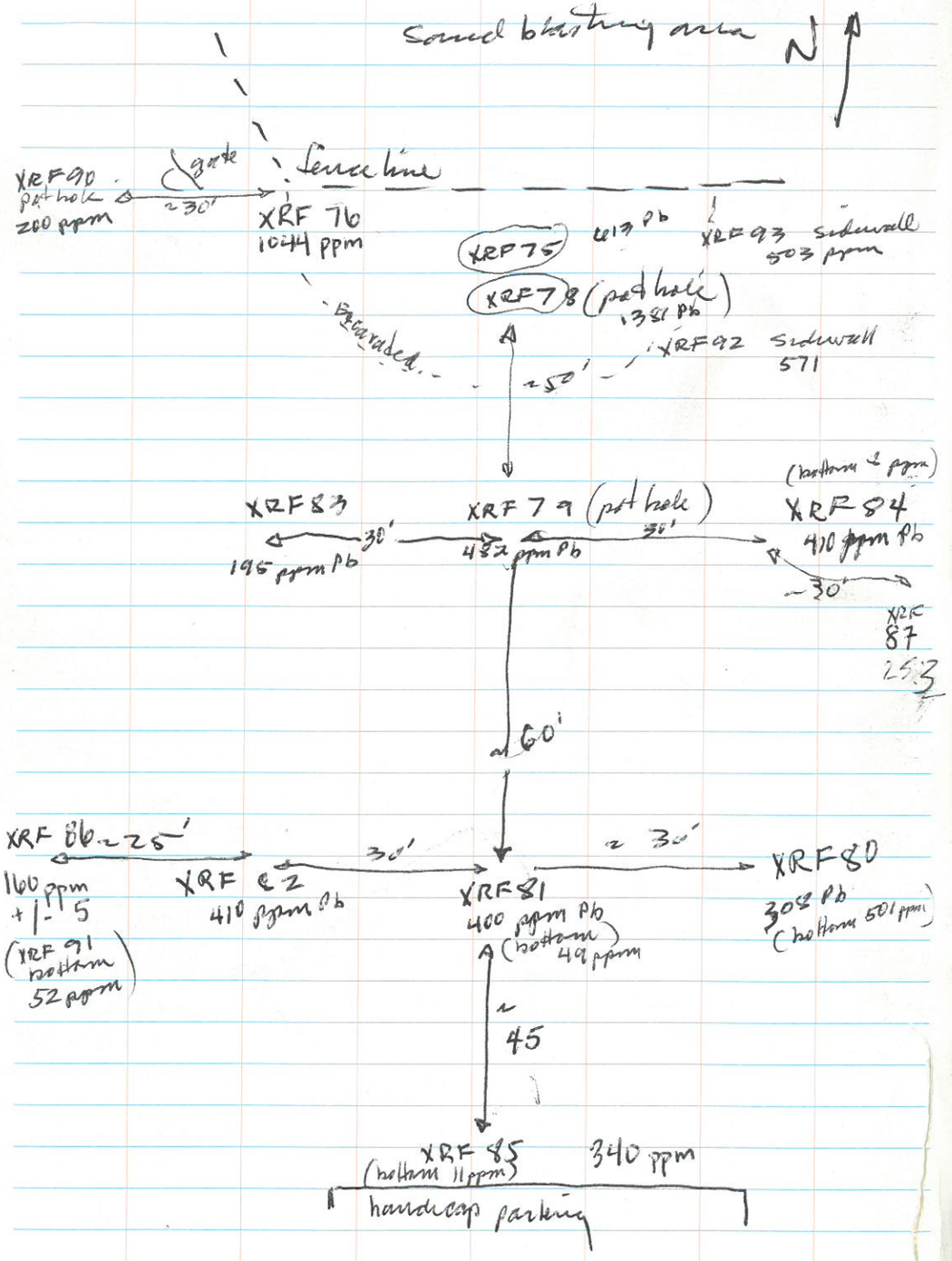
952 XRF 76 1044 ppm Pb ± 13
- S. sidewall, excavation S of fence West side
- mixed industrial

10:10 XRF 77 547 ppm Pb ± 9
- W. wall of furthest west pot hole @ battery storage area
- mixed industrial, 1-2' dry

1018 XRF 78 1387 ppm Pb ± 19
- S sidwall of S pot hole of sandblasting area
- mixed industrial, 2' bgs dry, gravel 80%

1030 XRF 79 482 ppm Pb ± 9
- pot hole to find S. extent ~ 50' S of fenceline in line with other pot holes
- mixed industrial, mint dark

11:00 Faris called adams & decium was to pot hole parking lot to find extent of Pb contamination



1125 XRF 80 308 ppm Pb ± 7
- SE pothole, collected on E. sidewall, mixed industrial, ~2' bgs
-

1130 XRF 81 400 ppm ± 7
- Center S pothole, collected on E sidwall, mixed industrial, moist, dark, 2' bgs

11:40 XRF 82 410 ppm ± 7
- SW pothole, collected E sidewall, mixed industrial moist, dark, 2' bgs

1147 XRF 83 ~~410 ppm Pb ±~~ 195 ppm Pb ± 5 ~~7~~.
- central W. pothole, E sidewall sandy mixed industrial, dry, 2' bgs

1153 XRF 84 410 ± 7
- central E. pothole, E. sidewall mixed industrial, 2' bgs, moist

12:22 XRF 85 340 ppm +/- 7
- South Central pothole, by handicap parking, sample taken 2x, finger slipped taken on South side wall

12:32 XRF-86 Southwest pothole, taken on W side @ 1' deep. Mixed industrial
160 ppm +/- 5

12:50 XRF-87 NE side pothole,
253 ppm +/- 6

12:54 XRF-88 bottom of 87 pothole
ND < 8

* had cover over XRF - results invalid, re analyze
1355 XRF-365 ppm 87 pothole
W sidewall, pot hole E side of sheet metal house slab, 2.5' bgs
14:47 XRF-90 311 ppm +/- 24

15:05 XRF-91 ~~(bottom of XRF-86)~~ Bttm of XRF-86
295 ppm +/- 3

15:20 XRF-92
299 ppm

15:25 XRF-93 374 ppm * cover on XRF, incorrect see reading on 5/22

15:45 XRF-94
241 South of fence in sandblasting area
Westside face (sidewall). 328 +/- 24

* Reanalyzed on 5-22-19 @ 10:44
517 ppm Pb ±8

15:58 52' S. of sandblasting area.
XRF-95

5-22-19

8:40 Faris arrived on-site & talked/discussed site w/ Duncan

8:55 started XRF

9:10 Olson, Barber, Ziegler
-9:15 on-site

9:13 NIST 2702 calibration
115 ppm Pb ±6

9:17 Blank
ND ±6

922 XRF 89 250 ±6
- re analyze, W sidewall pot hole E side of sheet metal shop slab, 2.5 bgs
- mixed industrial moist

Note: stock pile sampling based on SW visit on 5-21-19 ~ 13:00
1) 1 sample per 100 cu yd (100 tons)
2) Full TCLP with ~~or~~ semi volatiles and metals, volatiles, do not do herbicides or pesticides
3) No totals testing (metals)
4) TPH full range organics
~~GRO, MRO, DRO~~

5-21-19 @ 1525 XRF 93 1006 ± 13
- E. sidewall of Sandblasting area 15' S of fence ~ 1.5 bgs
- reanalyzed since previous analysis had cover

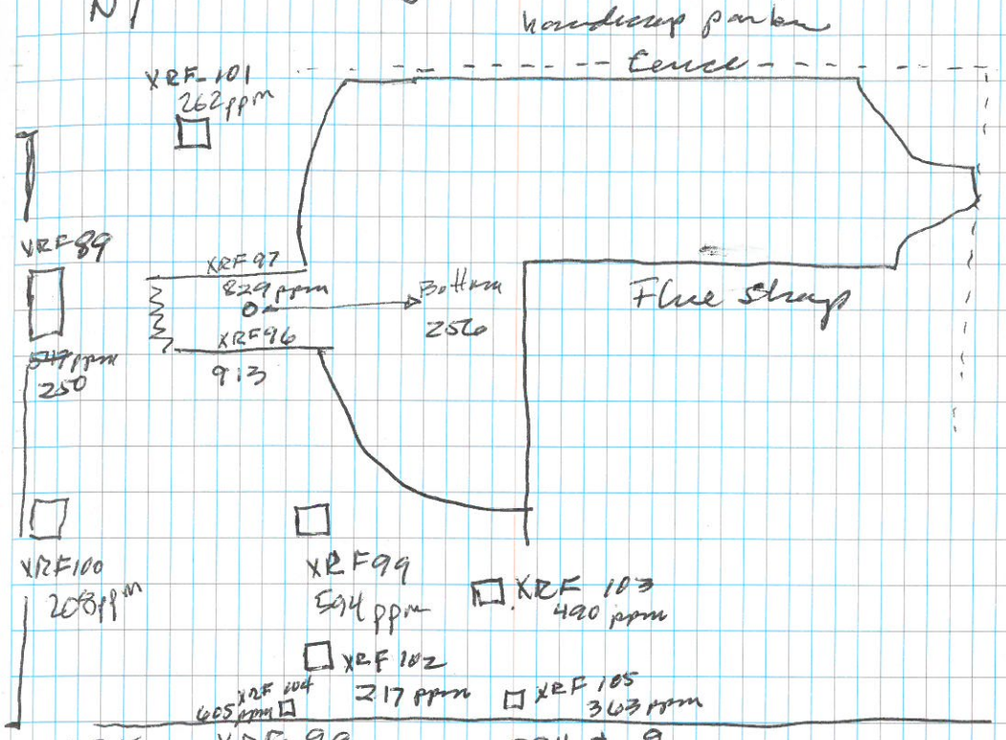
953 PB 436 ± 8
#5 22-May-2019
10:42 re-analyze 503 ± 8

10:05 XRF 96 913 ± 12
- S. sidewall of W extension battery storage area
- 2' bgs, mixed industrial (see photo

10:07 XRF 97 829 ± 11
- N. sidewall of W. extension battery storage area,
- 2' bgs, mixed industrial

1026 XRF 98 252 ± 6
- direct read of old concrete floor found ~ 5' bgs in middle of footprint of demolished N. Wash room
- delineates depth of Pb

Battery Storage Area



1035 XRF 99 594 ± 9
- 60' W. of Flue Shop, 72' S end of flue
- 1.5 ft bgs

1055 XRF 100 208 ppm ± 5
48' West of XRF 99
1.5 ft bgs

11:00 XRF 101 262 ppm ± 6
- 16' North of XRF 97 52' South of little utility shed, ~60' west of flue shop
- 2.5 ft bgs

11:17 XRF 90 200 ± 5
reanalyze
- sidewalk of pot hole West of gate, furthest NW pot hole in parking lot

11:20 XRF 91 52 ± 4
reanalyze
- bottom XRF 86 pot hole, SW pot hole

11:24 XRF 92 571 ppm Pb ± 9
- sidewall, E side of sandblasting area excavation
- ~ 30' S of fence line, E extent of excavation

1135 XRF 102 217 ppm Pb ± 5
- pot hole S of XRF99, 36' E & 84' W of flue shop
- found concrete floor
- 1' bgs, mixed industrial, dry

1138 XRF 103 490 ± 8
- pot hole E of XRF99 38' W of flue & E of XRF 102
- 1' bgs mixed industrial

1158 XRF 104 605 ± 9 ppm Pb
- ~ 50' S of XRF 102
★ S of former N Wash room industrial mix, 1.5 - 2' bgs

1208 XRF 105 363 ± 7 ppm Pb
- 50' S of XRF 103
- 2.5' bgs, dry, industrial mix

1316 XRF 85 b 11 ± 3
- bottom of pot hole, ~ 3' bgs
- collected @ 12:42

~~XRF 80b~~ XRF 81 b 49 ± 3 ppm Pb
- bottom of pot hole / test pit ~ 2' bgs all industrial mix
- collected @ 12:48

XRF 80 b 501 ± 8 ppm Pb
- bottom pot hole ~ 3' bgs mixed industrial, dark dry
- collected 12:49

XRF 82 b 250 ± 5 ppm Pb
- bottom, 2' bgs, mix @ 12:51

XRF 83b 8 ± 3 ppm Pb
~ bottom ~ 1.5' bgs
clean sand
- @ 12:53

13:20 XRF 84b 8 ± 3 ppm Pb
bottom @ 2.5 ft, clean clay
@ 12:55

XRF 87b ND ± 3 ppm Pb
bottom @ 2.5 ft, sandy clay clean
@ 12:57

XRF 90b 9 ± 2 ppm Pb
bottom @ 3' bgs, clay
@ 13:00

Stock Pile TCLP Sampling
TPH

1. Battery storage area.
   a. pile is ~ ~~152' long, 20' wide, 6' hi~~ 152' long, 24-26' wide, 6-8' high
   b. Divided pile into 7 20' sections
   c collected soil from 6 locations in ea ~~pile~~ section & composited
   d. Section 1 is north end of pile
      " 7 " South " " "

Stockpile 1
13:35
Stockpile 2
13:49
Stockpile 3
13:53
Stockpile 4
13:56
Stockpile 5
14:01
Stockpile 6
14:05
Stockpile 7
14:13
Stockpile 8
14:20

Enviroworks proceeded to fill all pot holes / test pits with excavated material

Enviroworks ~~toured~~ place snow fencing around sand blasting excavated material placed visqueen plastic on stockpiles & left site ~ 16:00

Olson left site ~ 15:20
Barber " " ~ 15:30
Faris " " ~ 15:40

Status

1. Enviroworks completed directed work
   - as soon as TCLP analysis is back from lab will schedule stockpiled soil removal

2. Battery storage area
   - Given pot holes / test pits were above 400 ppm Pb the City will make a determination for further removal to residential or leave for commercial levels
   - Removal of high Pb under pad of handicapped parking is most likely necessary

3. Sand blasting area
   - pot holes delineated extent & depth of Pb soils
   - City to make determination if further excavation is desired
   - extent extends into parking lot up to handicapped parking

4. NMED got back to Faris stating Pb levels for clean ups may be based on Bioavailability & not numbers for clean up values
   - Faris will investigate further

* See NMED Risk Assessment Soil Screening Guidance section 2.3.3
  * if Pb is over the desired level Thru testing & modeling may provide a site specific higher clean up value

B7

5/24/19

~~Ken~~

940 Ken Ziegler & Paul Olson onsite

936 All Samples organized by XRF Sample Number

- There Are two XRF14 samples -
  - One has been sent to the lab.
  - Reliable one is 14b - and send it to lab for Analysis.

Samples for Analysis All #'s match XRF #

~~[redacted]~~

905 Rails52 Rails78
910 Rails582 Rails50
911 Rails96 Rails104
912 ~~#~~ Rails58
933 Rails14B

All Samples Above Sent to Hall Analysis 12b for Lab Analysis RCRA 8 metals

All Samples Except 14B Sent to ACZ Labs - Steamboat Springs, CO for Bioaccessibility for Lead

950 Ken Ziegler & Paul Olson offsite

5-30-19

Additional Excavation

1. Direction was given by the administration to excavate 3 remaining Pb contaminated soil areas to achieve commercial levels of 800 ppm
2. the areas are:
   a) sandblasting area by SW ~~the~~ edge of fence/gate
   b) below handicap parking
   c) West of Battery Storage area near former sheet metal shop

5-29-19

1. Faris contacted Enviroworks who stated they could do excavation by 5/30
2. Faris contacted NMED to request use of their XRF & they preliminarily agreed.

5-30-19

8:35 Faris arrived on-site & Duncan w/ Enviroworks wgs present

- Showed Duncan the areas of to excavate
- We began excavation on W. side of Battery storage area (see photos)
  - removed ~ 10-15 yds^3 & stockpiled in large pile

8:45 Savannah Richards arrived on-site
- Faris provided description of past excavation & pointed out the 3 small areas of excavation

8:55 Ziegler arrived on site & set up work station

10:00 Duncan excavated sandblasting area
- Jesse began cutting concrete @ handicapped parking

10:45 Ziegler left site

11:10 Richards left site

11:40 XRF 106
- Western Excavation of battery storage area, N. sidewall ~ 30' W. of main excavation
- excavated ~0 – 4-5'
- N sidewall ~ 2' bgs industrial mat, dry

11:50 XRF 107
- western excavation of battery storage, W. sidewall ~ 2.0' bgs, mixed industrial dry

11:55 XRF 108
- Western Excavation of battery storage, S sidewall ~ 2' bgs, mixed industrial dry

Bottom of W. Excavation area remains concrete floor & XRF 98 shows direct read of 252 ± 6 ppm Pb

1250 Bart Faris off site

1313 XRF 109 2' bgs Sidewall
North sidewall of Southwest Section of Sand Blast Area South of Fence

1319 XRF 110 2' bgs - Sidewall
West side sidewall of Southwest Sand Blast Area South of Fence

1323 XRF 111 3.5 bgs - Bottom Excavation
Southwest Sandblast Area South of Fence

1425 Faris returned on-site
- NMED did not during XRF
- Decided to over excavate the handicapped parking
- Current excavation is 6' bgs to native soil
- Will remove 1/2 of parking pad & finish excavation tomorrow

1515 Ziegler left site

1615 Enviroworks & Faris left site

5-31-19

8:15 Faris arrived on-site
& Enviroworks was excavating handicapped parking area
- concrete had been removed & clay/sand natural soil appears to be shallower @ ~4'
- delineated area of excavation & directed Duncan to slope it up towards the north to decrease excavation depth

8:24 Earth Tech texting stating they could begin back filling the north sandblasting area & handicapped parking today
- Earth Tech had provided a soil materials certification of the fill material @ 7:15 AM
- Earth tech will compact & hydrate fill material

8:56 Ziegler arrived on-site

Estimated volumes of fill
handicapped parking 200 yds³
Sand blasting 310 yds

9:00 Enviroworks almost completed excavation
9:10 Faris & Ziegler left site

12:05 Faris returned on-site

- Enviroworks was off-site getting fuel
- Earth Tech was present & Base coarse fill material was being brought in
  - They will fill all northern excavation today & tomorrow

12:20 Enviro works on-site
- they will cover new stockpiles w/ visqueen plastic secure fencing around Battery area
- Excavation is complete

12:25 Faris set up GPS to collect samples in handicapped parking area

13:10 SS 112
N side wall handicap parking
- mixed industrial, dark
- 2' bgs dry/moist

13:10 Ziegler on site

13:05 SS 113
W side wall handicap parking
mixed industrial, dark
dry, 2' bgs

12:50 SS 114
Bottom handicap parking
mixed industrial/sandy clay, moist, 6' bgs

13:~~10~~ 22 SS 115
Bottom W. side handicap
mixed industrial, dark
moist 3' bgs

13:~~22~~ 20 SS 116
E. Sidwall handicap
mixed industrial, dark
2' bgs

13:45 Ziegler left site

14:22 Faris collected a composite sample from new stockpiled material for TCLP VOCs, SVOCs, & metals

~~15:10~~ Faris left site to drop samples off @ Lab

1500 Enviroworks left site

1510 Earthtech was backfilling, watering & compacting sand blasting separator
- They will fill handicap parking separator tomorrow, Sat 6/1/19

6/18/19 Railyards Excavation
Rest of Battery Storage Area and Sand Blast Area

0845 Ken Zigler ON-Site
Duncan & Jesse w/ Enviroworks already ONSite

0820 Mike Buchanan onsite

Various people from Battery Electric & City of ABQ onsite for a tour of Ry. Mainland Yard Units

~~0835~~

0844 XRF on and testing

0855 EDAD Arms onsite
- ~~Need~~ Need to have holes filled or Fence around hole by 4 pm ~~of~~ on 6/19/19 - Earthworks will procure temp Fencing.

Testing TLC Stockpiles
- Working Most stockpile in Front of Tractor Repair shop.
0956 - Sample.

* TLC put in a Sharon Sonar testing Stockpile from Excavation

* TLC-SP 5 sample taken from stockpile just South of the firehouse; different from other stockpiles samples.

6-18-19

TLC - SP 1	274 +/- 5	ppm	Pb
TLC - SP 2	348 +/- 5	ppm	Pb
TLC - SP 3	169 +/- 4	ppm	Pb
TLC - SP 4	274 +/- 4	ppm	Pb
TLC - SP 5	55 +/- 2	ppm	Pb

* Sidewall of sewer drain near firehouse, adjacent to 2nd st and East of fence. ND ppm ↔ 150 ppm, 47 ppm, 29 ppm

XRF - 120 collected @ 11:03 AM
- Handicapped parking area bttm of excavation 7" down "Sandy clay" 11.1 +/- 1.5 ppm Pb

- XRF. 121 collected @ 12:30 pm
20ft East of Sidewall, 7ft down

43 ±2 Pb ppm

1310 XRF 122 - 6.5 bgs 30-35 feet west of Excavation sidewall in handicap parking Area. - Soil to ~~Comp~~ mois to Sieve will NOT fit through size to ~~Sieve~~ Sieve - Analyze Sample as is

108 ±3 ~~Resp~~ Reanalyze 97 ±3
87 ±2

1336 XRF #123 25' East of Small Building 1 ft bgs testing this to see what ~~a~~ contaminant levels are.

314 ±5 302 ±5 405 ±6

14:00 XRF 124 Collected at North sidewall handicapped area 7' down, clay moist

13.7 ±1.5

XRF 125 Collect at 14:23, 20'E from Storage building, 2' down ~~bt~~ handicap area.
294 +/- 0.4 ppm Pb.

XRF 126 collected at 14:58, Northern most area, 7' down, 20' feet from storage bldg.
41.2 ppm ± 2.0

15:06 XRF 127 Northern most area, ~~20' E.~~ of storage building, just 4' below sidewall. (Halfway between bathroom and storage bldg)
437 ppm ±5

15:13 XRF 128 Northern most area, 4' down below handicap area, Eastern most sidewall, 10 ft E. of storage bldg.
343 ±5

6/19/19 Railyard Excavation Pt. 3 day 2

0645 Ken Ziegler and Charles Barber onsite
ENVIROWORKS already onsite
Fence Company onsite to deliver Temp. Fencing

Goals for Today
- Test some Remaining Area of Battery Storage to see if any Residual Pb is left
- Excavate Small Area South of Sandblast Area where some Pb contaminated Soil Remained.
- Fill some Excavated Areas
- Setup temporary Fence around holes to Keep Public safe.

0938 - crew up at Battery Storage Area

0940 Begin Excavation of SB Area

0941 XRF 129 - 3 Feet bgs Sand Blast Area - under old gate post. Black coil Post
69 ppm ±2

0951 XRF 130 Sidewall North Section Sand Blast Area 2 Feet Down
233±3

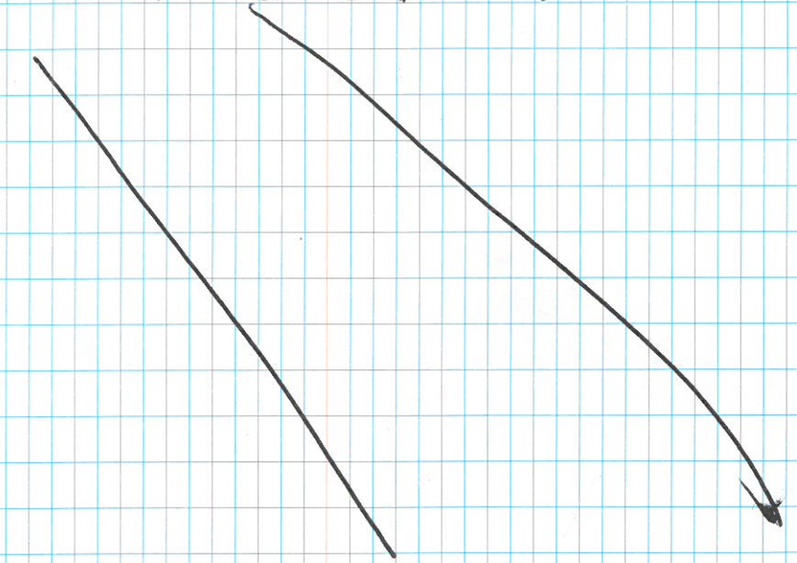
1003 XRF 131 West Sidewall Sandblast Area
251 ppm ±3

1020 XRF 132 - East Sidewall SB area
350 ±4

1025 XRF 133 - bottom Excavation SB Area
52±2

1018 XRF 134 - Sidewall East in SB Area
5 Feet east of XRF 132
149±3

1100 Informed Duncan w/ Enviroworks that the Area appears to be below standards and can be backfilled



6-24-19

Cerro Colorado called in AM stating documentation of stockpiled soils was not complete

They required TPH analysis of the ~ 800 cyds of soil
- 1 sample / 100 cyds

13:30 B.T. arrived on-site after collecting the 8 soil jars

P. Olson had collected 8 composite soil samples from stockpiles prior to Faris arrival

13:45 Olson & Faris transferred samples to soil jars with labeling

13:50 Olson left site to drop samples off @ lab for rush analysis

14:00 Faris left site

clear, warm

7-1-19 Stockpile Disposal

7:50 Faris arrived on-site & met Billy Burke from Enviroworks
- ESD padlock gone + gate not daisy chained right
- Faris cut PAM lock which was incorrectly attached

Billy + Faris walked site + identified soils to be hauled

8:20 ~~2~~ 3 belly dumps
1 Dump truck
arrived on-site
(water truck will be on-site too)
front end loader present

8:25 Enviroworks held a tailgate safety mtg that:
1. identified Env. hazards
2. " site "
3. traffic routes
4. dust control

8:35 First truck left for Cerro LF
- ~~6~~ long dump truck arrived
- 6 trucks running

9:00 Faris left site

PS 8:30 TC w/ 2 employees arrived

- had small excavator (track hoe)
- They ~~need~~ are to install a pipe in front of flue Shop as a conduit
  - will place pipe in battery storage area excavation
- Faris gave approval to use clean backfill as a base for pipe in excavated area

1130 Faris arrived on-site to sign additional waste manifest
- almost 1/8-1/4 pile load left site

1215 Faris off-site

1513 Faris back on-site
- Envirowerks Was off site Faris called Burke to give him a key to gate for early entry tomorrow
- TLC still on-site but stopping work due to coming thunderstorm

15:30 - ~~TLC~~ Burke returned & Faris gave him key - Burke off-site

1530 TLC left in heavy rain

~~13~~ 1550 Faris locked gate + off site following Storm

7-2-19

8:30 Faris arrived on-site to sign additional waste manifest
- still 4 trucks moving
- last load can not leave after 3 since LF will not accept loads after 4
- due to rain Faris directed to use clean fill in low muddy spots where truck movement occurred
- TLC was in battery storage excavation area getting ready to place pipe

8:55 3 trucks returned to be filled

9:10 Faris off site

1505 Faris arrived on-site to meet Advanced Environmental Solutions for a bid to abate + demolish the north end of Line Shop
- Andy Saiz was present
- Walked area pointing out ACM caulking in windows, guano.
- Made clear that floor slab was to remain
- Saiz said he'd get a quote by next Wed. July 10

will save window frames & old lights

Enviroworks had finished hauling said for the day & will finish tomorrow.

16:10 Enviroworks off site

1525 Saiz off-site

1530 Faris off site

7-3-19

8:03 Faris on-site to sign additional waste manifest sheets
- only ~10 loads left
- still running 10 trucks
- should be done easily today

TLC on-site completing H2O line install.

8:25 Faris off-site

2018 WATER QUALITY REPORT

Outperforming ALL Federal Standards for Safe Drinking Water

- Where your water comes from
- How your water is made safe to drink
- Results of EPA-required sampling and testing
- Understanding water quality regulations
- Where to find more information

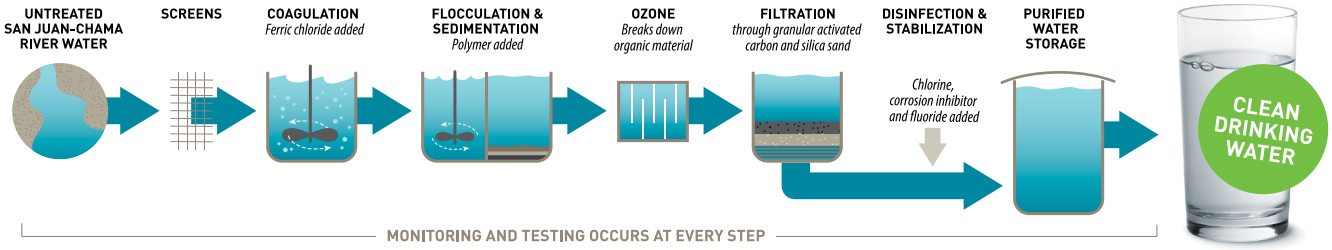
PREPARED FOR CUSTOMERS OF THE

Albuquerque Bernalillo County
Water Utility Authority

YOUR DRINKING WATER

HOW IT'S MADE SAFE TO DRINK

Groundwater requires little treatment other than disinfection via chlorination, and in some cases undergoes additional filtering for arsenic removal. Surface water, however, requires extensive purification before distribution, using a series of mechanical and chemical processes, as shown below. Treatment occurs at the San Juan-Chama Drinking Water Project surface-water treatment plant near Albuquerque's Renaissance Center.



WHERE IT COMES FROM

Water Authority customers rely on locally pumped groundwater plus surface water imported from the Colorado River basin via the San Juan-Chama Project. Surface water comprises about 70 percent of the local supply. The utility works with the New Mexico Environment Department (NMED) and other agencies to conduct periodic source water assessments to determine the susceptibility of local drinking water to contamination. The latest assessment is available online at www.abcwua.org/source-water-protection-program.aspx

HOW IT'S MONITORED & TESTED

Making sure that treatment processes are working correctly requires careful monitoring by a full-time staff of trained water quality engineers, scientists, and technicians. In 2018 the Water Authority collected and tested more than 5,500 water samples from wells, storage tanks, customer taps, and the surface-water treatment plant. Some of the testing is required by the Environmental Protection Agency (EPA) and some of it is voluntary, but it's all done to ensure that Albuquerque and Bernalillo County have a municipal water supply that's second to none in terms of quality.

SEE THE 2018 TEST RESULTS

2018 COMPLIANCE MONITORING RESULTS (Albuquerque Water System, NM35-10701; see page 3 for definitions)

SAFE TO DRINK PER EPA

SUBSTANCE OR CONDITION	Source	Sample Year(s)	Detection Limit *Lowest amount that can be detected with available technology*	Minimum Detected	Average Detected System-wide	Average Detected at San Juan-Chama Drinking Water Plant	Maximum Detected	Maximum Contaminant Level *(MCL)*	Maximum Contaminant Level Goal *(MCLG)*	
As **Arsenic** *See Common Concerns on page 4*	Erosion of natural volcanic deposits	2017-2018	1 PPB	Zero PPB	2 PPB	Zero PPB	9 PPB	10 PPB	Zero PPB	✔
Ba **Barium**	Erosion of natural deposits	2017-2018	0.1 PPM	Zero PPM	0.017 PPM	Zero PPM	0.2 PPM	2 PPM	2 PPM	✔
Cr **Chromium**	Erosion of natural deposits	2017-2018	1 PPB	Zero PPB	1 PPB	Zero PPB	7 PPB	100 PPB	100 PPB	✔
F^- **Fluoride***	Erosion of natural deposits	2017-2018	0.10 PPM	0.25 PPM	0.48 PPM	0.35 PPM	1.18 PPM	4 PPM	4 PPM	✔
NO_3^- **Nitrate**	Erosion of natural deposits	2018	0.05-0.10 PPM	Zero PPM	0.38 PPM	0.17 PPM	3.04 PPM	10 PPM	10 PPM	✔
C_8H_{10} **Total Xylenes**	Discharge from petroleum or chemical factories	2018	0.0005 PPM	Zero PPM	Zero PPM	Zero PPM	0.00059 PPM	10 PPM	10 PPM	✔
Gross Alpha Particle Activity	Erosion of natural deposits	2014-2018	0.7 - 0.9 pCi/L	Zero pCi/L	0.8 pCi/L	Zero pCi/L	2.5 pCi/L	15 pCi/L	Zero pCi/L	✔
Ra **Radium 226 + 228**	Erosion of natural deposits	2014-2018	0.01 - 0.21 pCi/L	0.02 pCi/L	0.17 pCi/L	0.05 pCi/L	0.41 pCi/L	5 pCi/L	Zero pCi/L	✔
U **Uranium**	Erosion of natural deposits	2014-2018	1.0 PPB	Zero PPB	2 PPB	Zero PPB	9 PPB	30 PPB	Zero PPB	✔
BrO_3^- **Bromate**	By-product of drinking water disinfection	2018	1.0 PPB	Zero PPB	Not Applicable	1.3 PPB	2.6 PPB	10 PPB	Zero PPB	✔
Cl **Chlorine**	Disinfectant (sodium hypochlorite)	2018	0.1 PPM (distribution system)	0.3 PPM	0.9 PPM	Not Applicable	1.5 PPM	4 PPM (MRDL)	4 PPM (MRDLG)	✔
			0.03 PPM (surface water)	0.6 PPM	Not Applicable	1.4 PPM	1.9 PPM	4 PPM (MRDL)	4 PPM (MRDLG)	
			0.03 PPM (groundwater)	TT met at 100% of sites				TT= Maintain required chlorine level or restore within 4 hours	Not Applicable	
Cryptosporidium *(in untreated water)*	Human and animal fecal waste	2015-2017	1 Oocyst	Zero Oocysts/L	Not Applicable	0.004 Oocysts/L	0.093 Oocysts/L	TT	Zero Oocysts/L	✔
Turbidity *(cloudiness; indicates effectiveness of filtration and disinfection)*	Soil runoff	2018	0.002 NTU	0.02 NTU	Not Applicable	Not Applicable	0.16 NTU	1 NTU in all finished water samples, 95% of the finished water samples must be less than 0.3 NTU	Zero NTU	✔
				100% of samples taken in each month were less than 0.3 NTU						
C **Total Organic Carbon**	Naturally present in the environment	2018	1.0 PPM	Zero PPM	Not Applicable	0.6 PPM	1.3 PPM	TT	Not Applicable	✔
Total Coliform	Coliforms are bacteria that are normally present in the environment	2018	Not Applicable	Not Applicable	Not Applicable	Not Applicable	1 of 245 samples or 0.41% of samples taken in a month had detectable total coliform bacteria. No total coliform bacteria was detected in any repeat sample at any location.	Presence of coliform bacteria in 5.0% or more of samples in any month	0% of samples with detectable coliform bacteria	✔

SUBSTANCE	Source	Sample Year	Detection Limit	Range of Results***	Maximum LRAA	Maximum Contaminant Level *(MCL)* *Disinfection by-products are regulated based on the LRAA*	Maximum Contaminant Level Goal *(MCLG)*	
TTHM **Total Trihalomethanes**	By-product of chlorination	2018	0.50 PPB	11 - 62 PPB	50 PPB	80 PPB	Not Applicable	✔
HAA5 **Haloacetic Acids**	By-product of chlorination	2018	0.50 PPB	3.4 - 21.0 PPB	14.3 PPB	60 PPB	Not Applicable	✔

SUBSTANCE	Source	Sample Year	Detection Limit	90th Percentile	Number of Samples that Exceed Action Level	Maximum Detected	Action Level *(Compared to the concentration detected in the 90th percentile sample.)*	Maximum Contaminant Level Goal *(MCLG)*	
Pb **Lead** *See Common Concerns on page 4*	Corrosion of household plumbing	2018	1.0 PPB	1 PPB	Zero	3 PPB	15 PPB	Zero PPB	✔
Cu **Copper**	Corrosion of household plumbing	2018	0.01 PPM	0.25 PPM	Zero	0.36 PPM	1.3 PPM	Zero PPM	✔

(See footnotes on page 4)

STANDARDS OF QUALITY

YOUR DRINKING WATER

To protect public health and safety, the EPA limits the amount of certain substances, known as contaminants, in drinking water. The table on the preceding page shows the latest test results for these regulated substances in drinking water distributed by the Water Authority to its customers in Albuquerque and Bernalillo County.

YOUR WATER AUTHORITY

The Water Authority has been nationally recognized not only for its highly successful conservation program, but for the quality and affordability of its drinking water and for its efforts to preserve and manage the community's precious water resources. In 2018 it earned a AAA bond rating from S&P.

RECENT AWARDS

Platinum Award for Utility Excellence (2018)
Association of Metropolitan Water Agencies

Exemplary Source Water Protection Award (2018)
American Water Works Association

Renewable Energy Project of the Year (2017, drinking water treatment plant solar array)
N.M. Association of Energy Engineers

Utility of the Future Today (2016)
National Association of Clean Water Agencies & the Water Environment Federation

Third Place, National Drinking Water Taste Test (2015)
American Water Works Association

DRINKING WATER CONTAMINANTS: WHAT EPA SAYS

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the U.S. Environmental Protection Agency (EPA) Safe Drinking Water Hotline (800-426-4791).

Contaminants come in many forms, both natural and manmade, and can enter the sources of our drinking water in a number of ways, including dissolution of naturally occurring minerals. Contaminants in drinking water sources may include **microbial contaminants** (e.g., viruses and bacteria); **inorganic contaminants**, such as salts and metals; **pesticides and herbicides**; **organic chemical contaminants** from industrial processes, gas stations, septic systems, etc.; and **radioactive contaminants**, both naturally occurring and as a result of human activity.

In order to ensure drinking water safety, EPA prescribes regulations limiting the amount of certain contaminants in water provided by public water systems. The U.S. Food and Drug Administration (FDA) establishes limits for contaminants in bottled water that provide the same protections for public health.

DEFINITIONS

Action Level: The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.

Cryptosporidium is a microbial pathogen found in surface water throughout the U.S. We monitor the river for Cryptosporidium. The San Juan-Chama Drinking Water Plant was designed to provide a multi-barrier approach (pre-sedimentation, clarification, and filtration) to removing Cryptosporidium in order to meet the EPA requirements.

Locational Running Annual Average (LRAA): The average of analytical results for samples taken at a particular monitoring location during the previous four calendar quarters.

Maximum Contaminant Level (MCL): The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.

Maximum Contaminant Level Goal (MCLG): The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.

Maximum Residual Disinfectant Level (MRDL): The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

Maximum Residual Disinfectant Level Goal (MRDLG): The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.

Nephelometric Turbidity Unit (NTU): A measure of cloudiness or haziness caused by suspended solids.

Parts Per Billion (PPB): Parts per billion or micrograms per liter (ug/L). 1 PPB = 0.001 PPM. Example: one drop of water in an Olympic-size swimming pool.

Parts Per Million (PPM): Parts per million or milligrams per liter (mg/L). 1 PPM = 1,000 PPB. Example: four drops of water in a 55-gallon barrel.

picoCuries per liter (pCi/L): A measure of radioactivity.

Treatment Technique (TT): A required process intended to reduce the level of a contaminant in drinking water.

WHAT ABOUT UNREGULATED CONTAMINANTS?

Some substances commonly found in drinking water are not regulated by the EPA. Under the Unregulated Contaminant Monitoring Rule (UCMR), the agency seeks to learn more about such contaminants by requiring water systems to test for them. It uses the data generated to develop better understanding and new regulations over time.

2018 UNREGULATED CONTAMINANT MONITORING RESULTS**

SUBSTANCE	Sample Year	Minimum Reporting Level	Range of Results	Average of Results
Total HAA5	2018	0.2 ug/L	1.6 - 17.0 ug/L	7.8 ug/L
Total HAA6Br	2018	0.2 ug/L	2.4 - 17.0 ug/L	9.1 ug/L
Total HAA9	2018	0.2 ug/L	3.1 - 27.0 ug/L	14.9 ug/L
Source Water TOC	2018	0.2-0.3 mg/L	2.2 - 3.7 mg/L	2.9 mg/L
Source Water Bromide	2018	5 ug/L	26.0 - 45.5 ug/L	35.0 ug/L

* Samples collected throughout the distribution system showed an average fluoride concentration of 0.63 mg/L after supplemental fluoridation. The Water Authority continues working to meet a target fluoride range of 0.65 to 0.72 mg/L. More information on supplemental fluoridation can be found on the Water Authority website at www.abcwua.org.

** Sampling for all other UCMR4 substances is scheduled to be completed in 2019. Results for the UCMR3 sampling event are available online at www.abcwua.org. Local drinking water remains protected from contaminants including the manmade chemicals known as Per- and Polyfluoroalkyl Substances (PFASs). All water system sources were tested as part of UCMR3 with no detections of PFASs.

***The range represents the minimum and maximum of all quarterly analytical results at all 12 locations.

COMMON CONCERNS

1 Should I be concerned about lead?

Although the Water Authority has removed all known lead components from its water distribution system, lead may still be present in home plumbing – especially in older homes. The Water Authority offers free lead and copper testing for concerned customers. Just visit our website and fill out a request form (www.abcwua.org/lead-survey.aspx) or call 289-3653 to schedule a sample collection.

RESULTS OF 2018 CUSTOMER-REQUESTED TESTING (41 SAMPLES)

SUBSTANCE	Minimum	Maximum	90th Percentile	Action Level
Pb Lead	Zero PPB	12.3 PPB	0.8 PPB	15 PPB
Cu Copper	Zero PPM	0.4 PPM	0.2 PPM	1.3 PPM

Here's what the EPA has to say about lead: *If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. Your local Water Authority is responsible for providing high quality drinking water, but cannot control the variety of materials used in home plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the federal Safe Drinking Water Hotline (800-426-4791) or at http://www.epa.gov/safewater/lead.*

2 Is there arsenic in my drinking water?

All of Albuquerque's drinking water meets EPA standards for arsenic, which have become much more stringent since 2006. Allowable levels of arsenic are present in some locations, however, mainly due to the erosion of natural geologic deposits. EPA continues to research the health effects of low levels of arsenic, which is a metal known to cause cancer in humans at high concentrations and is linked to other health effects such as skin damage and circulatory problems.

3 What if I am immuno-compromised?

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. EPA/Centers for Disease Control guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbial contaminants are available from the Safe Drinking Water Hotline (800-426-4791).

4 What about sodium?

Sodium levels for all Water Authority distribution zones range from 20 to 99 PPM. The system-wide average is 37 PPM. For more information, please visit the Water Authority website at abcwua.org and click on the Your Drinking Water tab on the home page.

WANT TO KNOW MORE?

CONTACT THE WATER AUTHORITY

Call **842-WATR (9287)** to

- Report a water or sewer emergency
- Pay a bill over the phone
- Make billing inquires
- Report water waste
- Report unusual activity at water facilities

Call **289-3653** (the Water Quality Information Line) with questions about your water quality, or email us at **waterquality@abcwua.org**.

OTHER SOURCES OF INFORMATION

Water Authority website: **www.abcwua.org**

U.S. Environmental Protection Agency: **www.epa.gov/safewater**

New Mexico Environment Department Drinking Water Bureau: **www.env.nm.gov/dwb**

Check us out on Facebook and Nextdoor!

En Español: Este reporte contiene informacion muy importante acerca de la calidad del agua. Para recibir una copia en español, llamen al **505-842-9287** o visita la pagina: **www.abcwua.org/Download_Report.aspx**

GET INVOLVED!

Want to do more to help protect local drinking water supplies? You can start by staying informed! Links to up-to-date information about watershed and source-water protection can be found at **www.NMSourceWaterProtection.com**.

Other opportunities for involvement include attendance at one of our monthly board meetings, where issues concerning water quality are discussed. Meetings are open to the public and held in the Vincent E. Griego Council Chambers in the basement of the City/County Government Center at One Civic Plaza. Meeting schedules and agendas are available at **www.abcwua.org**. You'll also find meeting schedules for the community's Water Protection Advisory Board.

This report has been re-designed for easier readability with input from customers like you! The Water Authority wishes to thank everyone who got involved and contributed suggestions via the Customer Conversations process.

Albuquerque Bernalillo County Water Utility Authority

The Water Authority is the largest water and sewer utility in the state of New Mexico and is governed by a board of elected officials. Board members for 2019: Debbie O'Malley, Bernalillo County Commissioner, Chair; Klarissa Peña, Albuquerque City Councilor, Vice Chair; Maggie Hart Stebbins, Bernalillo County Commissioner; Trudy E. Jones, Albuquerque City Councilor; Timothy M. Keller, Mayor of Albuquerque; Steven Michael Quezada, Bernalillo County Commissioner; Ken Sanchez, Albuquerque City Councilor. Pablo Rael serves as a non-voting member from the Village of Los Ranchos. Executive Director: Mark S. Sanchez.

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Analytical Report

June 14, 2019

Report to:
Ken Ziegler
City of Albuquerque, Environmental Health Departme
PO Box 1293

Albuquerque, NM 87103

Bill to:
Ken Ziegler
City of Albuquerque, Environmental Health Departme
PO Box 1293
One Civic Plaza, 3rd Floor, Room 3023
Albuquerque, NM 87103

Project ID:
ACZ Project ID: L52046

Ken Ziegler:

Enclosed are the analytical results for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on May 29, 2019. This project has been assigned to ACZ's project number, L52046. Please reference this number in all future inquiries.

All analyses were performed according to ACZ's Quality Assurance Plan. The enclosed results relate only to the samples received under L52046. Each section of this report has been reviewed and approved by the appropriate Laboratory Supervisor, or a qualified substitute.

Except as noted, the test results for the methods and parameters listed on ACZ's current NELAC certificate letter (#ACZ) meet all requirements of NELAC.

This report shall be used or copied only in its entirety. ACZ is not responsible for the consequences arising from the use of a partial report.

All samples and sub-samples associated with this project will be disposed of after July 14, 2019. If the samples are determined to be hazardous, additional charges apply for disposal (typically $11/sample). If you would like the samples to be held longer than ACZ's stated policy or to be returned, please contact your Project Manager or Customer Service Representative for further details and associated costs. ACZ retains analytical raw data reports for ten years.

If you have any questions or other needs, please contact your Project Manager.

Bill Lane has reviewed and approved this report

City of Albuquerque, Environmental Health
Project ID:
Sample ID: RAILSS78

ACZ Sample ID: ***L52046-01***
Date Sampled: *05/24/19 09:09*
Date Received: *05/29/19*
Sample Matrix: *Soil*

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Lead (IVBA)	M6020B ICP-MS	20	7.17		*	mg/L	0.002	0.01	06/11/19 9:15	bsu
Lead IVBA% (In Vitro RBA)	Calculation (EPA 9200.1-86)		73.0			%			06/14/19 0:00	calc
Lead RBA (In Vivo Drexler & Brattin Estimation)	Calculation (EPA 9200.1-86)		61.0			%			06/14/19 0:00	calc
Lead, total (3050)	M6020B ICP-MS	5050	979			mg/Kg	0.5	3	06/12/19 12:54	bsu

Soil Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Solids, Percent	D2216-80	1	92.2		*	%	0.1	0.5	06/04/19 13:41	qcm

Soil Preparation

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Air Dry at 34 Degrees C	USDA No. 1, 1972								05/31/19 12:20	qcm
Crush and Pulverize (Ring & Puck)	EPA-600/2-78-054 3.1.3								06/06/19 13:15	qcm
Digestion - Hot Plate	M3050B ICP-MS								06/10/19 8:30	ajm
In Vitro Bioaccessibility Assay	EPA 9200.1-86/1340								06/07/19 14:06	dbt

City of Albuquerque, Environmental Health
Project ID:
Sample ID: RAILSS92

ACZ Sample ID: ***L52046-02***
Date Sampled: *05/24/19 09:09*
Date Received: *05/29/19*
Sample Matrix: *Soil*

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Lead (IVBA)	M6020B ICP-MS	10	3.62		*	mg/L	0.001	0.005	06/11/19 9:19	bsu
Lead IVBA% (In Vitro RBA)	Calculation (EPA 9200.1-86)		72.0			%			06/14/19 0:00	calc
Lead RBA (In Vivo Drexler & Brattin Estimation)	Calculation (EPA 9200.1-86)		61.0			%			06/14/19 0:00	calc
Lead, total (3050)	M6020B ICP-MS	2000	500			mg/Kg	0.2	1	06/12/19 12:59	bsu

Soil Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Solids, Percent	D2216-80	1	96.1		*	%	0.1	0.5	06/04/19 15:17	qcm

Soil Preparation

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Air Dry at 34 Degrees C	USDA No. 1, 1972								05/31/19 12:21	qcm
Crush and Pulverize (Ring & Puck)	EPA-600/2-78-054 3.1.3								06/06/19 13:22	qcm
Digestion - Hot Plate	M3050B ICP-MS								06/10/19 9:39	ajm
In Vitro Bioaccessibility Assay	EPA 9200.1-86/1340								06/07/19 14:18	dbt

City of Albuquerque, Environmental Health
Project ID:
Sample ID: RAILSS50

ACZ Sample ID: ***L52046-03***
Date Sampled: *05/24/19 09:10*
Date Received: *05/29/19*
Sample Matrix: *Soil*

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Lead (IVBA)	M6020B ICP-MS	100	37.5		*	mg/L	0.01	0.05	06/11/19 9:24	bsu
Lead IVBA% (In Vitro RBA)	Calculation (EPA 9200.1-86)		85.0			%			06/14/19 0:00	calc
Lead RBA (In Vivo Drexler & Brattin Estimation)	Calculation (EPA 9200.1-86)		72.0			%			06/14/19 0:00	calc
Lead, total (3050)	M6020B ICP-MS	10200	4400			mg/Kg	1	5	06/12/19 13:05	bsu

Soil Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Solids, Percent	D2216-80	1	82.7		*	%	0.1	0.5	06/04/19 16:52	qcm

Soil Preparation

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Air Dry at 34 Degrees C	USDA No. 1, 1972								05/31/19 12:22	qcm
Crush and Pulverize (Ring & Puck)	EPA-600/2-78-054 3.1.3								06/06/19 13:30	qcm
Digestion - Hot Plate	M3050B ICP-MS								06/10/19 10:02	ajm
In Vitro Bioaccessibility Assay	EPA 9200.1-86/1340								06/07/19 14:25	dbt

City of Albuquerque, Environmental Health
Project ID:
Sample ID: RAILSS82

ACZ Sample ID: ***L52046-04***
Date Sampled: *05/24/19 09:10*
Date Received: *05/29/19*
Sample Matrix: *Soil*

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Lead (IVBA)	M6020B ICP-MS	10	2.87		*	mg/L	0.001	0.005	06/11/19 9:26	bsu
Lead IVBA% (In Vitro RBA)	Calculation (EPA 9200.1-86)		68.0			%			06/14/19 0:00	calc
Lead RBA (In Vivo Drexler & Brattin Estimation)	Calculation (EPA 9200.1-86)		57.0			%			06/14/19 0:00	calc
Lead, total (3050)	M6020B ICP-MS	2020	422			mg/Kg	0.2	1	06/12/19 13:08	bsu

Soil Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Solids, Percent	D2216-80	1	88.0		*	%	0.1	0.5	06/04/19 18:28	qcm

Soil Preparation

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Air Dry at 34 Degrees C	USDA No. 1, 1972								05/31/19 12:23	qcm
Crush and Pulverize (Ring & Puck)	EPA-600/2-78-054 3.1.3								06/06/19 13:37	qcm
Digestion - Hot Plate	M3050B ICP-MS								06/10/19 10:25	ajm
In Vitro Bioaccessibility Assay	EPA 9200.1-86/1340								06/07/19 14:31	dbt

City of Albuquerque, Environmental Health
Project ID:
Sample ID: RAILSS104

ACZ Sample ID: ***L52046-05***
Date Sampled: *05/24/19 09:11*
Date Received: *05/29/19*
Sample Matrix: *Soil*

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Lead (IVBA)	M6020B ICP-MS	20	5.2		*	mg/L	0.002	0.01	06/11/19 9:30	bsu
Lead IVBA% (In Vitro RBA)	Calculation (EPA 9200.1-86)		72.0			%			06/14/19 0:00	calc
Lead RBA (In Vivo Drexler & Brattin Estimation)	Calculation (EPA 9200.1-86)		61.0			%			06/14/19 0:00	calc
Lead, total (3050)	M6020B ICP-MS	5100	721			mg/Kg	0.5	3	06/12/19 13:10	bsu

Soil Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Solids, Percent	D2216-80	1	92.5		*	%	0.1	0.5	06/04/19 20:04	qcm

Soil Preparation

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Air Dry at 34 Degrees C	USDA No. 1, 1972								05/31/19 12:24	qcm
Crush and Pulverize (Ring & Puck)	EPA-600/2-78-054 3.1.3								06/06/19 13:45	qcm
Digestion - Hot Plate	M3050B ICP-MS								06/10/19 10:48	ajm
In Vitro Bioaccessibility Assay	EPA 9200.1-86/1340								06/07/19 14:37	dbt

City of Albuquerque, Environmental Health
Project ID:
Sample ID: RAILSS96

ACZ Sample ID: ***L52046-06***
Date Sampled: *05/24/19 09:11*
Date Received: *05/29/19*
Sample Matrix: *Soil*

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Lead (IVBA)	M6020B ICP-MS	50	11.3		*	mg/L	0.005	0.03	06/11/19 9:31	bsu
Lead IVBA% (In Vitro RBA)	Calculation (EPA 9200.1-86)		68.0			%			06/14/19 0:00	calc
Lead RBA (In Vivo Drexler & Brattin Estimation)	Calculation (EPA 9200.1-86)		57.0			%			06/14/19 0:00	calc
Lead, total (3050)	M6020B ICP-MS	5050	1660			mg/Kg	0.5	3	06/12/19 13:12	bsu

Soil Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Solids, Percent	D2216-80	1	87.8		*	%	0.1	0.5	06/04/19 21:40	qcm

Soil Preparation

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Air Dry at 34 Degrees C	USDA No. 1, 1972								05/31/19 12:25	qcm
Crush and Pulverize (Ring & Puck)	EPA-600/2-78-054 3.1.3								06/06/19 13:52	qcm
Digestion - Hot Plate	M3050B ICP-MS								06/10/19 11:11	ajm
In Vitro Bioaccessibility Assay	EPA 9200.1-86/1340								06/07/19 14:50	dbt

City of Albuquerque, Environmental Health
Project ID:
Sample ID: RAILSS58

ACZ Sample ID: ***L52046-07***
Date Sampled: *05/24/19 09:12*
Date Received: *05/29/19*
Sample Matrix: *Soil*

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Lead (IVBA)	M6020B ICP-MS	20	5.48		*	mg/L	0.002	0.01	06/11/19 9:33	bsu
Lead IVBA% (In Vitro RBA)	Calculation (EPA 9200.1-86)		73.0			%			06/14/19 0:00	calc
Lead RBA (In Vivo Drexler & Brattin Estimation)	Calculation (EPA 9200.1-86)		62.0			%			06/14/19 0:00	calc
Lead, total (3050)	M6020B ICP-MS	5100	745			mg/Kg	0.5	3	06/12/19 13:14	bsu

Soil Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Solids, Percent	D2216-80	1	89.5		*	%	0.1	0.5	06/04/19 23:15	qcm

Soil Preparation

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Air Dry at 34 Degrees C	USDA No. 1, 1972								05/31/19 12:26	qcm
Crush and Pulverize (Ring & Puck)	EPA-600/2-78-054 3.1.3								06/06/19 14:00	qcm
Digestion - Hot Plate	M3050B ICP-MS								06/10/19 11:35	ajm
In Vitro Bioaccessibility Assay	EPA 9200.1-86/1340								06/07/19 14:57	dbt

Report Header Explanations

Batch	A distinct set of samples analyzed at a specific time
Found	Value of the QC Type of interest
Limit	Upper limit for RPD, in %.
Lower	Lower Recovery Limit, in % (except for LCSS, mg/Kg)
MDL	Method Detection Limit. Same as Minimum Reporting Limit unless omitted or equal to the PQL (see comment #5). Allows for instrument and annual fluctuations.
PCN/SCN	A number assigned to reagents/standards to trace to the manufacturer's certificate of analysis
PQL	Practical Quantitation Limit. Synonymous with the EPA term "minimum level".
QC	True Value of the Control Sample or the amount added to the Spike
Rec	Recovered amount of the true value or spike added, in % (except for LCSS, mg/Kg)
RPD	Relative Percent Difference, calculation used for Duplicate QC Types
Upper	Upper Recovery Limit, in % (except for LCSS, mg/Kg)
Sample	Value of the Sample of interest

QC Sample Types

AS	Analytical Spike (Post Digestion)	*LCSWD*	Laboratory Control Sample - Water Duplicate
ASD	Analytical Spike (Post Digestion) Duplicate	*LFB*	Laboratory Fortified Blank
CCB	Continuing Calibration Blank	*LFM*	Laboratory Fortified Matrix
CCV	Continuing Calibration Verification standard	*LFMD*	Laboratory Fortified Matrix Duplicate
DUP	Sample Duplicate	*LRB*	Laboratory Reagent Blank
ICB	Initial Calibration Blank	*MS*	Matrix Spike
ICV	Initial Calibration Verification standard	*MSD*	Matrix Spike Duplicate
ICSAB	Inter-element Correction Standard - A plus B solutions	*PBS*	Prep Blank - Soil
LCSS	Laboratory Control Sample - Soil	*PBW*	Prep Blank - Water
LCSSD	Laboratory Control Sample - Soil Duplicate	*PQV*	Practical Quantitation Verification standard
LCSW	Laboratory Control Sample - Water	*SDL*	Serial Dilution

QC Sample Type Explanations

Blanks	Verifies that there is no or minimal contamination in the prep method or calibration procedure.
Control Samples	Verifies the accuracy of the method, including the prep procedure.
Duplicates	Verifies the precision of the instrument and/or method.
Spikes/Fortified Matrix	Determines sample matrix interferences, if any.
Standard	Verifies the validity of the calibration.

ACZ Qualifiers (Qual)

B	Analyte concentration detected at a value between MDL and PQL. The associated value is an estimated quantity.
H	Analysis exceeded method hold time. pH is a field test with an immediate hold time.
L	Target analyte response was below the laboratory defined negative threshold.
U	The material was analyzed for, but was not detected above the level of the associated value. The associated value is either the sample quantitation limit or the sample detection limit.

Method References

(1) EPA 600/4-83-020. Methods for Chemical Analysis of Water and Wastes, March 1983.
(2) EPA 600/R-93-100. Methods for the Determination of Inorganic Substances in Environmental Samples, August 1993.
(3) EPA 600/R-94-111. Methods for the Determination of Metals in Environmental Samples - Supplement I, May 1994.
(4) EPA SW-846. Test Methods for Evaluating Solid Waste.
(5) Standard Methods for the Examination of Water and Wastewater.

Comments

(1) QC results calculated from raw data. Results may vary slightly if the rounded values are used in the calculations.
(2) Soil, Sludge, and Plant matrices for Inorganic analyses are reported on a dry weight basis.
(3) Animal matrices for Inorganic analyses are reported on an "as received" basis.
(4) An asterisk in the "XQ" column indicates there is an extended qualifier and/or certification qualifier associated with the result.
(5) If the MDL equals the PQL or the MDL column is omitted, the PQL is the reporting limit.

For a complete list of ACZ's Extended Qualifiers, please click:
https://acz.com/wp-content/uploads/2019/04/Ext-Qual-List.pdf

City of Albuquerque, Environmental Health

ACZ Project ID: ***L52046***

NOTE: If the Rec% column is null, the high/low limits are in the same units as the result. If the Rec% column is not null, then the high/low limits are in % Rec.

Lead (IVBA) M6020B ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG474193													
WG474039ICV	ICV	06/11/19 8:57	MS190513-2	.05		.05055	mg/L	101	90	110			
WG474193ICB	ICB	06/11/19 8:59				U	mg/L		-0.0003	0.0003			
WG474039PBS	PBS	06/11/19 9:08				U	mg/L		-0.0015	0.0015			
WG474039LCSS	LCSS	06/11/19 9:10	PCN58742	11.14		11.2041	mg/L		80	120			
WG474039LCSSD	LCSSD	06/11/19 9:11	PCN58742	11.14		11.2873	mg/L		80	120	1	20	
WG474039LFB	LFB	06/11/19 9:13	MS190607-1	1.001		.93824	mg/L	94	80	120			
L52046-01DUP	DUP	06/11/19 9:17			7.17	7.0833	mg/L				1	20	
L52046-07MS	MS	06/11/19 9:35	MS190607-1	1.001	5.48	6.1947	mg/L	71	75	125			M3

Lead, total (3050) M6020B ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG474350													
WG474350ICV	ICV	06/12/19 12:37	MS190513-2	.05		.0511	mg/L	102	90	110			
WG474350ICB	ICB	06/12/19 12:39				U	mg/L		-0.0003	0.0003			
WG474094PBS	PBS	06/12/19 12:48				.07	mg/Kg		-0.15	0.15			
WG474094LCSS	LCSS	06/12/19 12:50	PCN58943	225		204.72	mg/Kg		184	266			
WG474094LCSSD	LCSSD	06/12/19 12:52	PCN58943	225		215.84	mg/Kg		184	266	5	20	
L52046-01MS	MS	06/12/19 12:56	MS50XSOILS	25	979	1010.31	mg/Kg	125	75	125			
L52046-01MSD	MSD	06/12/19 12:57	MS50XSOILS	25	979	1008.58	mg/Kg	118	75	125	0	20	

Solids, Percent D2216-80

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG473642													
L52002-01DUP	DUP	06/04/19 12:05			57.1	56.53	%				1	20	
WG473642PBS	PBS	06/05/19 8:50				U	%		-0.1	0.1			

Inorganic Extended Qualifier Report

City of Albuquerque, Environmental Health Department

ACZ Project ID: ***L52046***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L52046-01	WG474193	Lead (IVBA)	M6020B ICP-MS	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
L52046-02	WG474193	Lead (IVBA)	M6020B ICP-MS	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
L52046-03	WG474193	Lead (IVBA)	M6020B ICP-MS	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
L52046-04	WG474193	Lead (IVBA)	M6020B ICP-MS	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
L52046-05	WG474193	Lead (IVBA)	M6020B ICP-MS	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
L52046-06	WG474193	Lead (IVBA)	M6020B ICP-MS	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
L52046-07	WG474193	Lead (IVBA)	M6020B ICP-MS	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.

City of Albuquerque, Environmental Health D epartme

ACZ Project ID: ***L52046***

Soil Analysis

The following parameters are not offered for certification or are not covered by NELAC certificate #ACZ.

Solids, Percent	D2216-80

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Sample Receipt

City of Albuquerque, Environmental Health

ACZ Project ID: L52046
Date Received: 05/29/2019 13:20
Received By:
Date Printed: 5/30/2019

Receipt Verification

	YES	NO	NA
1) Is a foreign soil permit included for applicable samples?			X
2) Is the Chain of Custody form or other directive shipping papers present?	X		
3) Does this project require special handling procedures such as CLP protocol?		X	
4) Are any samples NRC licensable material?			X
5) If samples are received past hold time, proceed with requested short hold time analyses?	X		
6) Is the Chain of Custody form complete and accurate?	X		
7) Were any changes made to the Chain of Custody form prior to ACZ receiving the samples?	X		

A change was made in the Relinquished By: Date:Time section prior to ACZ custody.

Samples/Containers

	YES	NO	NA
8) Are all containers intact and with no leaks?	X		
9) Are all labels on containers and are they intact and legible?	X		
10) Do the sample labels and Chain of Custody form match for Sample ID, Date, and Time?	X		
11) For preserved bottle types, was the pH checked and within limits? [1]			X
12) Is there sufficient sample volume to perform all requested work?	X		
13) Is the custody seal intact on all containers?	X		
14) Are samples that require zero headspace acceptable?			X
15) Are all sample containers appropriate for analytical requirements?	X		
16) Is there an Hg-1631 trip blank present?			X
17) Is there a VOA trip blank present?			X
18) Were all samples received within hold time?	X		

NA indicates Not Applicable

Chain of Custody Related Remarks

Client Contact Remarks

Shipping Containers

Cooler Id	Temp(°C)	Temp Criteria(°C)	Rad(µR/Hr)	Custody Seal Intact?
NA30642	20	NA	15	N/A

Was ice present in the shipment container(s)?

No - Wet or gel ice was not present in the shipment container(s).

Client must contact an ACZ Project Manager if analysis should not proceed for samples received outside of their thermal preservation acceptance criteria.

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Sample Receipt

City of Albuquerque, Environmental Health

ACZ Project ID:	L52046
Date Received:	05/29/2019 13:20
Received By:	
Date Printed:	5/30/2019

[1] The preservation of the following bottle types is not checked at sample receipt: Orange (oil and grease), Purple (total cyanide), Pink (dissolved cyanide), Brown (arsenic speciation), Sterile (fecal coliform), EDTA (sulfite), HCl preserved vial (organics), Na2S2O3 preserved vial (organics), and HG-1631 (total/dissolved mercury by method 1631).

ACZ Laboratories, Inc. L52046

2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

CHAIN of CUSTODY

Report to:

Name: Ken Ziegler	Address: PO Box 1296, 1 Civic Plaza,
Company: City of Albuquerque, EHD	3rd Floor, Room 3023
E-mail: krziegler@cabq.gov	Telephone: 505-768-2669

Copy of Report to:

Name:	E-mail:
Company:	Telephone:

Invoice to:

Name: Ken Ziegler	Address: PO Box 1296, 1 Civic Plaza,
Company: City of Albuquerque, EHD	3rd Floor, Room 3023
E-mail: krziegler@cabq.gov	Telephone: 505-768-2669

If sample(s) received past holding time (HT), or if insufficient HT remains to complete analysis before expiration, shall ACZ proceed with requested short HT analyses? YES [X] NO [ ]

If "NO" then ACZ will contact client for further instruction. If neither "YES" nor "NO" is indicated, ACZ will proceed with the requested analyses, even if HT is expired, and data will be qualified

Are samples for SDWA Compliance Monitoring? Yes [ ] No [X]

If yes, please include state forms. Results will be reported to PQL for Colorado.

Sampler's Name: Ken Ziegler **Sampler's Site Information** **State** NM **Zip code** 87102 **Time Zone** MST

***Sampler's Signature:** [signature]

*I attest to the authenticity and validity of this sample. I understand that intentionally mislabeling the time/date/location or tampering with the sample in anyway, is considered fraud and punishable by State Law.

PROJECT INFORMATION

Quote #: CityofALB IVBA May 2019

PO#:

Reporting state for compliance testing:

Check box if samples include NRC licensed material? [ ]

ANALYSES REQUESTED *(attach list or use quote number)*

SAMPLE IDENTIFICATION	DATE:TIME	Matrix	# of Containers	CityofALB IVBA May 2019							
RAILSS78	05/24/19 0909	SO	1	[X]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
RAILSS92	05/24/19 0909	SO	1	[X]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
RAILSS50	05/24/19 0910	SO	1	[X]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
RAILSS82	05/24/19 0910	SO	1	[X]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
RAILSS104	05/24/19 0911	SO	1	[X]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
RAILSS96	05/24/19 0911	SO	1	[X]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
RAILSS58	05/24/19 0912	SO	1	[X]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
				[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
				[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
				[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]

Matrix: SW (Surface Water) · GW (Ground Water) · WW (Waste Water) · DW (Drinking Water) · SL (Sludge) · SO (Soil) · OL (Oil) · Other (Specify)

REMARKS

Please refer to ACZ's terms & conditions located on the reverse side of this COC.

RELINQUISHED BY:	DATE:TIME	RECEIVED BY:	DATE:TIME
KRZ CoA	5/24/19 1151	[illegible]	5/29/19 13:20

FRMAD050.06.14.14 White - Return with sample. Yellow - Retain for your records.

L52046 Chain of Custod

Ken Ziegler
City of Albuquerque
11500 Sunset Gardens Rd SW
Albuquerque, NM 87121
(505) 768-2669

Quote: CityofALB IVBA May 2019
Quote valid for six months from 5/23/2019

Matrix: Soil
Pricing for *In Vitro* Bioaccessibility: Pb (7 Samples, 1 Sampling Event)

Parameter	Method	Detection Limit	Price/ Sample
Total Metals via ICP-MS run on <150um Sample			
Sample Prep: Sieve <150um (100 mesh) per the method		n/a	15.00
Total Metals Digestion	EPA 3050B	n/a	16.00
Percent Solids	EPA CLPSOW 390	0.01%	8.00
Air Dry	USDA No.1, 1972	n/a	8.00
Lead	EPA 6020, ICP-MS	0.05 mg/Kg	30.00
		Total Cost Per Sample Including Prep:	**$77.00**
Initial Setup/Labor for IVBA Method:			
Make reagents, standards, check reagents for metals - 3 hours @ $95.00 per hour.			**$285.00**
***In Vitro* Bioaccessibility of Metals on <150um Sample**			
Leaching Extraction*	EPA 1340 Modified	N/A	45.00
Lead	EPA 6020, ICP-MS	0.1 ug/L	30.00
			$75.00

Total Project Cost (7 Samples):

7 Samples for Total Metals via ICP-MS run on <150um Fraction & Sample Preparation	$539.00
Initial Setup/Labor for IVBA Method Events	$285.00
7 Samples for *In Vitro* Bioaccessibility of Metals on <150um Sample	$525.00
Estimated Total Project Cost for 7 samples:*	**$1,349.00**

* Per the EPA Leaching method, following the 1 hour extraction if the extraction fluid pH is not within +/- 0.5 units of the starting pH, the test must be discontinued and re-extracted. If this scenario happens, ACZ will charge for an additional extraction at $40.00/sample. PH changes are usually associated with sample matrix.

Pricing is based on Standard turnaround time and standard reports with a QC Summary & Case Narrative.

Please allow for three to four weeks for this specialty analysis.

MDLs are not static and may change due to matrix or required dilutions.

This bid must be signed and returned to ACZ before the project is received. The authorized signature represents acceptance of the pricing as well as ACZ's General terms & conditions.

ACZ Representative

(Authorized Signature & Date)

Client Representative

5/24/19

(Authorized Signature & Date)

Water Consumption:

Age	Water (L/day)
.5-1	0.200
1-2	0.500
2-3	0.520
3-4	0.530
4-5	0.550
5-6	0.580
6-7	0.590

Drinking Water Concentration: 1.000 µg Pb/L

****** Soil & Dust ******

Age	Soil (µg Pb/g)	House Dust (µg Pb/g)
.5-1	979.000	200.000
1-2	979.000	200.000
2-3	979.000	200.000
3-4	979.000	200.000
4-5	979.000	200.000
5-6	979.000	200.000
6-7	979.000	200.000

****** Alternate Intake ******

Age	Alternate (µg Pb/day)
.5-1	0.000
1-2	0.000
2-3	0.000
3-4	0.000
4-5	0.000
5-6	0.000
6-7	0.000

****** Maternal Contribution: Infant Model ******

Maternal Blood Concentration: 1.000 µg Pb/dL

****
CALCULATED BLOOD LEAD AND LEAD UPTAKES:
****

Year	Air (µg/day)	Diet (µg/day)	Alternate (µg/day)	Water (µg/day)

==========

Model Version: 1.1 Build11
User Name: EHD
Date: 06/13/2019
Site Name: Rail Yards
Operable Unit: North Area
Run Mode: Site Risk Assessment

GI Values + Bioavailability Data
GI Values + Bioavailability Data

==========

****** Air ******

Indoor Air Pb Concentration: 30.000 percent of outdoor.
Other Air Parameters:

Age	Time Outdoors (hours)	Ventilation Rate (m^3/day)	Lung Absorption (%)	Outdoor Air Pb Conc (µg Pb/m^3)
.5-1	1.000	2.000	32.000	0.100
1-2	2.000	3.000	32.000	0.100
2-3	3.000	5.000	32.000	0.100
3-4	4.000	5.000	32.000	0.100
4-5	4.000	5.000	32.000	0.100
5-6	4.000	7.000	32.000	0.100
6-7	4.000	7.000	32.000	0.100

****** Diet ******

Age	Diet Intake(µg/day)
.5-1	2.260
1-2	1.960
2-3	2.130
3-4	2.040
4-5	1.950
5-6	2.050
6-7	2.220

****** Drinking Water ******

.5-1	0.021	0.883	0.000	0.078
1-2	0.034	0.736	0.000	0.188
2-3	0.062	0.828	0.000	0.202
3-4	0.067	0.818	0.000	0.212
4-5	0.067	0.838	0.000	0.236
5-6	0.093	0.905	0.000	0.256
6-7	0.093	0.995	0.000	0.264

Year	Soil+Dust (µg/day)	Total (µg/day)	Blood (µg/dL)
.5-1	20.039	21.021	11.0
1-2	30.581	31.539	12.7
2-3	31.663	32.755	12.0
3-4	32.660	33.757	11.5
4-5	25.939	27.080	9.6
5-6	23.982	25.237	8.0
6-7	22.984	24.336	7.0

==========

Model Version: 1.1 Build11
User Name: EHD
Date: 06/13/2019
Site Name: Rail Yards
Operable Unit: North Area
Run Mode: Site Risk Assessment

GI Values + Bioavailability Data
GI Values + Bioavailability Data
GI Values + Bioavailability Data
RY SS92
Soil/Dust Data
RY SS92

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****** Air ******

Indoor Air Pb Concentration: 30.000 percent of outdoor.
Other Air Parameters:

Age	Time Outdoors (hours)	Ventilation Rate (m^3/day)	Lung Absorption (%)	Outdoor Air Pb Conc (µg Pb/m^3)
.5-1	1.000	2.000	32.000	0.100
1-2	2.000	3.000	32.000	0.100
2-3	3.000	5.000	32.000	0.100
3-4	4.000	5.000	32.000	0.100
4-5	4.000	5.000	32.000	0.100
5-6	4.000	7.000	32.000	0.100
6-7	4.000	7.000	32.000	0.100

****** Diet ******

Age	Diet Intake(µg/day)
.5-1	2.260
1-2	1.960
2-3	2.130
3-4	2.040
4-5	1.950

5-6	2.050
6-7	2.220

****** Drinking Water ******

Water Consumption:

Age	Water (L/day)
.5-1	0.200
1-2	0.500
2-3	0.520
3-4	0.530
4-5	0.550
5-6	0.580
6-7	0.590

Drinking Water Concentration: 1.000 µg Pb/L

****** Soil & Dust ******

Age	Soil (µg Pb/g)	House Dust (µg Pb/g)
.5-1	500.000	200.000
1-2	500.000	200.000
2-3	500.000	200.000
3-4	500.000	200.000
4-5	500.000	200.000
5-6	500.000	200.000
6-7	500.000	200.000

****** Alternate Intake ******

Age	Alternate (µg Pb/day)
.5-1	0.000
1-2	0.000
2-3	0.000
3-4	0.000
4-5	0.000
5-6	0.000
6-7	0.000

****** Maternal Contribution: Infant Model ******

Maternal Blood Concentration: 1.000 µg Pb/dL

****
CALCULATED BLOOD LEAD AND LEAD UPTAKES:

RY SS92.txt

****

Year	Air (µg/day)	Diet (µg/day)	Alternate (µg/day)	Water (µg/day)
.5-1	0.021	0.967	0.000	0.086
1-2	0.034	0.818	0.000	0.209
2-3	0.062	0.910	0.000	0.222
3-4	0.067	0.890	0.000	0.231
4-5	0.067	0.889	0.000	0.251
5-6	0.093	0.950	0.000	0.269
6-7	0.093	1.039	0.000	0.276

Year	Soil+Dust (µg/day)	Total (µg/day)	Blood (µg/dL)
.5-1	12.384	13.457	7.2
1-2	19.175	20.236	8.3
2-3	19.631	20.825	7.7
3-4	20.044	21.232	7.4
4-5	15.525	16.732	6.0
5-6	14.208	15.521	5.0
6-7	13.539	14.947	4.3

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Model Version: 1.1 Build11
User Name: EHD
Date: 06/13/2019
Site Name: Rail Yards
Operable Unit: North Area
Run Mode: Site Risk Assessment

GI Values + Bioavailability Data
GI Values + Bioavailability Data
GI Values + Bioavailability Data
RY SS92
Soil/Dust Data
RY SS92
GI Values + Bioavailability Data
RY SS50
Soil/Dust Data
RY SS50

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****** Air ******

Indoor Air Pb Concentration: 30.000 percent of outdoor.
Other Air Parameters:

Age	Time Outdoors (hours)	Ventilation Rate (m^3/day)	Lung Absorption (%)	Outdoor Air Pb Conc (µg Pb/m^3)
.5-1	1.000	2.000	32.000	0.100
1-2	2.000	3.000	32.000	0.100
2-3	3.000	5.000	32.000	0.100
3-4	4.000	5.000	32.000	0.100
4-5	4.000	5.000	32.000	0.100
5-6	4.000	7.000	32.000	0.100
6-7	4.000	7.000	32.000	0.100

****** Diet ******

Age	Diet Intake(µg/day)
.5-1	2.260

1-2	1.960
2-3	2.130
3-4	2.040
4-5	1.950
5-6	2.050
6-7	2.220

****** Drinking Water ******

Water Consumption:

Age	Water (L/day)
.5-1	0.200
1-2	0.500
2-3	0.520
3-4	0.530
4-5	0.550
5-6	0.580
6-7	0.590

Drinking Water Concentration: 1.000 µg Pb/L

****** Soil & Dust ******

Age	Soil (µg Pb/g)	House Dust (µg Pb/g)
.5-1	4400.000	200.000
1-2	4400.000	200.000
2-3	4400.000	200.000
3-4	4400.000	200.000
4-5	4400.000	200.000
5-6	4400.000	200.000
6-7	4400.000	200.000

****** Alternate Intake ******

Age	Alternate (µg Pb/day)
.5-1	0.000
1-2	0.000
2-3	0.000
3-4	0.000
4-5	0.000
5-6	0.000
6-7	0.000

****** Maternal Contribution: Infant Model ******

Maternal Blood Concentration: 1.000 µg Pb/dL

****
CALCULATED BLOOD LEAD AND LEAD UPTAKES:
****

Year	Air (µg/day)	Diet (µg/day)	Alternate (µg/day)	Water (µg/day)
.5-1	0.021	0.555	0.000	0.049
1-2	0.034	0.446	0.000	0.114
2-3	0.062	0.515	0.000	0.126
3-4	0.067	0.524	0.000	0.136
4-5	0.067	0.586	0.000	0.165
5-6	0.093	0.661	0.000	0.187
6-7	0.093	0.747	0.000	0.199

Year	Soil+Dust (µg/day)	Total (µg/day)	Blood (µg/dL)
.5-1	60.922	61.547	30.2
1-2	89.635	90.230	34.6
2-3	95.306	96.010	33.1
3-4	101.097	101.824	32.8
4-5	87.648	88.466	29.0
5-6	84.710	85.652	25.6
6-7	83.436	84.475	23.2

Environmental exposures associated with blood lead levels above 30 µg/dl are above the range of values that have been used in the calibration and empirical validation of this model. (Zaragoza, L. and Hogan, K. 1998. The Integrated Exposure Uptake Biokinetic Model for Lead In Children: Independent Validation and Verification.

Environmental Health Perspectives 106 (supplement 6). p. 1555)

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Model Version: 1.1 Build11
User Name: EHD
Date: 06/13/2019
Site Name: Rail Yards
Operable Unit: North Area
Run Mode: Site Risk Assessment

GI Values + Bioavailability Data
GI Values + Bioavailability Data
GI Values + Bioavailability Data
RY SS92
Soil/Dust Data
RY SS92
GI Values + Bioavailability Data
RY SS50
Soil/Dust Data
RY SS50
GI Values + Bioavailability Data
RY SS82
Soil/Dust Data
RY SS82

==========

****** Air ******

Indoor Air Pb Concentration: 30.000 percent of outdoor.
Other Air Parameters:

Age	Time Outdoors (hours)	Ventilation Rate (m^3/day)	Lung Absorption (%)	Outdoor Air Pb Conc (µg Pb/m^3)
.5-1	1.000	2.000	32.000	0.100
1-2	2.000	3.000	32.000	0.100
2-3	3.000	5.000	32.000	0.100
3-4	4.000	5.000	32.000	0.100
4-5	4.000	5.000	32.000	0.100
5-6	4.000	7.000	32.000	0.100
6-7	4.000	7.000	32.000	0.100

****** Diet ******

Age	Diet Intake(µg/day)
.5-1	2.260
1-2	1.960
2-3	2.130
3-4	2.040
4-5	1.950
5-6	2.050
6-7	2.220

****** Drinking Water ******

Water Consumption:

Age	Water (L/day)
.5-1	0.200
1-2	0.500
2-3	0.520
3-4	0.530
4-5	0.550
5-6	0.580
6-7	0.590

Drinking Water Concentration: 1.000 µg Pb/L

****** Soil & Dust ******

Age	Soil (µg Pb/g)	House Dust (µg Pb/g)
.5-1	422.000	200.000
1-2	422.000	200.000
2-3	422.000	200.000
3-4	422.000	200.000
4-5	422.000	200.000
5-6	422.000	200.000
6-7	422.000	200.000

****** Alternate Intake ******

Age	Alternate (µg Pb/day)
.5-1	0.000
1-2	0.000
2-3	0.000
3-4	0.000
4-5	0.000
5-6	0.000

6-7 0.000

****** Maternal Contribution: Infant Model ******

Maternal Blood Concentration: 1.000 µg Pb/dL

****
CALCULATED BLOOD LEAD AND LEAD UPTAKES:
****

Year	Air (µg/day)	Diet (µg/day)	Alternate (µg/day)	Water (µg/day)
.5-1	0.021	0.989	0.000	0.087
1-2	0.034	0.839	0.000	0.214
2-3	0.062	0.931	0.000	0.227
3-4	0.067	0.908	0.000	0.236
4-5	0.067	0.901	0.000	0.254
5-6	0.093	0.961	0.000	0.272
6-7	0.093	1.049	0.000	0.279

Year	Soil+Dust (µg/day)	Total (µg/day)	Blood (µg/dL)
.5-1	10.503	11.600	6.2
1-2	16.327	17.415	7.1
2-3	16.664	17.884	6.6
3-4	16.969	18.179	6.3
4-5	13.059	14.281	5.1
5-6	11.921	13.248	4.3
6-7	11.344	12.765	3.7

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Model Version: 1.1 Build11
User Name:
Date:
Site Name:
Operable Unit:
Run Mode: Research

==========

****** Air ******

Indoor Air Pb Concentration: 30.000 percent of outdoor.
Other Air Parameters:

Age	Time Outdoors (hours)	Ventilation Rate (m^3/day)	Lung Absorption (%)	Outdoor Air Pb Conc (µg Pb/m^3)
.5-1	1.000	2.000	32.000	0.100
1-2	2.000	3.000	32.000	0.100
2-3	3.000	5.000	32.000	0.100
3-4	4.000	5.000	32.000	0.100
4-5	4.000	5.000	32.000	0.100
5-6	4.000	7.000	32.000	0.100
6-7	4.000	7.000	32.000	0.100

****** Diet ******

Age	Diet Intake(µg/day)
.5-1	2.260
1-2	1.960
2-3	2.130
3-4	2.040
4-5	1.950
5-6	2.050
6-7	2.220

****** Drinking Water ******

Water Consumption:

Age	Water (L/day)
.5-1	0.200

1-2	0.500
2-3	0.520
3-4	0.530
4-5	0.550
5-6	0.580
6-7	0.590

Drinking Water Concentration: 1.000 µg Pb/L

****** Soil & Dust ******

Age	Soil (µg Pb/g)	House Dust (µg Pb/g)
.5-1	721.000	200.000
1-2	721.000	200.000
2-3	721.000	200.000
3-4	721.000	200.000
4-5	721.000	200.000
5-6	721.000	200.000
6-7	721.000	200.000

****** Alternate Intake ******

Age	Alternate (µg Pb/day)
.5-1	0.000
1-2	0.000
2-3	0.000
3-4	0.000
4-5	0.000
5-6	0.000
6-7	0.000

****** Maternal Contribution: Infant Model ******

Maternal Blood Concentration: 1.000 µg Pb/dL

****
CALCULATED BLOOD LEAD AND LEAD UPTAKES:
****

Year	Air (µg/day)	Diet (µg/day)	Alternate (µg/day)	Water (µg/day)
.5-1	0.021	0.926	0.000	0.082
1-2	0.034	0.777	0.000	0.198
2-3	0.062	0.869	0.000	0.212
3-4	0.067	0.854	0.000	0.222

4-5	0.067	0.865	0.000	0.244
5-6	0.093	0.929	0.000	0.263
6-7	0.093	1.018	0.000	0.270

Year	Soil+Dust (µg/day)	Total (µg/day)	Blood (µg/dL)
.5-1	16.078	17.107	9.0
1-2	24.714	25.724	10.4
2-3	25.446	26.590	9.8
3-4	26.115	27.258	9.4
4-5	20.478	21.653	7.7
5-6	18.833	20.118	6.4
6-7	17.996	19.377	5.6

LEAD MODEL FOR WINDOWS Version 1.1

==========

Model Version: 1.1 Build11
User Name:
Date:
Site Name:
Operable Unit:
Run Mode: Research

==========

****** Air ******

Indoor Air Pb Concentration: 30.000 percent of outdoor.
Other Air Parameters:

Age	Time Outdoors (hours)	Ventilation Rate (m^3/day)	Lung Absorption (%)	Outdoor Air Pb Conc (µg Pb/m^3)
.5-1	1.000	2.000	32.000	0.100
1-2	2.000	3.000	32.000	0.100
2-3	3.000	5.000	32.000	0.100
3-4	4.000	5.000	32.000	0.100
4-5	4.000	5.000	32.000	0.100
5-6	4.000	7.000	32.000	0.100
6-7	4.000	7.000	32.000	0.100

****** Diet ******

Age	Diet Intake(µg/day)
.5-1	2.260
1-2	1.960
2-3	2.130
3-4	2.040
4-5	1.950
5-6	2.050
6-7	2.220

****** Drinking Water ******

Water Consumption:

Age	Water (L/day)
.5-1	0.200

1-2	0.500
2-3	0.520
3-4	0.530
4-5	0.550
5-6	0.580
6-7	0.590

Drinking Water Concentration: 1.000 µg Pb/L

****** Soil & Dust ******

Age	Soil (µg Pb/g)	House Dust (µg Pb/g)
.5-1	913.000	200.000
1-2	913.000	200.000
2-3	913.000	200.000
3-4	913.000	200.000
4-5	913.000	200.000
5-6	913.000	200.000
6-7	913.000	200.000

****** Alternate Intake ******

Age	Alternate (µg Pb/day)
.5-1	0.000
1-2	0.000
2-3	0.000
3-4	0.000
4-5	0.000
5-6	0.000
6-7	0.000

****** Maternal Contribution: Infant Model ******

Maternal Blood Concentration: 1.000 µg Pb/dL

****
CALCULATED BLOOD LEAD AND LEAD UPTAKES:
****

Year	Air (µg/day)	Diet (µg/day)	Alternate (µg/day)	Water (µg/day)
.5-1	0.021	0.903	0.000	0.080
1-2	0.034	0.755	0.000	0.193
2-3	0.062	0.847	0.000	0.207
3-4	0.067	0.835	0.000	0.217

4-5	0.067	0.851	0.000	0.240
5-6	0.093	0.917	0.000	0.259
6-7	0.093	1.006	0.000	0.267

Year	Soil+Dust (µg/day)	Total (µg/day)	Blood (µg/dL)
.5-1	18.150	19.154	10.1
1-2	27.791	28.773	11.7
2-3	28.700	29.817	10.9
3-4	29.534	30.653	10.5
4-5	23.315	24.473	8.7
5-6	21.502	22.772	7.2
6-7	20.578	21.944	6.3

LEAD MODEL FOR WINDOWS Version 1.1

==========

Model Version: 1.1 Build11
User Name: EHD
Date: 06/13/2019
Site Name: Rail Yards
Operable Unit: North Area
Run Mode: Site Risk Assessment

GI Values + Bioavailability Data
GI Values + Bioavailability Data
GI Values + Bioavailability Data
RY SS92
Soil/Dust Data
RY SS92
GI Values + Bioavailability Data
RY SS50
Soil/Dust Data
RY SS50
GI Values + Bioavailability Data
RY SS82
Soil/Dust Data
RY SS82
GI Values + Bioavailability Data
RY SS104
Soil/Dust Data
RY SS104
GI Values + Bioavailability Data
RY SS96
Soil/Dust Data
RY SS104
GI Values + Bioavailability Data
RY SS58
Soil/Dust Data
RY SS58

==========

****** Air ******

Indoor Air Pb Concentration: 30.000 percent of outdoor.
Other Air Parameters:

Age	Time	Ventilation	Lung	Outdoor Air

	Outdoors (hours)	Rate (m^3/day)	Absorption (%)	Pb Conc (µg Pb/m^3)
.5-1	1.000	2.000	32.000	0.100
1-2	2.000	3.000	32.000	0.100
2-3	3.000	5.000	32.000	0.100
3-4	4.000	5.000	32.000	0.100
4-5	4.000	5.000	32.000	0.100
5-6	4.000	7.000	32.000	0.100
6-7	4.000	7.000	32.000	0.100

****** Diet ******

Age	Diet Intake(µg/day)
.5-1	2.260
1-2	1.960
2-3	2.130
3-4	2.040
4-5	1.950
5-6	2.050
6-7	2.220

****** Drinking Water ******

Water Consumption:

Age	Water (L/day)
.5-1	0.200
1-2	0.500
2-3	0.520
3-4	0.530
4-5	0.550
5-6	0.580
6-7	0.590

Drinking Water Concentration: 1.000 µg Pb/L

****** Soil & Dust ******

Age	Soil (µg Pb/g)	House Dust (µg Pb/g)
.5-1	745.000	200.000
1-2	745.000	200.000
2-3	745.000	200.000
3-4	745.000	200.000
4-5	745.000	200.000
5-6	745.000	200.000

6-7 745.000 200.000

****** Alternate Intake ******

Age	Alternate (µg Pb/day)
.5-1	0.000
1-2	0.000
2-3	0.000
3-4	0.000
4-5	0.000
5-6	0.000
6-7	0.000

****** Maternal Contribution: Infant Model ******

Maternal Blood Concentration: 1.000 µg Pb/dL

****
CALCULATED BLOOD LEAD AND LEAD UPTAKES:
****

Year	Air (µg/day)	Diet (µg/day)	Alternate (µg/day)	Water (µg/day)
.5-1	0.021	0.919	0.000	0.081
1-2	0.034	0.771	0.000	0.197
2-3	0.062	0.863	0.000	0.211
3-4	0.067	0.849	0.000	0.221
4-5	0.067	0.861	0.000	0.243
5-6	0.093	0.925	0.000	0.262
6-7	0.093	1.014	0.000	0.270

Year	Soil+Dust (µg/day)	Total (µg/day)	Blood (µg/dL)
.5-1	16.655	17.677	9.3
1-2	25.574	26.576	10.8
2-3	26.354	27.490	10.1
3-4	27.067	28.203	9.7
4-5	21.264	22.434	8.0
5-6	19.572	20.852	6.6
6-7	18.709	20.087	5.8

==========

Model Version: 1.1 Build11
User Name:
Date:
Site Name:
Operable Unit:
Run Mode: Research

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****** Air ******

Indoor Air Pb Concentration: 30.000 percent of outdoor.
Other Air Parameters:

Age	Time Outdoors (hours)	Ventilation Rate (m^3/day)	Lung Absorption (%)	Outdoor Air Pb Conc (µg Pb/m^3)
.5-1	1.000	2.000	32.000	0.100
1-2	2.000	3.000	32.000	0.100
2-3	3.000	5.000	32.000	0.100
3-4	4.000	5.000	32.000	0.100
4-5	4.000	5.000	32.000	0.100
5-6	4.000	7.000	32.000	0.100
6-7	4.000	7.000	32.000	0.100

****** Diet ******

Age	Diet Intake(µg/day)
.5-1	2.260
1-2	1.960
2-3	2.130
3-4	2.040
4-5	1.950
5-6	2.050
6-7	2.220

****** Drinking Water ******

Water Consumption:

Age	Water (L/day)
.5-1	0.200

1-2	0.500
2-3	0.520
3-4	0.530
4-5	0.550
5-6	0.580
6-7	0.590

Drinking Water Concentration: 1.000 µg Pb/L

****** Soil & Dust ******

Age	Soil (µg Pb/g)	House Dust (µg Pb/g)
.5-1	650.000	200.000
1-2	650.000	200.000
2-3	650.000	200.000
3-4	650.000	200.000
4-5	650.000	200.000
5-6	650.000	200.000
6-7	650.000	200.000

****** Alternate Intake ******

Age	Alternate (µg Pb/day)
.5-1	0.000
1-2	0.000
2-3	0.000
3-4	0.000
4-5	0.000
5-6	0.000
6-7	0.000

****** Maternal Contribution: Infant Model ******

Maternal Blood Concentration: 1.000 µg Pb/dL

****
CALCULATED BLOOD LEAD AND LEAD UPTAKES:
****

Year	Air (µg/day)	Diet (µg/day)	Alternate (µg/day)	Water (µg/day)
.5-1	0.021	0.937	0.000	0.083
1-2	0.034	0.788	0.000	0.201
2-3	0.062	0.881	0.000	0.215
3-4	0.067	0.864	0.000	0.225

4-5	0.067	0.872	0.000	0.246
5-6	0.093	0.935	0.000	0.265
6-7	0.093	1.024	0.000	0.272

Year	Soil+Dust (µg/day)	Total (µg/day)	Blood (µg/dL)
.5-1	15.024	16.065	8.5
1-2	23.141	24.165	9.8
2-3	23.789	24.947	9.2
3-4	24.379	25.535	8.8
4-5	19.050	20.235	7.2
5-6	17.496	18.789	6.0
6-7	16.705	18.094	5.2

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

June 06, 2019

Bart Faris

City of Albuquerque Environmental Health Dept
1 Civic Plaza, Room 3023
Albuquerque, NM 87103
TEL:
FAX

RE: City Railyards OrderNo.: 1905B83

Dear Bart Faris:

Hall Environmental Analysis Laboratory received 8 sample(s) on 5/22/2019 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0901

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

CLIENT: City of Albuquerque Environmental Healt
Client Sample ID: Stockpile #1
Project: City Railyards
Collection Date: 5/22/2019 1:35:00 PM
Lab ID: 1905B83-001 **Matrix:** SOIL
Received Date: 5/22/2019 3:10:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
MERCURY, TCLP						Analyst: **pmf**
Mercury	ND	0.020		mg/L	1	6/5/2019 12:22:58 PM
EPA METHOD 6010B: TCLP METALS						Analyst: **ELS**
Arsenic	ND	5.0		mg/L	1	5/31/2019 8:45:41 AM
Barium	ND	100		mg/L	1	5/31/2019 8:45:41 AM
Cadmium	ND	1.0		mg/L	1	5/31/2019 8:45:41 AM
Chromium	ND	5.0		mg/L	1	5/31/2019 8:45:41 AM
Lead	ND	5.0		mg/L	1	5/31/2019 8:45:41 AM
Selenium	ND	1.0		mg/L	1	5/31/2019 8:45:41 AM
Silver	ND	5.0		mg/L	1	5/31/2019 8:45:41 AM
EPA METHOD 8270C TCLP						Analyst: **DAM**
2-Methylphenol	ND	200		mg/L	1	6/4/2019 8:27:26 PM
3+4-Methylphenol	ND	200		mg/L	1	6/4/2019 8:27:26 PM
2,4-Dinitrotoluene	ND	0.13		mg/L	1	6/4/2019 8:27:26 PM
Hexachlorobenzene	ND	0.13		mg/L	1	6/4/2019 8:27:26 PM
Hexachlorobutadiene	ND	0.50		mg/L	1	6/4/2019 8:27:26 PM
Hexachloroethane	ND	3.0		mg/L	1	6/4/2019 8:27:26 PM
Nitrobenzene	ND	2.0		mg/L	1	6/4/2019 8:27:26 PM
Pentachlorophenol	ND	100		mg/L	1	6/4/2019 8:27:26 PM
Pyridine	ND	5.0		mg/L	1	6/4/2019 8:27:26 PM
2,4,5-Trichlorophenol	ND	400		mg/L	1	6/4/2019 8:27:26 PM
2,4,6-Trichlorophenol	ND	2.0		mg/L	1	6/4/2019 8:27:26 PM
Cresols, Total	ND	200		mg/L	1	6/4/2019 8:27:26 PM
Surr: 2-Fluorophenol	47.5	22.2-88.7		%Rec	1	6/4/2019 8:27:26 PM
Surr: Phenol-d5	35.2	16.4-74.1		%Rec	1	6/4/2019 8:27:26 PM
Surr: 2,4,6-Tribromophenol	40.6	28.1-108		%Rec	1	6/4/2019 8:27:26 PM
Surr: Nitrobenzene-d5	48.3	20.1-112		%Rec	1	6/4/2019 8:27:26 PM
Surr: 2-Fluorobiphenyl	32.8	19.1-97.5		%Rec	1	6/4/2019 8:27:26 PM
Surr: 4-Terphenyl-d14	47.0	31.1-114		%Rec	1	6/4/2019 8:27:26 PM
EPA METHOD 8260B: TCLP COMPOUNDS						Analyst: **DJF**
Benzene	ND	0.50		ppm	10	5/24/2019 12:40:19 PM
1,2-Dichloroethane (EDC)	ND	0.50		ppm	10	5/24/2019 12:40:19 PM
2-Butanone	ND	200		ppm	10	5/24/2019 12:40:19 PM
Carbon tetrachloride	ND	0.50		ppm	10	5/24/2019 12:40:19 PM
Chlorobenzene	ND	100		ppm	10	5/24/2019 12:40:19 PM
Chloroform	ND	6.0		ppm	10	5/24/2019 12:40:19 PM
1,4-Dichlorobenzene	ND	7.5		ppm	10	5/24/2019 12:40:19 PM
1,1-Dichloroethene	ND	0.70		ppm	10	5/24/2019 12:40:19 PM
Tetrachloroethene (PCE)	ND	0.70		ppm	10	5/24/2019 12:40:19 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit
P	Sample pH Not In Range
PQL	Practical Quanitative Limit
RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix

Hall Environmental Analysis Laboratory, Inc.

CLIENT: City of Albuquerque Environmental Healt
Client Sample ID: Stockpile #1
Project: City Railyards
Collection Date: 5/22/2019 1:35:00 PM
Lab ID: 1905B83-001 **Matrix:** SOIL
Received Date: 5/22/2019 3:10:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: TCLP COMPOUNDS						Analyst: **DJF**
Trichloroethene (TCE)	ND	0.50		ppm	10	5/24/2019 12:40:19 PM
Vinyl chloride	ND	0.20		ppm	10	5/24/2019 12:40:19 PM
Surr: 1,2-Dichloroethane-d4	99.4	70-130		%Rec	10	5/24/2019 12:40:19 PM
Surr: 4-Bromofluorobenzene	98.1	70-130		%Rec	10	5/24/2019 12:40:19 PM
Surr: Dibromofluoromethane	80.8	70-130		%Rec	10	5/24/2019 12:40:19 PM
Surr: Toluene-d8	96.5	70-130		%Rec	10	5/24/2019 12:40:19 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: City of Albuquerque Environmental Healt
Client Sample ID: Stockpile #2
Project: City Railyards
Collection Date: 5/22/2019 1:49:00 PM
Lab ID: 1905B83-002 **Matrix:** SOIL
Received Date: 5/22/2019 3:10:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
MERCURY, TCLP						Analyst: **pmf**
Mercury	ND	0.020		mg/L	1	6/5/2019 12:25:01 PM
EPA METHOD 6010B: TCLP METALS						Analyst: **ELS**
Arsenic	ND	5.0		mg/L	1	5/31/2019 8:51:44 AM
Barium	ND	100		mg/L	1	5/31/2019 8:51:44 AM
Cadmium	ND	1.0		mg/L	1	5/31/2019 8:51:44 AM
Chromium	ND	5.0		mg/L	1	5/31/2019 8:51:44 AM
Lead	ND	5.0		mg/L	1	5/31/2019 8:51:44 AM
Selenium	ND	1.0		mg/L	1	5/31/2019 8:51:44 AM
Silver	ND	5.0		mg/L	1	5/31/2019 8:51:44 AM
EPA METHOD 8270C TCLP						Analyst: **DAM**
2-Methylphenol	ND	200		mg/L	1	6/4/2019 8:57:29 PM
3+4-Methylphenol	ND	200		mg/L	1	6/4/2019 8:57:29 PM
2,4-Dinitrotoluene	ND	0.13		mg/L	1	6/4/2019 8:57:29 PM
Hexachlorobenzene	ND	0.13		mg/L	1	6/4/2019 8:57:29 PM
Hexachlorobutadiene	ND	0.50		mg/L	1	6/4/2019 8:57:29 PM
Hexachloroethane	ND	3.0		mg/L	1	6/4/2019 8:57:29 PM
Nitrobenzene	ND	2.0		mg/L	1	6/4/2019 8:57:29 PM
Pentachlorophenol	ND	100		mg/L	1	6/4/2019 8:57:29 PM
Pyridine	ND	5.0		mg/L	1	6/4/2019 8:57:29 PM
2,4,5-Trichlorophenol	ND	400		mg/L	1	6/4/2019 8:57:29 PM
2,4,6-Trichlorophenol	ND	2.0		mg/L	1	6/4/2019 8:57:29 PM
Cresols, Total	ND	200		mg/L	1	6/4/2019 8:57:29 PM
Surr: 2-Fluorophenol	47.9	22.2-88.7		%Rec	1	6/4/2019 8:57:29 PM
Surr: Phenol-d5	34.1	16.4-74.1		%Rec	1	6/4/2019 8:57:29 PM
Surr: 2,4,6-Tribromophenol	40.9	28.1-108		%Rec	1	6/4/2019 8:57:29 PM
Surr: Nitrobenzene-d5	51.2	20.1-112		%Rec	1	6/4/2019 8:57:29 PM
Surr: 2-Fluorobiphenyl	34.7	19.1-97.5		%Rec	1	6/4/2019 8:57:29 PM
Surr: 4-Terphenyl-d14	46.2	31.1-114		%Rec	1	6/4/2019 8:57:29 PM
EPA METHOD 8260B: TCLP COMPOUNDS						Analyst: **DJF**
Benzene	ND	0.50		ppm	10	5/24/2019 1:09:47 PM
1,2-Dichloroethane (EDC)	ND	0.50		ppm	10	5/24/2019 1:09:47 PM
2-Butanone	ND	200		ppm	10	5/24/2019 1:09:47 PM
Carbon tetrachloride	ND	0.50		ppm	10	5/24/2019 1:09:47 PM
Chlorobenzene	ND	100		ppm	10	5/24/2019 1:09:47 PM
Chloroform	ND	6.0		ppm	10	5/24/2019 1:09:47 PM
1,4-Dichlorobenzene	ND	7.5		ppm	10	5/24/2019 1:09:47 PM
1,1-Dichloroethene	ND	0.70		ppm	10	5/24/2019 1:09:47 PM
Tetrachloroethene (PCE)	ND	0.70		ppm	10	5/24/2019 1:09:47 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: City of Albuquerque Environmental Healt
Client Sample ID: Stockpile #2
Project: City Railyards
Collection Date: 5/22/2019 1:49:00 PM
Lab ID: 1905B83-002 **Matrix:** SOIL
Received Date: 5/22/2019 3:10:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: TCLP COMPOUNDS						Analyst: **DJF**
Trichloroethene (TCE)	ND	0.50		ppm	10	5/24/2019 1:09:47 PM
Vinyl chloride	ND	0.20		ppm	10	5/24/2019 1:09:47 PM
Surr: 1,2-Dichloroethane-d4	95.0	70-130		%Rec	10	5/24/2019 1:09:47 PM
Surr: 4-Bromofluorobenzene	93.9	70-130		%Rec	10	5/24/2019 1:09:47 PM
Surr: Dibromofluoromethane	80.8	70-130		%Rec	10	5/24/2019 1:09:47 PM
Surr: Toluene-d8	97.7	70-130		%Rec	10	5/24/2019 1:09:47 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

CLIENT: City of Albuquerque Environmental Healt
Client Sample ID: Stockpile #3
Project: City Railyards
Collection Date: 5/22/2019 1:53:00 PM
Lab ID: 1905B83-003 **Matrix:** SOIL
Received Date: 5/22/2019 3:10:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
MERCURY, TCLP						Analyst: **pmf**
Mercury	ND	0.020		mg/L	1	6/5/2019 12:27:05 PM
EPA METHOD 6010B: TCLP METALS						Analyst: **ELS**
Arsenic	ND	5.0		mg/L	1	5/31/2019 8:53:15 AM
Barium	ND	100		mg/L	1	5/31/2019 8:53:15 AM
Cadmium	ND	1.0		mg/L	1	5/31/2019 8:53:15 AM
Chromium	ND	5.0		mg/L	1	5/31/2019 8:53:15 AM
Lead	ND	5.0		mg/L	1	5/31/2019 8:53:15 AM
Selenium	ND	1.0		mg/L	1	5/31/2019 8:53:15 AM
Silver	ND	5.0		mg/L	1	5/31/2019 8:53:15 AM
EPA METHOD 8270C TCLP						Analyst: **DAM**
2-Methylphenol	ND	200		mg/L	1	6/4/2019 9:27:33 PM
3+4-Methylphenol	ND	200		mg/L	1	6/4/2019 9:27:33 PM
2,4-Dinitrotoluene	ND	0.13		mg/L	1	6/4/2019 9:27:33 PM
Hexachlorobenzene	ND	0.13		mg/L	1	6/4/2019 9:27:33 PM
Hexachlorobutadiene	ND	0.50		mg/L	1	6/4/2019 9:27:33 PM
Hexachloroethane	ND	3.0		mg/L	1	6/4/2019 9:27:33 PM
Nitrobenzene	ND	2.0		mg/L	1	6/4/2019 9:27:33 PM
Pentachlorophenol	ND	100		mg/L	1	6/4/2019 9:27:33 PM
Pyridine	ND	5.0		mg/L	1	6/4/2019 9:27:33 PM
2,4,5-Trichlorophenol	ND	400		mg/L	1	6/4/2019 9:27:33 PM
2,4,6-Trichlorophenol	ND	2.0		mg/L	1	6/4/2019 9:27:33 PM
Cresols, Total	ND	200		mg/L	1	6/4/2019 9:27:33 PM
Surr: 2-Fluorophenol	50.5	22.2-88.7		%Rec	1	6/4/2019 9:27:33 PM
Surr: Phenol-d5	37.7	16.4-74.1		%Rec	1	6/4/2019 9:27:33 PM
Surr: 2,4,6-Tribromophenol	42.8	28.1-108		%Rec	1	6/4/2019 9:27:33 PM
Surr: Nitrobenzene-d5	51.6	20.1-112		%Rec	1	6/4/2019 9:27:33 PM
Surr: 2-Fluorobiphenyl	36.9	19.1-97.5		%Rec	1	6/4/2019 9:27:33 PM
Surr: 4-Terphenyl-d14	46.1	31.1-114		%Rec	1	6/4/2019 9:27:33 PM
EPA METHOD 8260B: TCLP COMPOUNDS						Analyst: **DJF**
Benzene	ND	0.50		ppm	10	5/24/2019 1:39:01 PM
1,2-Dichloroethane (EDC)	ND	0.50		ppm	10	5/24/2019 1:39:01 PM
2-Butanone	ND	200		ppm	10	5/24/2019 1:39:01 PM
Carbon tetrachloride	ND	0.50		ppm	10	5/24/2019 1:39:01 PM
Chlorobenzene	ND	100		ppm	10	5/24/2019 1:39:01 PM
Chloroform	ND	6.0		ppm	10	5/24/2019 1:39:01 PM
1,4-Dichlorobenzene	ND	7.5		ppm	10	5/24/2019 1:39:01 PM
1,1-Dichloroethene	ND	0.70		ppm	10	5/24/2019 1:39:01 PM
Tetrachloroethene (PCE)	ND	0.70		ppm	10	5/24/2019 1:39:01 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

CLIENT: City of Albuquerque Environmental Healt
Client Sample ID: Stockpile #3
Project: City Railyards
Collection Date: 5/22/2019 1:53:00 PM
Lab ID: 1905B83-003 **Matrix:** SOIL
Received Date: 5/22/2019 3:10:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: TCLP COMPOUNDS						Analyst: **DJF**
Trichloroethene (TCE)	ND	0.50		ppm	10	5/24/2019 1:39:01 PM
Vinyl chloride	ND	0.20		ppm	10	5/24/2019 1:39:01 PM
Surr: 1,2-Dichloroethane-d4	100	70-130		%Rec	10	5/24/2019 1:39:01 PM
Surr: 4-Bromofluorobenzene	96.6	70-130		%Rec	10	5/24/2019 1:39:01 PM
Surr: Dibromofluoromethane	82.9	70-130		%Rec	10	5/24/2019 1:39:01 PM
Surr: Toluene-d8	97.9	70-130		%Rec	10	5/24/2019 1:39:01 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

CLIENT: City of Albuquerque Environmental Healt
Client Sample ID: Stockpile #4
Project: City Railyards
Collection Date: 5/22/2019 1:56:00 PM
Lab ID: 1905B83-004 **Matrix:** SOIL
Received Date: 5/22/2019 3:10:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
MERCURY, TCLP						Analyst: **pmf**
Mercury	ND	0.020		mg/L	1	6/5/2019 12:29:08 PM
EPA METHOD 6010B: TCLP METALS						Analyst: **ELS**
Arsenic	ND	5.0		mg/L	1	5/31/2019 8:54:43 AM
Barium	ND	100		mg/L	1	5/31/2019 8:54:43 AM
Cadmium	ND	1.0		mg/L	1	5/31/2019 8:54:43 AM
Chromium	ND	5.0		mg/L	1	5/31/2019 8:54:43 AM
Lead	ND	5.0		mg/L	1	5/31/2019 8:54:43 AM
Selenium	ND	1.0		mg/L	1	5/31/2019 8:54:43 AM
Silver	ND	5.0		mg/L	1	5/31/2019 8:54:43 AM
EPA METHOD 8270C TCLP						Analyst: **DAM**
2-Methylphenol	ND	200		mg/L	1	6/4/2019 9:57:36 PM
3+4-Methylphenol	ND	200		mg/L	1	6/4/2019 9:57:36 PM
2,4-Dinitrotoluene	ND	0.13		mg/L	1	6/4/2019 9:57:36 PM
Hexachlorobenzene	ND	0.13		mg/L	1	6/4/2019 9:57:36 PM
Hexachlorobutadiene	ND	0.50		mg/L	1	6/4/2019 9:57:36 PM
Hexachloroethane	ND	3.0		mg/L	1	6/4/2019 9:57:36 PM
Nitrobenzene	ND	2.0		mg/L	1	6/4/2019 9:57:36 PM
Pentachlorophenol	ND	100		mg/L	1	6/4/2019 9:57:36 PM
Pyridine	ND	5.0		mg/L	1	6/4/2019 9:57:36 PM
2,4,5-Trichlorophenol	ND	400		mg/L	1	6/4/2019 9:57:36 PM
2,4,6-Trichlorophenol	ND	2.0		mg/L	1	6/4/2019 9:57:36 PM
Cresols, Total	ND	200		mg/L	1	6/4/2019 9:57:36 PM
Surr: 2-Fluorophenol	50.9	22.2-88.7		%Rec	1	6/4/2019 9:57:36 PM
Surr: Phenol-d5	36.1	16.4-74.1		%Rec	1	6/4/2019 9:57:36 PM
Surr: 2,4,6-Tribromophenol	43.1	28.1-108		%Rec	1	6/4/2019 9:57:36 PM
Surr: Nitrobenzene-d5	50.8	20.1-112		%Rec	1	6/4/2019 9:57:36 PM
Surr: 2-Fluorobiphenyl	37.8	19.1-97.5		%Rec	1	6/4/2019 9:57:36 PM
Surr: 4-Terphenyl-d14	48.9	31.1-114		%Rec	1	6/4/2019 9:57:36 PM
EPA METHOD 8260B: TCLP COMPOUNDS						Analyst: **DJF**
Benzene	ND	0.50		ppm	10	5/24/2019 2:08:38 PM
1,2-Dichloroethane (EDC)	ND	0.50		ppm	10	5/24/2019 2:08:38 PM
2-Butanone	ND	200		ppm	10	5/24/2019 2:08:38 PM
Carbon tetrachloride	ND	0.50		ppm	10	5/24/2019 2:08:38 PM
Chlorobenzene	ND	100		ppm	10	5/24/2019 2:08:38 PM
Chloroform	ND	6.0		ppm	10	5/24/2019 2:08:38 PM
1,4-Dichlorobenzene	ND	7.5		ppm	10	5/24/2019 2:08:38 PM
1,1-Dichloroethene	ND	0.70		ppm	10	5/24/2019 2:08:38 PM
Tetrachloroethene (PCE)	ND	0.70		ppm	10	5/24/2019 2:08:38 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

CLIENT: City of Albuquerque Environmental Healt
Client Sample ID: Stockpile #4
Project: City Railyards
Collection Date: 5/22/2019 1:56:00 PM
Lab ID: 1905B83-004 **Matrix:** SOIL
Received Date: 5/22/2019 3:10:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: TCLP COMPOUNDS						Analyst: **DJF**
Trichloroethene (TCE)	ND	0.50		ppm	10	5/24/2019 2:08:38 PM
Vinyl chloride	ND	0.20		ppm	10	5/24/2019 2:08:38 PM
Surr: 1,2-Dichloroethane-d4	99.3	70-130		%Rec	10	5/24/2019 2:08:38 PM
Surr: 4-Bromofluorobenzene	94.2	70-130		%Rec	10	5/24/2019 2:08:38 PM
Surr: Dibromofluoromethane	83.2	70-130		%Rec	10	5/24/2019 2:08:38 PM
Surr: Toluene-d8	98.8	70-130		%Rec	10	5/24/2019 2:08:38 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: City of Albuquerque Environmental Healt
Client Sample ID: Stockpile #5
Project: City Railyards
Collection Date: 5/22/2019 2:01:00 PM
Lab ID: 1905B83-005 **Matrix:** SOIL
Received Date: 5/22/2019 3:10:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
MERCURY, TCLP						Analyst: **pmf**
Mercury	ND	0.020		mg/L	1	6/5/2019 12:31:13 PM
EPA METHOD 6010B: TCLP METALS						Analyst: **ELS**
Arsenic	ND	5.0		mg/L	1	5/31/2019 8:56:12 AM
Barium	ND	100		mg/L	1	5/31/2019 8:56:12 AM
Cadmium	ND	1.0		mg/L	1	5/31/2019 8:56:12 AM
Chromium	ND	5.0		mg/L	1	5/31/2019 8:56:12 AM
Lead	ND	5.0		mg/L	1	5/31/2019 8:56:12 AM
Selenium	ND	1.0		mg/L	1	5/31/2019 8:56:12 AM
Silver	ND	5.0		mg/L	1	5/31/2019 8:56:12 AM
EPA METHOD 8270C TCLP						Analyst: **DAM**
2-Methylphenol	ND	200		mg/L	1	6/4/2019 10:27:32 PM
3+4-Methylphenol	ND	200		mg/L	1	6/4/2019 10:27:32 PM
2,4-Dinitrotoluene	ND	0.13		mg/L	1	6/4/2019 10:27:32 PM
Hexachlorobenzene	ND	0.13		mg/L	1	6/4/2019 10:27:32 PM
Hexachlorobutadiene	ND	0.50		mg/L	1	6/4/2019 10:27:32 PM
Hexachloroethane	ND	3.0		mg/L	1	6/4/2019 10:27:32 PM
Nitrobenzene	ND	2.0		mg/L	1	6/4/2019 10:27:32 PM
Pentachlorophenol	ND	100		mg/L	1	6/4/2019 10:27:32 PM
Pyridine	ND	5.0		mg/L	1	6/4/2019 10:27:32 PM
2,4,5-Trichlorophenol	ND	400		mg/L	1	6/4/2019 10:27:32 PM
2,4,6-Trichlorophenol	ND	2.0		mg/L	1	6/4/2019 10:27:32 PM
Cresols, Total	ND	200		mg/L	1	6/4/2019 10:27:32 PM
Surr: 2-Fluorophenol	38.4	22.2-88.7		%Rec	1	6/4/2019 10:27:32 PM
Surr: Phenol-d5	27.7	16.4-74.1		%Rec	1	6/4/2019 10:27:32 PM
Surr: 2,4,6-Tribromophenol	34.5	28.1-108		%Rec	1	6/4/2019 10:27:32 PM
Surr: Nitrobenzene-d5	40.7	20.1-112		%Rec	1	6/4/2019 10:27:32 PM
Surr: 2-Fluorobiphenyl	31.9	19.1-97.5		%Rec	1	6/4/2019 10:27:32 PM
Surr: 4-Terphenyl-d14	37.4	31.1-114		%Rec	1	6/4/2019 10:27:32 PM
EPA METHOD 8260B: TCLP COMPOUNDS						Analyst: **DJF**
Benzene	ND	0.50		ppm	10	5/24/2019 2:37:44 PM
1,2-Dichloroethane (EDC)	ND	0.50		ppm	10	5/24/2019 2:37:44 PM
2-Butanone	ND	200		ppm	10	5/24/2019 2:37:44 PM
Carbon tetrachloride	ND	0.50		ppm	10	5/24/2019 2:37:44 PM
Chlorobenzene	ND	100		ppm	10	5/24/2019 2:37:44 PM
Chloroform	ND	6.0		ppm	10	5/24/2019 2:37:44 PM
1,4-Dichlorobenzene	ND	7.5		ppm	10	5/24/2019 2:37:44 PM
1,1-Dichloroethene	ND	0.70		ppm	10	5/24/2019 2:37:44 PM
Tetrachloroethene (PCE)	ND	0.70		ppm	10	5/24/2019 2:37:44 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: City of Albuquerque Environmental Healt
Client Sample ID: Stockpile #5
Project: City Railyards
Collection Date: 5/22/2019 2:01:00 PM
Lab ID: 1905B83-005 **Matrix:** SOIL
Received Date: 5/22/2019 3:10:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: TCLP COMPOUNDS						Analyst: **DJF**
Trichloroethene (TCE)	ND	0.50		ppm	10	5/24/2019 2:37:44 PM
Vinyl chloride	ND	0.20		ppm	10	5/24/2019 2:37:44 PM
Surr: 1,2-Dichloroethane-d4	97.3	70-130		%Rec	10	5/24/2019 2:37:44 PM
Surr: 4-Bromofluorobenzene	99.5	70-130		%Rec	10	5/24/2019 2:37:44 PM
Surr: Dibromofluoromethane	80.5	70-130		%Rec	10	5/24/2019 2:37:44 PM
Surr: Toluene-d8	97.4	70-130		%Rec	10	5/24/2019 2:37:44 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

CLIENT: City of Albuquerque Environmental Healt
Client Sample ID: Stockpile #6
Project: City Railyards
Collection Date: 5/22/2019 2:05:00 PM
Lab ID: 1905B83-006 **Matrix:** SOIL
Received Date: 5/22/2019 3:10:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
MERCURY, TCLP						Analyst: **pmf**
Mercury	ND	0.020		mg/L	1	6/5/2019 12:33:17 PM
EPA METHOD 6010B: TCLP METALS						Analyst: **ELS**
Arsenic	ND	5.0		mg/L	1	5/31/2019 8:57:41 AM
Barium	ND	100		mg/L	1	5/31/2019 8:57:41 AM
Cadmium	ND	1.0		mg/L	1	5/31/2019 8:57:41 AM
Chromium	ND	5.0		mg/L	1	5/31/2019 8:57:41 AM
Lead	ND	5.0		mg/L	1	5/31/2019 8:57:41 AM
Selenium	ND	1.0		mg/L	1	5/31/2019 8:57:41 AM
Silver	ND	5.0		mg/L	1	5/31/2019 8:57:41 AM
EPA METHOD 8270C TCLP						Analyst: **DAM**
2-Methylphenol	ND	200		mg/L	1	6/4/2019 10:57:31 PM
3+4-Methylphenol	ND	200		mg/L	1	6/4/2019 10:57:31 PM
2,4-Dinitrotoluene	ND	0.13		mg/L	1	6/4/2019 10:57:31 PM
Hexachlorobenzene	ND	0.13		mg/L	1	6/4/2019 10:57:31 PM
Hexachlorobutadiene	ND	0.50		mg/L	1	6/4/2019 10:57:31 PM
Hexachloroethane	ND	3.0		mg/L	1	6/4/2019 10:57:31 PM
Nitrobenzene	ND	2.0		mg/L	1	6/4/2019 10:57:31 PM
Pentachlorophenol	ND	100		mg/L	1	6/4/2019 10:57:31 PM
Pyridine	ND	5.0		mg/L	1	6/4/2019 10:57:31 PM
2,4,5-Trichlorophenol	ND	400		mg/L	1	6/4/2019 10:57:31 PM
2,4,6-Trichlorophenol	ND	2.0		mg/L	1	6/4/2019 10:57:31 PM
Cresols, Total	ND	200		mg/L	1	6/4/2019 10:57:31 PM
Surr: 2-Fluorophenol	53.3	22.2-88.7		%Rec	1	6/4/2019 10:57:31 PM
Surr: Phenol-d5	39.7	16.4-74.1		%Rec	1	6/4/2019 10:57:31 PM
Surr: 2,4,6-Tribromophenol	42.8	28.1-108		%Rec	1	6/4/2019 10:57:31 PM
Surr: Nitrobenzene-d5	53.3	20.1-112		%Rec	1	6/4/2019 10:57:31 PM
Surr: 2-Fluorobiphenyl	37.3	19.1-97.5		%Rec	1	6/4/2019 10:57:31 PM
Surr: 4-Terphenyl-d14	49.9	31.1-114		%Rec	1	6/4/2019 10:57:31 PM
EPA METHOD 8260B: TCLP COMPOUNDS						Analyst: **DJF**
Benzene	ND	0.50		ppm	10	5/24/2019 3:06:52 PM
1,2-Dichloroethane (EDC)	ND	0.50		ppm	10	5/24/2019 3:06:52 PM
2-Butanone	ND	200		ppm	10	5/24/2019 3:06:52 PM
Carbon tetrachloride	ND	0.50		ppm	10	5/24/2019 3:06:52 PM
Chlorobenzene	ND	100		ppm	10	5/24/2019 3:06:52 PM
Chloroform	ND	6.0		ppm	10	5/24/2019 3:06:52 PM
1,4-Dichlorobenzene	ND	7.5		ppm	10	5/24/2019 3:06:52 PM
1,1-Dichloroethene	ND	0.70		ppm	10	5/24/2019 3:06:52 PM
Tetrachloroethene (PCE)	ND	0.70		ppm	10	5/24/2019 3:06:52 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: City of Albuquerque Environmental Healt
Client Sample ID: Stockpile #6
Project: City Railyards
Collection Date: 5/22/2019 2:05:00 PM
Lab ID: 1905B83-006 **Matrix:** SOIL
Received Date: 5/22/2019 3:10:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: TCLP COMPOUNDS						Analyst: **DJF**
Trichloroethene (TCE)	ND	0.50		ppm	10	5/24/2019 3:06:52 PM
Vinyl chloride	ND	0.20		ppm	10	5/24/2019 3:06:52 PM
Surr: 1,2-Dichloroethane-d4	96.4	70-130		%Rec	10	5/24/2019 3:06:52 PM
Surr: 4-Bromofluorobenzene	96.6	70-130		%Rec	10	5/24/2019 3:06:52 PM
Surr: Dibromofluoromethane	84.2	70-130		%Rec	10	5/24/2019 3:06:52 PM
Surr: Toluene-d8	102	70-130		%Rec	10	5/24/2019 3:06:52 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

CLIENT: City of Albuquerque Environmental Healt
Client Sample ID: Stockpile #7
Project: City Railyards
Collection Date: 5/22/2019 2:08:00 PM
Lab ID: 1905B83-007 **Matrix:** SOIL
Received Date: 5/22/2019 3:10:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
MERCURY, TCLP						Analyst: **pmf**
Mercury	ND	0.020		mg/L	1	6/5/2019 12:35:22 PM
EPA METHOD 6010B: TCLP METALS						Analyst: **ELS**
Arsenic	ND	5.0		mg/L	1	5/31/2019 8:59:10 AM
Barium	ND	100		mg/L	1	5/31/2019 8:59:10 AM
Cadmium	ND	1.0		mg/L	1	5/31/2019 8:59:10 AM
Chromium	ND	5.0		mg/L	1	5/31/2019 8:59:10 AM
Lead	ND	5.0		mg/L	1	5/31/2019 8:59:10 AM
Selenium	ND	1.0		mg/L	1	5/31/2019 8:59:10 AM
Silver	ND	5.0		mg/L	1	5/31/2019 8:59:10 AM
EPA METHOD 8270C TCLP						Analyst: **DAM**
2-Methylphenol	ND	200		mg/L	1	6/4/2019 11:27:30 PM
3+4-Methylphenol	ND	200		mg/L	1	6/4/2019 11:27:30 PM
2,4-Dinitrotoluene	ND	0.13		mg/L	1	6/4/2019 11:27:30 PM
Hexachlorobenzene	ND	0.13		mg/L	1	6/4/2019 11:27:30 PM
Hexachlorobutadiene	ND	0.50		mg/L	1	6/4/2019 11:27:30 PM
Hexachloroethane	ND	3.0		mg/L	1	6/4/2019 11:27:30 PM
Nitrobenzene	ND	2.0		mg/L	1	6/4/2019 11:27:30 PM
Pentachlorophenol	ND	100		mg/L	1	6/4/2019 11:27:30 PM
Pyridine	ND	5.0		mg/L	1	6/4/2019 11:27:30 PM
2,4,5-Trichlorophenol	ND	400		mg/L	1	6/4/2019 11:27:30 PM
2,4,6-Trichlorophenol	ND	2.0		mg/L	1	6/4/2019 11:27:30 PM
Cresols, Total	ND	200		mg/L	1	6/4/2019 11:27:30 PM
Surr: 2-Fluorophenol	47.2	22.2-88.7		%Rec	1	6/4/2019 11:27:30 PM
Surr: Phenol-d5	33.0	16.4-74.1		%Rec	1	6/4/2019 11:27:30 PM
Surr: 2,4,6-Tribromophenol	38.7	28.1-108		%Rec	1	6/4/2019 11:27:30 PM
Surr: Nitrobenzene-d5	53.0	20.1-112		%Rec	1	6/4/2019 11:27:30 PM
Surr: 2-Fluorobiphenyl	37.9	19.1-97.5		%Rec	1	6/4/2019 11:27:30 PM
Surr: 4-Terphenyl-d14	43.7	31.1-114		%Rec	1	6/4/2019 11:27:30 PM
EPA METHOD 8260B: TCLP COMPOUNDS						Analyst: **DJF**
Benzene	ND	0.50		ppm	10	5/24/2019 3:36:01 PM
1,2-Dichloroethane (EDC)	ND	0.50		ppm	10	5/24/2019 3:36:01 PM
2-Butanone	ND	200		ppm	10	5/24/2019 3:36:01 PM
Carbon tetrachloride	ND	0.50		ppm	10	5/24/2019 3:36:01 PM
Chlorobenzene	ND	100		ppm	10	5/24/2019 3:36:01 PM
Chloroform	ND	6.0		ppm	10	5/24/2019 3:36:01 PM
1,4-Dichlorobenzene	ND	7.5		ppm	10	5/24/2019 3:36:01 PM
1,1-Dichloroethene	ND	0.70		ppm	10	5/24/2019 3:36:01 PM
Tetrachloroethene (PCE)	ND	0.70		ppm	10	5/24/2019 3:36:01 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: City of Albuquerque Environmental Healt
Client Sample ID: Stockpile #7
Project: City Railyards
Collection Date: 5/22/2019 2:08:00 PM
Lab ID: 1905B83-007 **Matrix:** SOIL
Received Date: 5/22/2019 3:10:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: TCLP COMPOUNDS						Analyst: **DJF**
Trichloroethene (TCE)	ND	0.50		ppm	10	5/24/2019 3:36:01 PM
Vinyl chloride	ND	0.20		ppm	10	5/24/2019 3:36:01 PM
Surr: 1,2-Dichloroethane-d4	97.4	70-130		%Rec	10	5/24/2019 3:36:01 PM
Surr: 4-Bromofluorobenzene	99.9	70-130		%Rec	10	5/24/2019 3:36:01 PM
Surr: Dibromofluoromethane	80.3	70-130		%Rec	10	5/24/2019 3:36:01 PM
Surr: Toluene-d8	97.7	70-130		%Rec	10	5/24/2019 3:36:01 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit
P	Sample pH Not In Range
PQL	Practical Quanitative Limit
RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix

Hall Environmental Analysis Laboratory, Inc.

CLIENT: City of Albuquerque Environmental Healt
Client Sample ID: Stockpile #8
Project: City Railyards
Collection Date: 5/22/2019 2:15:00 PM
Lab ID: 1905B83-008 **Matrix:** SOIL
Received Date: 5/22/2019 3:10:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
MERCURY, TCLP						Analyst: **pmf**
Mercury	ND	0.020		mg/L	1	6/5/2019 12:37:29 PM
EPA METHOD 6010B: TCLP METALS						Analyst: **ELS**
Arsenic	ND	5.0		mg/L	1	5/31/2019 9:00:38 AM
Barium	ND	100		mg/L	1	5/31/2019 9:00:38 AM
Cadmium	ND	1.0		mg/L	1	5/31/2019 9:00:38 AM
Chromium	ND	5.0		mg/L	1	5/31/2019 9:00:38 AM
Lead	ND	5.0		mg/L	1	5/31/2019 9:00:38 AM
Selenium	ND	1.0		mg/L	1	5/31/2019 9:00:38 AM
Silver	ND	5.0		mg/L	1	5/31/2019 9:00:38 AM
EPA METHOD 8270C TCLP						Analyst: **DAM**
2-Methylphenol	ND	200		mg/L	1	6/4/2019 11:57:25 PM
3+4-Methylphenol	ND	200		mg/L	1	6/4/2019 11:57:25 PM
2,4-Dinitrotoluene	ND	0.13		mg/L	1	6/4/2019 11:57:25 PM
Hexachlorobenzene	ND	0.13		mg/L	1	6/4/2019 11:57:25 PM
Hexachlorobutadiene	ND	0.50		mg/L	1	6/4/2019 11:57:25 PM
Hexachloroethane	ND	3.0		mg/L	1	6/4/2019 11:57:25 PM
Nitrobenzene	ND	2.0		mg/L	1	6/4/2019 11:57:25 PM
Pentachlorophenol	ND	100		mg/L	1	6/4/2019 11:57:25 PM
Pyridine	ND	5.0		mg/L	1	6/4/2019 11:57:25 PM
2,4,5-Trichlorophenol	ND	400		mg/L	1	6/4/2019 11:57:25 PM
2,4,6-Trichlorophenol	ND	2.0		mg/L	1	6/4/2019 11:57:25 PM
Cresols, Total	ND	200		mg/L	1	6/4/2019 11:57:25 PM
Surr: 2-Fluorophenol	46.1	22.2-88.7		%Rec	1	6/4/2019 11:57:25 PM
Surr: Phenol-d5	32.6	16.4-74.1		%Rec	1	6/4/2019 11:57:25 PM
Surr: 2,4,6-Tribromophenol	38.6	28.1-108		%Rec	1	6/4/2019 11:57:25 PM
Surr: Nitrobenzene-d5	50.7	20.1-112		%Rec	1	6/4/2019 11:57:25 PM
Surr: 2-Fluorobiphenyl	34.2	19.1-97.5		%Rec	1	6/4/2019 11:57:25 PM
Surr: 4-Terphenyl-d14	45.7	31.1-114		%Rec	1	6/4/2019 11:57:25 PM
EPA METHOD 8260B: TCLP COMPOUNDS						Analyst: **DJF**
Benzene	ND	0.50		ppm	10	5/24/2019 4:05:09 PM
1,2-Dichloroethane (EDC)	ND	0.50		ppm	10	5/24/2019 4:05:09 PM
2-Butanone	ND	200		ppm	10	5/24/2019 4:05:09 PM
Carbon tetrachloride	ND	0.50		ppm	10	5/24/2019 4:05:09 PM
Chlorobenzene	ND	100		ppm	10	5/24/2019 4:05:09 PM
Chloroform	ND	6.0		ppm	10	5/24/2019 4:05:09 PM
1,4-Dichlorobenzene	ND	7.5		ppm	10	5/24/2019 4:05:09 PM
1,1-Dichloroethene	ND	0.70		ppm	10	5/24/2019 4:05:09 PM
Tetrachloroethene (PCE)	ND	0.70		ppm	10	5/24/2019 4:05:09 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: City of Albuquerque Environmental Healt
Client Sample ID: Stockpile #8
Project: City Railyards
Collection Date: 5/22/2019 2:15:00 PM
Lab ID: 1905B83-008 **Matrix:** SOIL
Received Date: 5/22/2019 3:10:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: TCLP COMPOUNDS						Analyst: **DJF**
Trichloroethene (TCE)	ND	0.50		ppm	10	5/24/2019 4:05:09 PM
Vinyl chloride	ND	0.20		ppm	10	5/24/2019 4:05:09 PM
Surr: 1,2-Dichloroethane-d4	98.4	70-130		%Rec	10	5/24/2019 4:05:09 PM
Surr: 4-Bromofluorobenzene	95.0	70-130		%Rec	10	5/24/2019 4:05:09 PM
Surr: Dibromofluoromethane	82.9	70-130		%Rec	10	5/24/2019 4:05:09 PM
Surr: Toluene-d8	98.6	70-130		%Rec	10	5/24/2019 4:05:09 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1905B83**
06-Jun-19

Client: City of Albuquerque Environmental Health Dept
Project: City Railyards

Sample ID: **mb-45160** SampType: **MBLK** TestCode: **EPA Method 8260B: TCLP Compounds**
Client ID: **PBS** Batch ID: **45160** RunNo: **60185**
Prep Date: **5/23/2019** Analysis Date: **5/24/2019** SeqNo: **2032841** Units: **ppm**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.050								
1,2-Dichloroethane (EDC)	ND	0.050								
2-Butanone	ND	20								
Carbon tetrachloride	ND	0.050								
Chlorobenzene	ND	10								
Chloroform	ND	0.60								
1,4-Dichlorobenzene	ND	0.75								
1,1-Dichloroethene	ND	0.070								
Tetrachloroethene (PCE)	ND	0.070								
Trichloroethene (TCE)	ND	0.050								
Vinyl chloride	ND	0.020								
Surr: 1,2-Dichloroethane-d4	0.50		0.5000		99.1	70	130			
Surr: 4-Bromofluorobenzene	0.49		0.5000		98.2	70	130			
Surr: Dibromofluoromethane	0.41		0.5000		82.2	70	130			
Surr: Toluene-d8	0.50		0.5000		101	70	130			

Sample ID: **lcs-45160** SampType: **LCS** TestCode: **EPA Method 8260B: TCLP Compounds**
Client ID: **LCSS** Batch ID: **45160** RunNo: **60185**
Prep Date: **5/23/2019** Analysis Date: **5/24/2019** SeqNo: **2032842** Units: **ppm**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.0	0.050	1.000	0	104	70	130			
Chlorobenzene	0.97	0.050	1.000	0	96.5	70	130			
1,1-Dichloroethene	0.96	0.050	1.000	0	95.8	50.8	164			
Trichloroethene (TCE)	0.83	0.050	1.000	0	83.2	70	130			
Surr: 1,2-Dichloroethane-d4	0.50		0.5000		99.7	70	130			
Surr: 4-Bromofluorobenzene	0.46		0.5000		92.8	70	130			
Surr: Dibromofluoromethane	0.41		0.5000		81.9	70	130			
Surr: Toluene-d8	0.48		0.5000		96.5	70	130			

Sample ID: **1905b83-001ams** SampType: **MS** TestCode: **EPA Method 8260B: TCLP Compounds**
Client ID: **Stockpile #1** Batch ID: **45160** RunNo: **60185**
Prep Date: **5/23/2019** Analysis Date: **5/24/2019** SeqNo: **2032844** Units: **ppm**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.1	0.50	0.9990	0	108	68.9	131			
Chlorobenzene	0.98	0.50	0.9990	0	97.8	65.9	143			
1,1-Dichloroethene	0.98	0.50	0.9990	0	97.6	53.4	150			
Trichloroethene (TCE)	0.89	0.50	0.9990	0	88.8	70	130			
Surr: 1,2-Dichloroethane-d4	4.9		4.995		98.6	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1905B83**
06-Jun-19

Client: City of Albuquerque Environmental Health Dept
Project: City Railyards

Sample ID: **1905b83-001ams** SampType: **MS** TestCode: **EPA Method 8260B: TCLP Compounds**
Client ID: **Stockpile #1** Batch ID: **45160** RunNo: **60185**
Prep Date: **5/23/2019** Analysis Date: **5/24/2019** SeqNo: **2032844** Units: **ppm**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	4.8		4.995		96.7	70	130			
Surr: Dibromofluoromethane	4.1		4.995		81.7	70	130			
Surr: Toluene-d8	5.0		4.995		100	70	130			

Sample ID: **1905b83-001amsd** SampType: **MSD** TestCode: **EPA Method 8260B: TCLP Compounds**
Client ID: **Stockpile #1** Batch ID: **45160** RunNo: **60185**
Prep Date: **5/23/2019** Analysis Date: **5/24/2019** SeqNo: **2032845** Units: **ppm**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.1	0.50	0.9980	0	108	68.9	131	0.303	20	
Chlorobenzene	1.0	0.50	0.9980	0	103	65.9	143	4.71	20	
1,1-Dichloroethene	1.0	0.50	0.9980	0	102	53.4	150	3.99	20	
Trichloroethene (TCE)	0.85	0.50	0.9980	0	85.3	70	130	4.06	20	
Surr: 1,2-Dichloroethane-d4	4.8		4.990		97.0	70	130	0	0	
Surr: 4-Bromofluorobenzene	4.8		4.990		96.5	70	130	0	0	
Surr: Dibromofluoromethane	4.1		4.990		81.7	70	130	0	0	
Surr: Toluene-d8	4.9		4.990		98.8	70	130	0	0	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1905B83**
06-Jun-19

Client: City of Albuquerque Environmental Health Dept
Project: City Railyards

Sample ID: **mb-45275** SampType: **MBLK** TestCode: **EPA Method 8270C TCLP**
Client ID: **PBS** Batch ID: **45275** RunNo: **60393**
Prep Date: **5/30/2019** Analysis Date: **6/4/2019** SeqNo: **2042308** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
2-Methylphenol	ND	200								
3+4-Methylphenol	ND	200								
2,4-Dinitrotoluene	ND	0.13								
Hexachlorobenzene	ND	0.13								
Hexachlorobutadiene	ND	0.50								
Hexachloroethane	ND	3.0								
Nitrobenzene	ND	2.0								
Pentachlorophenol	ND	100								
Pyridine	ND	5.0								
2,4,5-Trichlorophenol	ND	400								
2,4,6-Trichlorophenol	ND	2.0								
Cresols, Total	ND	200								
Surr: 2-Fluorophenol	0.16		0.2000		82.1	22.2	88.7			
Surr: Phenol-d5	0.16		0.2000		81.0	16.4	74.1			S
Surr: 2,4,6-Tribromophenol	0.14		0.2000		69.1	28.1	108			
Surr: Nitrobenzene-d5	0.085		0.1000		85.1	20.1	112			
Surr: 2-Fluorobiphenyl	0.075		0.1000		75.1	19.1	97.5			
Surr: 4-Terphenyl-d14	0.078		0.1000		78.1	31.1	114			

Sample ID: **lcs-45275** SampType: **LCS** TestCode: **EPA Method 8270C TCLP**
Client ID: **LCSS** Batch ID: **45275** RunNo: **60428**
Prep Date: **5/30/2019** Analysis Date: **6/5/2019** SeqNo: **2043714** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
2-Methylphenol	0.087	0.0010	0.1000	0	86.5	42.2	104			
3+4-Methylphenol	0.19	0.0010	0.2000	0	94.2	42.3	108			
2,4-Dinitrotoluene	0.067	0.0010	0.1000	0	67.1	45.8	87.8			
Hexachlorobenzene	0.074	0.0010	0.1000	0	74.3	54.5	104			
Hexachlorobutadiene	0.082	0.0010	0.1000	0	81.6	35.2	95.8			
Hexachloroethane	0.078	0.0010	0.1000	0	78.2	32.3	91.8			
Nitrobenzene	0.081	0.0010	0.1000	0	80.6	53.1	98.9			
Pentachlorophenol	0.054	0.0010	0.1000	0	54.2	30.3	104			
Pyridine	0.081	0.0010	0.1000	0	80.8	15	90			
2,4,5-Trichlorophenol	0.073	0.0010	0.1000	0	73.1	42.1	107			
2,4,6-Trichlorophenol	0.073	0.0010	0.1000	0	73.3	43.8	110			
Cresols, Total	0.27	0.0010	0.3000	0	91.6	44.1	111			
Surr: 2-Fluorophenol	0.14		0.2000		70.8	22.2	88.7			
Surr: Phenol-d5	0.14		0.2000		68.6	16.4	74.1			
Surr: 2,4,6-Tribromophenol	0.12		0.2000		62.4	28.1	108			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1905B83**
06-Jun-19

Client: City of Albuquerque Environmental Health Dept
Project: City Railyards

Sample ID: **lcs-45275**	SampType: **LCS**	TestCode: **EPA Method 8270C TCLP**							
Client ID: **LCSS**	Batch ID: **45275**	RunNo: **60428**							
Prep Date: **5/30/2019**	Analysis Date: **6/5/2019**	SeqNo: **2043714**	Units: **mg/L**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: Nitrobenzene-d5	0.072		0.1000		72.4	20.1	112			
Surr: 2-Fluorobiphenyl	0.065		0.1000		65.2	19.1	97.5			
Surr: 4-Terphenyl-d14	0.064		0.1000		64.5	31.1	114			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1905B83**
06-Jun-19

Client: City of Albuquerque Environmental Health Dept
Project: City Railyards

Sample ID: **MB-45369**	SampType: **MBLK**	TestCode: **MERCURY, TCLP**
Client ID: **PBW**	Batch ID: **45369**	RunNo: **60409**
Prep Date: **6/4/2019**	Analysis Date: **6/5/2019**	SeqNo: **2043096** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	ND	0.020								

Sample ID: **LCS-45369**	SampType: **LCS**	TestCode: **MERCURY, TCLP**
Client ID: **LCSW**	Batch ID: **45369**	RunNo: **60409**
Prep Date: **6/4/2019**	Analysis Date: **6/5/2019**	SeqNo: **2043097** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	ND	0.020	0.005000	0	98.3	80	120			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1905B83**
06-Jun-19

Client: City of Albuquerque Environmental Health Dept
Project: City Railyards

Sample ID: **MB-45293**	SampType: **MBLK**	TestCode: **EPA Method 6010B: TCLP Metals**
Client ID: **PBW**	Batch ID: **45293**	RunNo: **60294**
Prep Date: **5/30/2019**	Analysis Date: **5/31/2019**	SeqNo: **2038146** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	5.0								
Barium	ND	100								
Cadmium	ND	1.0								
Chromium	ND	5.0								
Lead	ND	5.0								
Selenium	ND	1.0								
Silver	ND	5.0								

Sample ID: **LCS-45293**	SampType: **LCS**	TestCode: **EPA Method 6010B: TCLP Metals**
Client ID: **LCSW**	Batch ID: **45293**	RunNo: **60294**
Prep Date: **5/30/2019**	Analysis Date: **5/31/2019**	SeqNo: **2038147** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	5.0	0.5000	0	96.1	80	120			
Barium	ND	100	0.5000	0	94.0	80	120			
Cadmium	ND	1.0	0.5000	0	96.1	80	120			
Chromium	ND	5.0	0.5000	0	94.6	80	120			
Lead	ND	5.0	0.5000	0	97.6	80	120			
Selenium	ND	1.0	0.5000	0	103	80	120			
Silver	ND	5.0	0.1000	0	99.4	80	120			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: City of Albuquerque Env Work Order Number: 1905B83 RcptNo: 1

Received By: Isaiah Ortiz 5/22/2019 3:10:00 PM I-OK

Completed By: Yazmine Garduno 5/23/2019 11:58:13 AM Yazmine Garduno

Reviewed By: YG 5/23/19

Chain of Custody

1. Is Chain of Custody complete? Yes ☑ No ☐ Not Present ☐
2. How was the sample delivered? Client

Log In

3. Was an attempt made to cool the samples? Yes ☐ No ☑ NA ☐
4. Were all samples received at a temperature of >0° C to 6.0°C Yes ☐ No ☑ NA ☐
5. Sample(s) in proper container(s)? Yes ☑ No ☐
6. Sufficient sample volume for indicated test(s)? Yes ☑ No ☐
7. Are samples (except VOA and ONG) properly preserved? Yes ☑ No ☐
8. Was preservative added to bottles? Yes ☐ No ☑ NA ☐
9. VOA vials have zero headspace? Yes ☐ No ☐ No VOA Vials ☑
10. Were any sample containers received broken? Yes ☐ No ☑
11. Does paperwork match bottle labels? (Note discrepancies on chain of custody) Yes ☑ No ☐
12. Are matrices correctly identified on Chain of Custody? Yes ☑ No ☐
13. Is it clear what analyses were requested? Yes ☑ No ☐
14. Were all holding times able to be met? (If no, notify customer for authorization.) Yes ☑ No ☐

# of preserved bottles checked for pH: _____ (<2 or >12 unless noted)
Adjusted? _____
Checked by: _____

TMM 5-23-19

Special Handling (if applicable)

15. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified: _____ Date: _____
By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person
Regarding: _____
Client Instructions: _____

16. Additional remarks:

17. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	31.5	Good	Yes			

Chain-of-Custody Record

Client: AEHD
Environmental Services Division
Mailing Address:
1 Civic Plaza Suite 3023, Albq 87103
Phone #: 505 768-2658
email or Fax#: bfaris@cabq.gov
QA/QC Package:
☐ Standard ☐ Level 4 (Full Validation)
Accreditation: ☐ Az Compliance
☐ NELAC ☐ Other
☐ EDD (Type)

Turn-Around Time:
☒ Standard ☐ Rush
Project Name: City Railyards
Project #:
Project Manager: B. Faris
Sampler: BFaris / R. Olson
On Ice: ☐ Yes ☒ No
# of Coolers: 0 (+0.2)
Cooler Temp(including CF): 31.5 °C

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 1905383	BTEX / MTBE / TMB's (8021)	TPH:8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals TCLP	Cl, F, Br, NO_3, NO_2, PO_4, SO_4	8260 (VOA) TCLP	8270 (Semi-VOA) TCLP	Total Coliform (Present/Absent)
5-22-19	1335	soil	Stockpile #1	2/40z		-001						X		X	X	
	1349		" #2			-002										
	1353		" #3			-003										
	1356		" #4			-004										
	1401		" #5			-005										
	1405		" #6			-006										
	1408		" #7			-007										
	1415		" #8			-008										

Analysis Request

Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
5-22-19	1510			COC	5/22/19	1510
Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time

Remarks:

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

Hall Environmental Analysis Laboratory, Inc.

CLIENT: City of Albuquerque Environmental Healt
Client Sample ID: Stockpile 9
Project: Rail Yards
Collection Date: 5/31/2019 2:22:00 PM
Lab ID: 1905F32-012 **Matrix:** SOIL
Received Date: 5/31/2019 3:20:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
MERCURY, TCLP						Analyst: **pmf**
Mercury	ND	0.020		mg/L	1	6/7/2019 12:28:31 PM
EPA METHOD 6010B: TCLP METALS						Analyst: **ELS**
Arsenic	ND	5.0		mg/L	1	6/8/2019 11:34:56 AM
Barium	ND	100		mg/L	1	6/8/2019 10:39:24 AM
Cadmium	ND	1.0		mg/L	1	6/8/2019 10:39:24 AM
Chromium	ND	5.0		mg/L	1	6/8/2019 10:39:24 AM
Lead	ND	5.0		mg/L	1	6/8/2019 11:34:56 AM
Selenium	ND	1.0		mg/L	1	6/8/2019 10:39:24 AM
Silver	ND	5.0		mg/L	1	6/8/2019 10:39:24 AM
EPA METHOD 8270C TCLP						Analyst: **JDC**
2-Methylphenol	ND	200		mg/L	1	6/10/2019 6:05:19 PM
3+4-Methylphenol	ND	200		mg/L	1	6/10/2019 6:05:19 PM
2,4-Dinitrotoluene	ND	0.13		mg/L	1	6/10/2019 6:05:19 PM
Hexachlorobenzene	ND	0.13		mg/L	1	6/10/2019 6:05:19 PM
Hexachlorobutadiene	ND	0.50		mg/L	1	6/10/2019 6:05:19 PM
Hexachloroethane	ND	3.0		mg/L	1	6/10/2019 6:05:19 PM
Nitrobenzene	ND	2.0		mg/L	1	6/10/2019 6:05:19 PM
Pentachlorophenol	ND	100		mg/L	1	6/10/2019 6:05:19 PM
Pyridine	ND	5.0		mg/L	1	6/10/2019 6:05:19 PM
2,4,5-Trichlorophenol	ND	400		mg/L	1	6/10/2019 6:05:19 PM
2,4,6-Trichlorophenol	ND	2.0		mg/L	1	6/10/2019 6:05:19 PM
Cresols, Total	ND	200		mg/L	1	6/10/2019 6:05:19 PM
Surr: 2-Fluorophenol	62.0	22.2-88.7		%Rec	1	6/10/2019 6:05:19 PM
Surr: Phenol-d5	43.8	16.4-74.1		%Rec	1	6/10/2019 6:05:19 PM
Surr: 2,4,6-Tribromophenol	79.5	28.1-108		%Rec	1	6/10/2019 6:05:19 PM
Surr: Nitrobenzene-d5	85.8	20.1-112		%Rec	1	6/10/2019 6:05:19 PM
Surr: 2-Fluorobiphenyl	79.5	19.1-97.5		%Rec	1	6/10/2019 6:05:19 PM
Surr: 4-Terphenyl-d14	78.4	31.1-114		%Rec	1	6/10/2019 6:05:19 PM
EPA METHOD 8260B: TCLP COMPOUNDS						Analyst: **DJF**
Benzene	ND	0.50		ppm	10	6/6/2019 3:27:25 AM
1,2-Dichloroethane (EDC)	ND	0.50		ppm	10	6/6/2019 3:27:25 AM
2-Butanone	ND	200		ppm	10	6/6/2019 3:27:25 AM
Carbon tetrachloride	ND	0.50		ppm	10	6/6/2019 3:27:25 AM
Chlorobenzene	ND	100		ppm	10	6/6/2019 3:27:25 AM
Chloroform	ND	6.0		ppm	10	6/6/2019 3:27:25 AM
1,4-Dichlorobenzene	ND	7.5		ppm	10	6/6/2019 3:27:25 AM
1,1-Dichloroethene	ND	0.70		ppm	10	6/6/2019 3:27:25 AM
Tetrachloroethene (PCE)	ND	0.70		ppm	10	6/6/2019 3:27:25 AM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit
P	Sample pH Not In Range
PQL	Practical Quanitative Limit
RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix

Hall Environmental Analysis Laboratory, Inc.

CLIENT: City of Albuquerque Environmental Healt
Client Sample ID: Stockpile 9
Project: Rail Yards
Collection Date: 5/31/2019 2:22:00 PM
Lab ID: 1905F32-012 **Matrix:** SOIL
Received Date: 5/31/2019 3:20:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: TCLP COMPOUNDS						Analyst: **DJF**
Trichloroethene (TCE)	ND	0.50		ppm	10	6/6/2019 3:27:25 AM
Vinyl chloride	ND	0.20		ppm	10	6/6/2019 3:27:25 AM
Surr: 1,2-Dichloroethane-d4	87.8	70-130		%Rec	10	6/6/2019 3:27:25 AM
Surr: 4-Bromofluorobenzene	103	70-130		%Rec	10	6/6/2019 3:27:25 AM
Surr: Dibromofluoromethane	73.6	70-130		%Rec	10	6/6/2019 3:27:25 AM
Surr: Toluene-d8	104	70-130		%Rec	10	6/6/2019 3:27:25 AM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit
P	Sample pH Not In Range
PQL	Practical Quanitative Limit
RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

June 27, 2019

Bart Faris
City of Albuquerque Environmental Health Dept
1 Civic Plaza, Room 3023
Albuquerque, NM 87103
TEL:
FAX:

RE: Rail Yards OrderNo.: 1906C78

Dear Bart Faris:

Hall Environmental Analysis Laboratory received 8 sample(s) on 6/24/2019 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0901

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

CLIENT: City of Albuquerque Environmental Healt
Client Sample ID: Stockpile #1
Project: Rail Yards
Collection Date: 6/24/2019 1:08:00 PM
Lab ID: 1906C78-001 **Matrix:** SOIL
Received Date: 6/24/2019 2:36:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	70	9.6		mg/Kg	1	6/26/2019 9:39:45 AM	45808
Motor Oil Range Organics (MRO)	250	48		mg/Kg	1	6/26/2019 9:39:45 AM	45808
Surr: DNOP	84.2	70-130		%Rec	1	6/26/2019 9:39:45 AM	45808
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	6/25/2019 10:48:20 PM	45787
Surr: BFB	90.5	73.8-119		%Rec	1	6/25/2019 10:48:20 PM	45787

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

CLIENT: City of Albuquerque Environmental Healt
Client Sample ID: Stockpile #2
Project: Rail Yards
Collection Date: 6/24/2019 1:10:00 PM
Lab ID: 1906C78-002 **Matrix:** SOIL
Received Date: 6/24/2019 2:36:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	94	9.7		mg/Kg	1	6/26/2019 10:27:49 AM	45808
Motor Oil Range Organics (MRO)	370	49		mg/Kg	1	6/26/2019 10:27:49 AM	45808
Surr: DNOP	112	70-130		%Rec	1	6/26/2019 10:27:49 AM	45808
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	6/25/2019 11:12:06 PM	45787
Surr: BFB	90.6	73.8-119		%Rec	1	6/25/2019 11:12:06 PM	45787

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: City of Albuquerque Environmental Healt
Client Sample ID: Stockpile #3
Project: Rail Yards
Collection Date: 6/24/2019 1:13:00 PM
Lab ID: 1906C78-003 **Matrix:** SOIL
Received Date: 6/24/2019 2:36:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	48	9.5		mg/Kg	1	6/26/2019 12:19:23 PM	45808
Motor Oil Range Organics (MRO)	200	47		mg/Kg	1	6/26/2019 12:19:23 PM	45808
Surr: DNOP	108	70-130		%Rec	1	6/26/2019 12:19:23 PM	45808
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	6/25/2019 11:35:48 PM	45787
Surr: BFB	90.6	73.8-119		%Rec	1	6/25/2019 11:35:48 PM	45787

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: City of Albuquerque Environmental Healt
Client Sample ID: Stockpile #4
Project: Rail Yards
Collection Date: 6/24/2019 1:15:00 PM
Lab ID: 1906C78-004 **Matrix:** SOIL
Received Date: 6/24/2019 2:36:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	35	9.6		mg/Kg	1	6/26/2019 11:40:04 AM	45808
Motor Oil Range Organics (MRO)	110	48		mg/Kg	1	6/26/2019 11:40:04 AM	45808
Surr: DNOP	93.9	70-130		%Rec	1	6/26/2019 11:40:04 AM	45808
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	6/26/2019 12:22:58 AM	45787
Surr: BFB	90.7	73.8-119		%Rec	1	6/26/2019 12:22:58 AM	45787

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

CLIENT: City of Albuquerque Environmental Healt
Client Sample ID: Stockpile #5
Project: Rail Yards
Collection Date: 6/24/2019 1:18:00 PM
Lab ID: 1906C78-005 **Matrix:** SOIL
Received Date: 6/24/2019 2:36:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	120	95		mg/Kg	10	6/26/2019 12:28:23 PM	45808
Motor Oil Range Organics (MRO)	710	480		mg/Kg	10	6/26/2019 12:28:23 PM	45808
Surr: DNOP	0	70-130	S	%Rec	10	6/26/2019 12:28:23 PM	45808
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	6/26/2019 12:46:29 AM	45787
Surr: BFB	91.0	73.8-119		%Rec	1	6/26/2019 12:46:29 AM	45787

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: City of Albuquerque Environmental Healt
Client Sample ID: Stockpile #6
Project: Rail Yards
Collection Date: 6/24/2019 1:21:00 PM
Lab ID: 1906C78-006 **Matrix:** SOIL
Received Date: 6/24/2019 2:36:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	73	9.7		mg/Kg	1	6/26/2019 12:57:44 PM	45808
Motor Oil Range Organics (MRO)	290	48		mg/Kg	1	6/26/2019 12:57:44 PM	45808
Surr: DNOP	101	70-130		%Rec	1	6/26/2019 12:57:44 PM	45808
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	6/26/2019 1:10:07 AM	45787
Surr: BFB	92.4	73.8-119		%Rec	1	6/26/2019 1:10:07 AM	45787

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: City of Albuquerque Environmental Healt
Client Sample ID: Stockpile #7
Project: Rail Yards
Collection Date: 6/24/2019 1:25:00 PM
Lab ID: 1906C78-007 **Matrix:** SOIL **Received Date:** 6/24/2019 2:36:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **JME**	
Diesel Range Organics (DRO)	72	9.6		mg/Kg	1	6/26/2019 12:40:53 PM	45808
Motor Oil Range Organics (MRO)	220	48		mg/Kg	1	6/26/2019 12:40:53 PM	45808
Surr: DNOP	102	70-130		%Rec	1	6/26/2019 12:40:53 PM	45808
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	6/26/2019 1:33:51 AM	45787
Surr: BFB	89.5	73.8-119		%Rec	1	6/26/2019 1:33:51 AM	45787

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: City of Albuquerque Environmental Healt
Client Sample ID: Stockpile #8
Project: Rail Yards
Collection Date: 6/24/2019 1:28:00 PM
Lab ID: 1906C78-008 **Matrix:** SOIL
Received Date: 6/24/2019 2:36:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	98	9.7		mg/Kg	1	6/26/2019 11:35:12 AM	45808
Motor Oil Range Organics (MRO)	140	48		mg/Kg	1	6/26/2019 11:35:12 AM	45808
Surr: DNOP	81.4	70-130		%Rec	1	6/26/2019 11:35:12 AM	45808
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	6/26/2019 1:57:25 AM	45787
Surr: BFB	90.9	73.8-119		%Rec	1	6/26/2019 1:57:25 AM	45787

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1906C78**
27-Jun-19

Client: City of Albuquerque Environmental Health Dept
Project: Rail Yards

Sample ID: **MB-45806**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **45806**	RunNo: **60933**
Prep Date: **6/25/2019**	Analysis Date: **6/26/2019**	SeqNo: **2062847** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	9.3		10.00		92.7	70	130			

Sample ID: **LCS-45806**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **45806**	RunNo: **60933**
Prep Date: **6/25/2019**	Analysis Date: **6/26/2019**	SeqNo: **2062994** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	4.3		5.000		85.2	70	130			

Sample ID: **MB-45808**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **45808**	RunNo: **60941**
Prep Date: **6/25/2019**	Analysis Date: **6/26/2019**	SeqNo: **2062999** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	9.6		10.00		96.1	70	130			

Sample ID: **LCS-45808**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **45808**	RunNo: **60941**
Prep Date: **6/25/2019**	Analysis Date: **6/26/2019**	SeqNo: **2063000** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	47	10	50.00	0	94.1	63.9	124			
Surr: DNOP	4.7		5.000		94.7	70	130			

Sample ID: **LCS-45821**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **45821**	RunNo: **60940**
Prep Date: **6/26/2019**	Analysis Date: **6/26/2019**	SeqNo: **2063348** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	4.4		5.000		88.8	70	130			

Sample ID: **MB-45821**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **45821**	RunNo: **60940**
Prep Date: **6/26/2019**	Analysis Date: **6/26/2019**	SeqNo: **2063350** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	11		10.00		111	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1906C78**
27-Jun-19

Client: City of Albuquerque Environmental Health Dept
Project: Rail Yards

Sample ID: **1906C78-001AMS** SampType: **MS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **Stockpile #1** Batch ID: **45808** RunNo: **60941**
Prep Date: **6/25/2019** Analysis Date: **6/26/2019** SeqNo: **2063559** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	71	9.8	49.12	69.59	2.50	57	142			S
Surr: DNOP	4.7		4.912		95.6	70	130			

Sample ID: **1906C78-001AMSD** SampType: **MSD** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **Stockpile #1** Batch ID: **45808** RunNo: **60941**
Prep Date: **6/25/2019** Analysis Date: **6/26/2019** SeqNo: **2063560** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	130	9.7	48.40	69.59	114	57	142	55.3	20	R
Surr: DNOP	5.2		4.840		108	70	130	0	0	

Sample ID: **1906B31-001AMS** SampType: **MS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **BatchQC** Batch ID: **45806** RunNo: **60933**
Prep Date: **6/25/2019** Analysis Date: **6/26/2019** SeqNo: **2063577** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	4.2		4.055		104	70	130			

Sample ID: **1906B31-001AMSD** SampType: **MSD** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **BatchQC** Batch ID: **45806** RunNo: **60933**
Prep Date: **6/25/2019** Analysis Date: **6/26/2019** SeqNo: **2063583** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	4.7		4.600		102	70	130	0	0	

Sample ID: **1906E04-001AMS** SampType: **MS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **BatchQC** Batch ID: **45821** RunNo: **60940**
Prep Date: **6/26/2019** Analysis Date: **6/26/2019** SeqNo: **2063594** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	4.5		4.726		95.4	70	130			

Sample ID: **1906E04-001AMSD** SampType: **MSD** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **BatchQC** Batch ID: **45821** RunNo: **60940**
Prep Date: **6/26/2019** Analysis Date: **6/26/2019** SeqNo: **2063595** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	4.5		4.744		94.1	70	130	0	0	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1906C78**
27-Jun-19

Client: City of Albuquerque Environmental Health Dept
Project: Rail Yards

Sample ID: **MB-45787**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **45787**	RunNo: **60920**
Prep Date: **6/24/2019**	Analysis Date: **6/25/2019**	SeqNo: **2062565** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	920		1000		92.0	73.8	119			

Sample ID: **LCS-45787**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **45787**	RunNo: **60920**
Prep Date: **6/24/2019**	Analysis Date: **6/25/2019**	SeqNo: **2062566** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	23	5.0	25.00	0	91.4	80.1	123			
Surr: BFB	980		1000		98.0	73.8	119			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: City of Albuquerque Env Work Order Number: 1906C78 RcptNo: 1

Received By: Isaiah Ortiz 6/24/2019 2:36:00 PM I-OX

Completed By: Isaiah Ortiz 6/24/2019 3:00:02 PM I-OX

Reviewed By: DAD 6/24/19

Chain of Custody

1. Is Chain of Custody complete?	Yes ☑	No ☐	Not Present ☐
2. How was the sample delivered?	Client		

Log In

3. Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
4. Were all samples received at a temperature of >0° C to 6.0°C	Yes ☑	No ☐	NA ☐
5. Sample(s) in proper container(s)?	Yes ☑	No ☐	
6. Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
7. Are samples (except VOA and ONG) properly preserved?	Yes ☑	No ☐	
8. Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
9. VOA vials have zero headspace?	Yes ☐	No ☐	No VOA Vials ☑
10. Were any sample containers received broken?	Yes ☐	No ☑	
11. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ☑	No ☐	
12. Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	
13. Is it clear what analyses were requested?	Yes ☑	No ☐	
14. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes ☑	No ☐	

# of preserved bottles checked for pH: _____ (<2 or >12 unless noted)

Adjusted? _____

Checked by: _____

Thm 6-24-19

Special Handling (if applicable)

15. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified: _____ Date: _____

By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: _____

Client Instructions: _____

16. Additional remarks:

17. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	4.6	Good	Yes			

Chain-of-Custody Record

Client: AEHD - ESD

Mailing Address: One Civic Plaza, Suite 3023, 87103

Phone #: 505 768-2658

email or Fax#: bfaris@cabq.gov

QA/QC Package:

☐ Standard ☐ Level 4 (Full Validation)

Accreditation

☐ NELAP ☐ Other _____

☐ EDD (Type) _____

Turn-Around Time:

☐ Standard ☒ Rush _____

Project Name: Rail Yards

Project #:

Project Manager: B. Faris

Sampler:

On Ice: ☒ Yes ☐ No

Sample Temperature: 41-10.5 (CF) 4.6

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

Tel. 505-345-3975 Fax 505-345-4107

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1906C78	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)					Air Bubbles (Y or N)
6-24-19	13:08	soil	Stockpile #1	Jar	NA	-001			X													
	13:10		" #2			-002																
	13:13		" #3			-003																
	13:15		" #4			-004																
	13:18		" #5			-005																
	13:21		" #6			-006																
	13:25		" #7			-007																
	13:28		" #8			-008			X													

Date:	Time:	Relinquished by:	Received by:	Date	Time
6/24/19	1436	Paul Olson	[signature] COC	6/24/19	1436
Date:	Time:	Relinquished by:	Received by:	Date	Time

Remarks:

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

City of Albuquerque Solid Waste Management Department Special Waste Manifest

Date	Time	Manifest #	Truck #	Trucking Co.	Driver Name
7/1/19	8:31	001	ENV969	Enviroworks LLC	Matt DeVolder
7/1/19	832	002	~~ENV860~~ 7	enviroworks LLC	Franklin Patterson
7-1-19	833	003	Env860	Enviroworks	Jeff Salgado
7-1-19	8:34	004	T-5	Enviroworks	Joaquin E Mendoza
7-1-19	840	005	T3	Enviro	Jim Pace
7-1-19	9:00	006	T-9	Env	
7-1-19	10 20	007	Env860	Enviroworks	
7-1-19	11:06	008	ENV969	Enviroworks LLC	Matt DeVolder
7-1-19	11:10	009	T-5	Env	Joaquin E Mendoza
7-1-19	11:15	010	T-9	Env	
7-1-19	11:30	011	T3	Env	
7/1/19	11:40	012	T7	Enviroworks	Franklin Patterson
7/1/19	12:35	013	ENV969	Enviroworks	Matt DeVolder
7/1/19	12:37	014	Env860	Enviroworks	Jeff Salgado
7/1/19	12:45	015	T-5	Env	Joaquin E Mendoza
	1:57	016	T-9	Env	
7/1/19	1:15	017	T-7	Env	Franklin Patterson
7/1/19	1:28	018	T3	Env	
7/1/19	2:05	019	Env860	Enviroworks	Jeff Salgado
7/1/19	2:06	020	ENV969	Enviroworks	Matt DeVolder
7-1-19	2:30	021	T-9	Env	
7/1/19	2:58	022	T7	enviroworks	Franklin Patterson
7/1/19	3:00	023	T5	Env	Joaquin E Mendoza
7-2-19	7:15	024	T-4	Env	
7-2-19	7:18	025	ENV969	Enviroworks	Matt DeVolder
7-2-19	7:19	026	T7	enviroworks	Franklin Patterson
7-2-19	7:20	027	Env860	Enviroworks	Jeff Salgado

City of Albuquerque Solid Waste Management Department
Special Waste Manifest

Special Waste Manifest	Manifest No: 1938-001	Page 1 of 1
Generators Name: City of Albuquerque Environmental Health	**Generators Address:** One Civic Plaza #3023 Albuquerque, NM 87102	**Phone No + Email Address:** 505-768-2658 bfaris@cabq.gov
Origin of the Special Waste (project or spill location): Rail yard Cleanup – 771 1st Street SW, Albuquerque		
Haulers Company Name: Enviroworks LLC	**Haulers Address:** # 010199 5 Cinnamon Dr PO Box 340 Edgewood, NM 87015	**Phone No + Email Address:** 505-286-4891 accounting@enviroworks foryou.com
Destination of the Special Waste: Cerro Colorado Landfill	**Facility Address and NMED Permit No:** 18000 Cerro Colorado RD Albuquerque, NM87121 SWM-010221 (SP)	**Phone No + Email Address:** (505) 761-8324 ddaugherty@cabq.gov

Type of Special Waste Being Transported	Container			Weight
	I.D. No.	Type	Quantity	Tons / Lbs
Petroleum Contaminated Soil, minor concrete	Dump	End dump	18 CY	

Additional Information Regarding Wastes Listed Above:
Central – Cell 9

1. **Generators Certification: I hereby certify that the contents of this shipment are fully and accurately described above by type and proper name of the special waste, and that such waste has been managed, packaged, containerized, and labeled in accordance with the requirements of 20.9.8 NMAC and any other applicable federal, state, or local regulations.**

Printed Name:	Signature:	Date:
Bart Faris	Bart Faris	7/1/19

2. **Haulers Certification: I hereby acknowledge receipt and delivery of the above described waste.**

Printed Name:	Signature:	Date:
ENV96 Melissa Grossetete Matt DeVolder		7/1/19

3. **Facility Certification: I hereby acknowledge receipt of the special waste as described on this manifest, except as noted under additional information above.**

Printed Name:	Signature:	Date:
John Dangler	Bart Faris	7/1/19

City of Albuquerque Solid Waste Management Department
Special Waste Manifest

Special Waste Manifest	Manifest No: 1938- 002	Page 1 of 1
Generators Name: City of Albuquerque Environmental Health	**Generators Address:** One Civic Plaza #3023 Albuquerque, NM 87102	**Phone No + Email Address:** 505-768-2658 bfaris@cabq.gov

Origin of the Special Waste (project or spill location):

Rail yard Cleanup – 771 1st Street SW, Albuquerque

Haulers Company Name:	**Haulers Address:** # 010199	**Phone No + Email Address:**
Enviroworks LLC	5 Cinnamon Dr PO Box 340 Edgewood, NM 87015	505-286-4891 accounting@enviroworks foryou.com
Destination of the Special Waste: Cerro Colorado Landfill	**Facility Address and NMED Permit No:** 18000 Cerro Colorado RD Albuquerque, NM87121 SWM-010221 (SP)	**Phone No + Email Address:** (505) 761-8324 ddaugherty@cabq.gov

Type of Special Waste Being Transported	**Container**			**Weight**
	I.D. No.	Type	Quantity	Tons / Lbs
Petroleum Contaminated Soil, minor concrete	Dump	End dump	18 CY	

Additional Information Regarding Wastes Listed Above:

Top Cell 9

1. **Generators Certification: I hereby certify that the contents of this shipment are fully and accurately described above by type and proper name of the special waste, and that such waste has been managed, packaged, containerized, and labeled in accordance with the requirements of 20.9.8 NMAC and any other applicable federal, state, or local regulations.**

Printed Name: Bart Faris	Signature: Bart Faris	Date: 7/1/19

2. **Haulers Certification: I hereby acknowledge receipt and delivery of the above described waste.**

Printed Name: Melissa Grossetete for Bart	Signature: Franklin Patterson	Date: 7/1/19

3. **Facility Certification: I hereby acknowledge receipt of the special waste as described on this manifest, except as noted under additional information above.**

Printed Name: Jackie Daugherty	Signature: Bart Faris	Date: 7/1/19

City of Albuquerque Solid Waste Management Department
Special Waste Manifest

Special Waste Manifest	Manifest No: 1938- 003	Page 1 of 1
Generators Name: City of Albuquerque Environmental Health	**Generators Address:** One Civic Plaza #3023 Albuquerque, NM 87102	**Phone No + Email Address:** 505-768-2658 bfaris@cabq.gov

Origin of the Special Waste (project or spill location):

Rail yard Cleanup – 771 1st Street SW, Albuquerque

Haulers Company Name:	Haulers Address: # 010199	Phone No + Email Address:
Enviroworks LLC	5 Cinnamon Dr PO Box 340 Edgewood, NM 87015	505-286-4891 accounting@enviroworks foryou.com
Destination of the Special Waste: Cerro Colorado Landfill	**Facility Address and NMED Permit No:** 18000 Cerro Colorado RD Albuquerque, NM87121 SWM-010221 (SP)	**Phone No + Email Address:** (505) 761-8324 ddaugherty@cabq.gov

Type of Special Waste Being Transported	Container			Weight
	I.D. No.	Type	Quantity	Tons / Lbs
Petroleum Contaminated Soil, minor concrete	Dump	End dump	18 CY	

Additional Information Regarding Wastes Listed Above:

Equipment call 9

1. **Generators Certification: I hereby certify that the contents of this shipment are fully and accurately described above by type and proper name of the special waste, and that such waste has been managed, packaged, containerized, and labeled in accordance with the requirements of 20.9.8 NMAC and any other applicable federal, state, or local regulations.**

Printed Name:	Signature:	Date:
Bart Faris	Bart Faris	7/1/19

2. **Haulers Certification: I hereby acknowledge receipt and delivery of the above described waste.**

Printed Name:	Signature:	Date:
ENV SUP Melissa Grossetete / Jeff Salgado		7-1-19

3. **Facility Certification: I hereby acknowledge receipt of the special waste as described on this manifest, except as noted under additional information above.**

Printed Name:	Signature:	Date:
John Daugherty	Bart Faris	7/1/19

City of Albuquerque Solid Waste Management Department
Special Waste Manifest

Special Waste Manifest	Manifest No: 1938- 004	Page 1 of 1
Generators Name: City of Albuquerque Environmental Health	**Generators Address:** One Civic Plaza #3023 Albuquerque, NM 87102	**Phone No + Email Address:** 505-768-2658 bfaris@cabq.gov
Origin of the Special Waste (project or spill location): Rail yard Cleanup – 771 1st Street SW, Albuquerque		
Haulers Company Name: Enviroworks LLC	**Haulers Address:** # 010199 5 Cinnamon Dr PO Box 340 Edgewood, NM 87015	**Phone No + Email Address:** 505-286-4891 accounting@enviroworks foryou.com
Destination of the Special Waste: Cerro Colorado Landfill	**Facility Address and NMED Permit No:** 18000 Cerro Colorado RD Albuquerque, NM87121 SWM-010221 (SP)	**Phone No + Email Address:** (505) 761-8324 ddaugherty@cabq.gov

Type of Special Waste Being Transported	Container			Weight
	I.D. No.	Type	Quantity	Tons / Lbs
Petroleum Contaminated Soil, minor concrete	Dump	End dump	18 CY	

Additional Information Regarding Wastes Listed Above:

Center Cell 9

1. **Generators Certification: I hereby certify that the contents of this shipment are fully and accurately described above by type and proper name of the special waste, and that such waste has been managed, packaged, containerized, and labeled in accordance with the requirements of 20.9.8 NMAC and any other applicable federal, state, or local regulations.**

Printed Name:	Signature:	Date:
Bart Faris		7/1/19

2. **Haulers Certification: I hereby acknowledge receipt and delivery of the above described waste.**

Printed Name:	Signature:	Date:
Joaquin E Mendoza FS Melissa Grossetete		7/1/19

3. **Facility Certification: I hereby acknowledge receipt of the special waste as described on this manifest, except as noted under additional information above.**

Printed Name:	Signature:	Date:
		7/1/19

City of Albuquerque Solid Waste Management Department
Special Waste Manifest

Special Waste Manifest	Manifest No: 1938- 005	Page 1 of 1
Generators Name: City of Albuquerque Environmental Health	**Generators Address:** One Civic Plaza #3023 Albuquerque, NM 87102	**Phone No + Email Address:** 505-768-2658 bfaris@cabq.gov

Origin of the Special Waste (project or spill location):

Rail yard Cleanup – 771 1st Street SW, Albuquerque

bottom Cell 9 middle

Haulers Company Name:	**Haulers Address:** # 010199	**Phone No + Email Address:**
Enviroworks LLC	5 Cinnamon Dr PO Box 340 Edgewood, NM 87015	505-286-4891 accounting@enviroworksforyou.com
Destination of the Special Waste: Cerro Colorado Landfill	**Facility Address and NMED Permit No:** 18000 Cerro Colorado RD Albuquerque, NM87121 SWM-010221 (SP)	**Phone No + Email Address:** (505) 761-8324 ddaugherty@cabq.gov

Type of Special Waste Being Transported	**Container**			**Weight**
	I.D. No.	Type	Quantity	Tons / Lbs
Petroleum Contaminated Soil, minor concrete	Dump	End dump	18 CY	

Additional Information Regarding Wastes Listed Above:

1. **Generators Certification: I hereby certify that the contents of this shipment are fully and accurately described above by type and proper name of the special waste, and that such waste has been managed, packaged, containerized, and labeled in accordance with the requirements of 20.9.8 NMAC and any other applicable federal, state, or local regulations.**

Printed Name: Bart Faris	Signature: Bart Faris	Date: 7/1/19

2. **Haulers Certification: I hereby acknowledge receipt and delivery of the above described waste.**

Printed Name: Melissa Grossetete	Signature: Melissa Grossetete	Date: 7/1/19

3. **Facility Certification: I hereby acknowledge receipt of the special waste as described on this manifest, except as noted under additional information above.**

Printed Name:	Signature: Bart Faris	Date: 7/1/19

City of Albuquerque Solid Waste Management Department
Special Waste Manifest

Special Waste Manifest	Manifest No: 1938-006	Page 1 of 1
Generators Name: City of Albuquerque Environmental Health	**Generators Address:** One Civic Plaza #3023 Albuquerque, NM 87102	**Phone No + Email Address:** 505-768-2658 bfaris@cabq.gov

Origin of the Special Waste (project or spill location):

Rail yard Cleanup – 771 1st Street SW, Albuquerque

bottom Cell 9 middle.

Haulers Company Name:	Haulers Address: # 010199	Phone No + Email Address:
Enviroworks LLC	5 Cinnamon Dr PO Box 340 Edgewood, NM 87015	505-286-4891 accounting@enviroworksforyou.com
Destination of the Special Waste: Cerro Colorado Landfill	**Facility Address and NMED Permit No:** 18000 Cerro Colorado RD Albuquerque, NM87121 SWM-010221 (SP)	**Phone No + Email Address:** (505) 761-8324 ddaugherty@cabq.gov

Type of Special Waste Being Transported	Container			Weight
	I.D. No.	Type	Quantity	Tons / Lbs
Petroleum Contaminated Soil, minor concrete	Dump	End dump	18 CY	

Additional Information Regarding Wastes Listed Above:

1. **Generators Certification: I hereby certify that the contents of this shipment are fully and accurately described above by type and proper name of the special waste, and that such waste has been managed, packaged, containerized, and labeled in accordance with the requirements of 20.9.8 NMAC and any other applicable federal, state, or local regulations.**

Printed Name:	Signature:	Date:
Bart Faris	Bart Faris	7/1/19

2. **Haulers Certification: I hereby acknowledge receipt and delivery of the above described waste.**

Printed Name:	Signature:	Date:
Melissa Grossetete		7-1-19

3. **Facility Certification: I hereby acknowledge receipt of the special waste as described on this manifest, except as noted under additional information above.**

Printed Name:	Signature:	Date:
	Bart Faris	7/1/19

City of Albuquerque Solid Waste Management Department
Special Waste Manifest

Special Waste Manifest	Manifest No: 1938- 007	Page 1 of 1
Generators Name: City of Albuquerque Environmental Health	**Generators Address:** One Civic Plaza #3023 Albuquerque, NM 87102	**Phone No + Email Address:** 505-768-2658 bfaris@cabq.gov
Origin of the Special Waste (project or spill location): Rail yard Cleanup – 771 1st Street SW, Albuquerque		
Haulers Company Name: Enviroworks LLC	**Haulers Address: # 010199** 5 Cinnamon Dr PO Box 340 Edgewood, NM 87015	**Phone No + Email Address:** 505-286-4891 accounting@enviroworks foryou.com
Destination of the Special Waste: Cerro Colorado Landfill	**Facility Address and NMED Permit No:** 18000 Cerro Colorado RD Albuquerque, NM87121 SWM-010221 (SP)	**Phone No + Email Address:** (505) 761-8324 ddaugherty@cabq.gov

Type of Special Waste Being Transported	Container			Weight
	I.D. No.	Type	Quantity	Tons / Lbs
Petroleum Contaminated Soil, minor concrete	Dump	End dump	18 CY	

Additional Information Regarding Wastes Listed Above:

Middle Cell 9 (Tor)

1. **Generators Certification: I hereby certify that the contents of this shipment are fully and accurately described above by type and proper name of the special waste, and that such waste has been managed, packaged, containerized, and labeled in accordance with the requirements of 20.9.8 NMAC and any other applicable federal, state, or local regulations.**

Printed Name:	Signature:	Date:
Bart Faris	Bart Faris	7/1/19

2. **Haulers Certification: I hereby acknowledge receipt and delivery of the above described waste.**

Printed Name:	Signature:	Date:
Melissa Grossetete 860 Left solgado		7/1/19

3. **Facility Certification: I hereby acknowledge receipt of the special waste as described on this manifest, except as noted under additional information above.**

Printed Name:	Signature:	Date:
Dunlee Ewing		

City of Albuquerque Solid Waste Management Department
Special Waste Manifest

Special Waste Manifest	Manifest No: 1938- 008	Page 1 of 1
Generators Name: City of Albuquerque Environmental Health	**Generators Address:** One Civic Plaza #3023 Albuquerque, NM 87102	**Phone No + Email Address:** 505-768-2658 bfaris@cabq.gov
Origin of the Special Waste (project or spill location): Rail yard Cleanup – 771 1st Street SW, Albuquerque		
Haulers Company Name: Enviroworks LLC	**Haulers Address:** # 010199 5 Cinnamon Dr PO Box 340 Edgewood, NM 87015	**Phone No + Email Address:** 505-286-4891 accounting@enviroworks foryou.com
Destination of the Special Waste: Cerro Colorado Landfill	**Facility Address and NMED Permit No:** 18000 Cerro Colorado RD Albuquerque, NM87121 SWM-010221 (SP)	**Phone No + Email Address:** (505) 761-8324 ddaugherty@cabq.gov

Type of Special Waste Being Transported	Container			Weight
	I.D. No.	Type	Quantity	Tons / Lbs
Petroleum Contaminated Soil, minor concrete	Dump	End dump	18 CY	

Additional Information Regarding Wastes Listed Above:

Top Cell 9 middle

1. **Generators Certification: I hereby certify that the contents of this shipment are fully and accurately described above by type and proper name of the special waste, and that such waste has been managed, packaged, containerized, and labeled in accordance with the requirements of 20.9.8 NMAC and any other applicable federal, state, or local regulations.**

Printed Name:	Signature:	Date:
Bart Faris	Bart Faris	7/11/19

2. **Haulers Certification: I hereby acknowledge receipt and delivery of the above described waste.**

Printed Name:	Signature:	Date:
Melissa Grossetete ENV969 Matt DeVolder		7/11/19

3. **Facility Certification: I hereby acknowledge receipt of the special waste as described on this manifest, except as noted under additional information above.**

Printed Name:	Signature:	Date:
Alex Lucero	Alex Lucero	7/11/19

City of Albuquerque Solid Waste Management Department
Special Waste Manifest

Special Waste Manifest	Manifest No: 1938- 009	Page 1 of 1
Generators Name: City of Albuquerque Environmental Health	**Generators Address:** One Civic Plaza #3023 Albuquerque, NM 87102	**Phone No + Email Address:** 505-768-2658 bfaris@cabq.gov
Origin of the Special Waste (project or spill location): Rail yard Cleanup – 771 1st Street SW, Albuquerque		
Haulers Company Name: Enviroworks LLC	**Haulers Address: # 010199** 5 Cinnamon Dr PO Box 340 Edgewood, NM 87015	**Phone No + Email Address:** 505-286-4891 accounting@enviroworks foryou.com
Destination of the Special Waste: Cerro Colorado Landfill	**Facility Address and NMED Permit No:** 18000 Cerro Colorado RD Albuquerque, NM87121 SWM-010221 (SP)	**Phone No + Email Address:** (505) 761-8324 ddaugherty@cabq.gov

Type of Special Waste Being Transported	Container			Weight
	I.D. No.	Type	Quantity	Tons / Lbs
Petroleum Contaminated Soil, minor concrete	Dump	End dump	18 CY	

Additional Information Regarding Wastes Listed Above:

Top cell 9 middle

1. Generators Certification: I hereby certify that the contents of this shipment are fully and accurately described above by type and proper name of the special waste, and that such waste has been managed, packaged, containerized, and labeled in accordance with the requirements of 20.9.8 NMAC and any other applicable federal, state, or local regulations.

Printed Name:	Signature:	Date:
Bart Faris	Bart Faris	7/1/19

2. Haulers Certification: I hereby acknowledge receipt and delivery of the above described waste.

Printed Name:	Signature:	Date:
Joaquin Melissa Grossetete	Joaquin	7/1/19

3. Facility Certification: I hereby acknowledge receipt of the special waste as described on this manifest, except as noted under additional information above.

Printed Name:	Signature:	Date:
Alex Lucero	Alex Lucero	7/1/19

City of Albuquerque Solid Waste Management Department
Special Waste Manifest

Special Waste Manifest	Manifest No: 1938-010	Page 1 of 1
Generators Name: City of Albuquerque Environmental Health	**Generators Address:** One Civic Plaza #3023 Albuquerque, NM 87102	**Phone No + Email Address:** 505-768-2658 bfaris@cabq.gov
Origin of the Special Waste (project or spill location): Rail yard Cleanup – 771 1st Street SW, Albuquerque		
Haulers Company Name: Enviroworks LLC	**Haulers Address: # 010199** 5 Cinnamon Dr PO Box 340 Edgewood, NM 87015	**Phone No + Email Address:** 505-286-4891 accounting@enviroworksforyou.com
Destination of the Special Waste: Cerro Colorado Landfill	**Facility Address and NMED Permit No:** 18000 Cerro Colorado RD Albuquerque, NM87121 SWM-010221 (SP)	**Phone No + Email Address:** (505) 761-8324 ddaugherty@cabq.gov

Type of Special Waste Being Transported	Container			Weight
	I.D. No.	Type	Quantity	Tons / Lbs
Petroleum Contaminated Soil, minor concrete	Dump	End dump	18 CY	

Additional Information Regarding Wastes Listed Above:

Top cell 9 middle Ramp, to East

1. **Generators Certification: I hereby certify that the contents of this shipment are fully and accurately described above by type and proper name of the special waste, and that such waste has been managed, packaged, containerized, and labeled in accordance with the requirements of 20.9.8 NMAC and any other applicable federal, state, or local regulations.**

Printed Name:	Signature:	Date:
Bart Faris	Bart Faris	7-1-19

2. **Haulers Certification: I hereby acknowledge receipt and delivery of the above described waste.**

Printed Name:	Signature:	Date:
Melissa Grossetete		7-1-19

3. **Facility Certification: I hereby acknowledge receipt of the special waste as described on this manifest, except as noted under additional information above.**

Printed Name:	Signature:	Date:
Alex Lowitz		7-1-19

City of Albuquerque Solid Waste Management Department
Special Waste Manifest

Special Waste Manifest	Manifest No: 1938- 011	Page 1 of 1
Generators Name: City of Albuquerque Environmental Health	**Generators Address:** One Civic Plaza #3023 Albuquerque, NM 87102	**Phone No + Email Address:** 505-768-2658 bfaris@cabq.gov
Origin of the Special Waste (project or spill location): Rail yard Cleanup – 771 1st Street SW, Albuquerque		
Haulers Company Name: Enviroworks LLC	**Haulers Address:** # 010199 5 Cinnamon Dr PO Box 340 Edgewood, NM 87015	**Phone No + Email Address:** 505-286-4891 accounting@enviroworks foryou.com
Destination of the Special Waste: Cerro Colorado Landfill	**Facility Address and NMED Permit No:** 18000 Cerro Colorado RD Albuquerque, NM87121 SWM-010221 (SP)	**Phone No + Email Address:** (505) 761-8324 ddaugherty@cabq.gov

Type of Special Waste Being Transported	Container			Weight
	I.D. No.	Type	Quantity	Tons / Lbs
Petroleum Contaminated Soil, minor concrete	Dump	End dump	18 CY	

Additional Information Regarding Wastes Listed Above:
Top cell 9 middle

1. **Generators Certification: I hereby certify that the contents of this shipment are fully and accurately described above by type and proper name of the special waste, and that such waste has been managed, packaged, containerized, and labeled in accordance with the requirements of 20.9.8 NMAC and any other applicable federal, state, or local regulations.**

Printed Name:	Signature:	Date:
Bart Faris		7/1/19

2. **Haulers Certification: I hereby acknowledge receipt and delivery of the above described waste.**

Printed Name:	Signature:	Date:
Melissa Grossetete		7/1/19

3. **Facility Certification: I hereby acknowledge receipt of the special waste as described on this manifest, except as noted under additional information above.**

Printed Name:	Signature:	Date:
Alex Brandon		7/1/19

City of Albuquerque Solid Waste Management Department
Special Waste Manifest

Special Waste Manifest	Manifest No: 1938-012	Page 1 of 1
Generators Name: City of Albuquerque Environmental Health	**Generators Address:** One Civic Plaza #3023 Albuquerque, NM 87102	**Phone No + Email Address:** 505-768-2658 bfaris@cabq.gov
Origin of the Special Waste (project or spill location): Rail yard Cleanup – 771 1st Street SW, Albuquerque		
Haulers Company Name: Enviroworks LLC	**Haulers Address: # 010199** 5 Cinnamon Dr PO Box 340 Edgewood, NM 87015	**Phone No + Email Address:** 505-286-4891 accounting@enviroworks foryou.com
Destination of the Special Waste: Cerro Colorado Landfill	**Facility Address and NMED Permit No:** 18000 Cerro Colorado RD Albuquerque, NM87121 SWM-010221 (SP)	**Phone No + Email Address:** (505) 761-8324 ddaugherty@cabq.gov

Type of Special Waste Being Transported	Container			Weight
	I.D. No.	Type	Quantity	Tons / Lbs
Petroleum Contaminated Soil, minor concrete	Dump	End dump	18 CY	

Additional Information Regarding Wastes Listed Above:

BP Cell 9 Material

1. **Generators Certification: I hereby certify that the contents of this shipment are fully and accurately described above by type and proper name of the special waste, and that such waste has been managed, packaged, containerized, and labeled in accordance with the requirements of 20.9.8 NMAC and any other applicable federal, state, or local regulations.**

Printed Name:	Signature:	Date:
Bart Faris	Bart Faris	7/11/19

2. **Haulers Certification: I hereby acknowledge receipt and delivery of the above described waste.**

Printed Name:	Signature:	Date:
Melissa Grossetete for Franklin Patterson		7/11/19

3. **Facility Certification: I hereby acknowledge receipt of the special waste as described on this manifest, except as noted under additional information above.**

Printed Name:	Signature:	Date:
Alex Lucero		7/11/19

City of Albuquerque Solid Waste Management Department
Special Waste Manifest

Special Waste Manifest	Manifest No: 1938-013	Page 1 of 1
Generators Name: City of Albuquerque Environmental Health	**Generators Address:** One Civic Plaza #3023 Albuquerque, NM 87102	**Phone No + Email Address:** 505-768-2658 bfaris@cabq.gov
Origin of the Special Waste (project or spill location): Rail yard Cleanup – 771 1st Street SW, Albuquerque		
Haulers Company Name: Enviroworks LLC	**Haulers Address:** # 010199 5 Cinnamon Dr PO Box 340 Edgewood, NM 87015	**Phone No + Email Address:** 505-286-4891 accounting@enviroworks foryou.com
Destination of the Special Waste: Cerro Colorado Landfill	**Facility Address and NMED Permit No:** 18000 Cerro Colorado RD Albuquerque, NM87121 SWM-010221 (SP)	**Phone No + Email Address:** (505) 761-8324 ddaugherty@cabq.gov

Type of Special Waste Being Transported	Container			Weight
	I.D. No.	Type	Quantity	Tons / Lbs
Petroleum Contaminated Soil, minor concrete	Dump	End dump	18 CY	

Additional Information Regarding Wastes Listed Above:

Top middle of Cell 9

1. **Generators Certification: I hereby certify that the contents of this shipment are fully and accurately described above by type and proper name of the special waste, and that such waste has been managed, packaged, containerized, and labeled in accordance with the requirements of 20.9.8 NMAC and any other applicable federal, state, or local regulations.**

Printed Name:	Signature:	Date:
Bart Faris	Bart Faris	

2. **Haulers Certification: I hereby acknowledge receipt and delivery of the above described waste.**

Printed Name:	Signature:	Date:
ENV969 Melissa Grossetete Matt DeVolder		7/1/19

3. **Facility Certification: I hereby acknowledge receipt of the special waste as described on this manifest, except as noted under additional information above.**

Printed Name:	Signature:	Date:
Dontee Ewing		7/1/19

City of Albuquerque Solid Waste Management Department
Special Waste Manifest

Special Waste Manifest	Manifest No: 1938- 014	Page 1 of 1
Generators Name: City of Albuquerque Environmental Health	**Generators Address:** One Civic Plaza #3023 Albuquerque, NM 87102	**Phone No + Email Address:** 505-768-2658 bfaris@cabq.gov
Origin of the Special Waste (project or spill location): Rail yard Cleanup – 771 1st Street SW, Albuquerque		
Haulers Company Name: Enviroworks LLC	**Haulers Address: # 010199** 5 Cinnamon Dr PO Box 340 Edgewood, NM 87015	**Phone No + Email Address:** 505-286-4891 accounting@enviroworks foryou.com
Destination of the Special Waste: Cerro Colorado Landfill	**Facility Address and NMED Permit No:** 18000 Cerro Colorado RD Albuquerque, NM87121 SWM-010221 (SP)	**Phone No + Email Address:** (505) 761-8324 ddaugherty@cabq.gov

Type of Special Waste Being Transported	Container			Weight
	I.D. No.	Type	Quantity	Tons / Lbs
Petroleum Contaminated Soil, minor concrete	Dump	End dump	18 CY	

Additional Information Regarding Wastes Listed Above:

TOP middle of cell 9

1. **Generators Certification: I hereby certify that the contents of this shipment are fully and accurately described above by type and proper name of the special waste, and that such waste has been managed, packaged, containerized, and labeled in accordance with the requirements of 20.9.8 NMAC and any other applicable federal, state, or local regulations.**

Printed Name:	Signature:	Date:
Bart Faris	Bart Faris	

2. **Haulers Certification: I hereby acknowledge receipt and delivery of the above described waste.**

Printed Name:	Signature:	Date:
Melissa Grossetete Jeff Salgado	860	7/1/19

3. **Facility Certification: I hereby acknowledge receipt of the special waste as described on this manifest, except as noted under additional information above.**

Printed Name:	Signature:	Date:
DonYee Ewing		7/1/19

City of Albuquerque Solid Waste Management Department
Special Waste Manifest

Special Waste Manifest	Manifest No: 1938- 015	Page 1 of 1
Generators Name: City of Albuquerque Environmental Health	**Generators Address:** One Civic Plaza #3023 Albuquerque, NM 87102	**Phone No + Email Address:** 505-768-2658 bfaris@cabq.gov
Origin of the Special Waste (project or spill location): Rail yard Cleanup – 771 1st Street SW, Albuquerque		
Haulers Company Name: Enviroworks LLC	**Haulers Address:** # 010199 5 Cinnamon Dr PO Box 340 Edgewood, NM 87015	**Phone No + Email Address:** 505-286-4891 accounting@enviroworks foryou.com
Destination of the Special Waste: Cerro Colorado Landfill	**Facility Address and NMED Permit No:** 18000 Cerro Colorado RD Albuquerque, NM87121 SWM-010221 (SP)	**Phone No + Email Address:** (505) 761-8324 ddaugherty@cabq.gov

Type of Special Waste Being Transported	Container			Weight
	I.D. No.	Type	Quantity	Tons / Lbs
Petroleum Contaminated Soil, minor concrete	Dump	End dump	18 CY	

Additional Information Regarding Wastes Listed Above:

Top Middle of cell 7

1. **Generators Certification: I hereby certify that the contents of this shipment are fully and accurately described above by type and proper name of the special waste, and that such waste has been managed, packaged, containerized, and labeled in accordance with the requirements of 20.9.8 NMAC and any other applicable federal, state, or local regulations.**

Printed Name: Bart Faris	Signature: Bart Faris	Date:

2. **Haulers Certification: I hereby acknowledge receipt and delivery of the above described waste.**

Printed Name: Joaquin Emerson Melissa Grossetete	Signature:	Date: 7/1/19

3. **Facility Certification: I hereby acknowledge receipt of the special waste as described on this manifest, except as noted under additional information above.**

Printed Name: Dimber Ewing	Signature:	Date: 7/1/19

City of Albuquerque Solid Waste Management Department
Special Waste Manifest

Special Waste Manifest	Manifest No: 1938-016	Page 1 of 1
Generators Name: City of Albuquerque Environmental Health	**Generators Address:** One Civic Plaza #3023 Albuquerque, NM 87102	**Phone No + Email Address:** 505-768-2658 bfaris@cabq.gov
Origin of the Special Waste (project or spill location): Rail yard Cleanup – 771 1st Street SW, Albuquerque		
Haulers Company Name: Enviroworks LLC	**Haulers Address:** # 010199 5 Cinnamon Dr PO Box 340 Edgewood, NM 87015	**Phone No + Email Address:** 505-286-4891 accounting@enviroworks foryou.com
Destination of the Special Waste: Cerro Colorado Landfill	**Facility Address and NMED Permit No:** 18000 Cerro Colorado RD Albuquerque, NM87121 SWM-010221 (SP)	**Phone No + Email Address:** (505) 761-8324 ddaugherty@cabq.gov

Type of Special Waste Being Transported	Container			Weight
	I.D. No.	Type	Quantity	Tons / Lbs
Petroleum Contaminated Soil, minor concrete	Dump	End dump	18 CY	

Additional Information Regarding Wastes Listed Above:

Top Middle Cell 9

1. **Generators Certification: I hereby certify that the contents of this shipment are fully and accurately described above by type and proper name of the special waste, and that such waste has been managed, packaged, containerized, and labeled in accordance with the requirements of 20.9.8 NMAC and any other applicable federal, state, or local regulations.**

Printed Name:	Signature:	Date:
Bart Faris	Bart Faris	

2. **Haulers Certification: I hereby acknowledge receipt and delivery of the above described waste.**

Printed Name:	Signature:	Date:
Melissa Grossetete		7-1-19

3. **Facility Certification: I hereby acknowledge receipt of the special waste as described on this manifest, except as noted under additional information above.**

Printed Name:	Signature:	Date:
Dorree Ewing		7/1/19

City of Albuquerque Solid Waste Management Department
Special Waste Manifest

Special Waste Manifest	Manifest No: 1938- 017	Page 1 of 1
Generators Name: City of Albuquerque Environmental Health	**Generators Address:** One Civic Plaza #3023 Albuquerque, NM 87102	**Phone No + Email Address:** 505-768-2658 bfaris@cabq.gov
Origin of the Special Waste (project or spill location): Rail yard Cleanup – 771 1st Street SW, Albuquerque		
Haulers Company Name: Enviroworks LLC	**Haulers Address:** # 010199 5 Cinnamon Dr PO Box 340 Edgewood, NM 87015	**Phone No + Email Address:** 505-286-4891 accounting@enviroworks foryou.com
Destination of the Special Waste: Cerro Colorado Landfill	**Facility Address and NMED Permit No:** 18000 Cerro Colorado RD Albuquerque, NM87121 SWM-010221 (SP)	**Phone No + Email Address:** (505) 761-8324 ddaugherty@cabq.gov

Type of Special Waste Being Transported	Container			Weight
	I.D. No.	Type	Quantity	Tons / Lbs
Petroleum Contaminated Soil, minor concrete	Dump	End dump	18 CY	

Additional Information Regarding Wastes Listed Above:

Top Middle of Cell 9

1. **Generators Certification: I hereby certify that the contents of this shipment are fully and accurately described above by type and proper name of the special waste, and that such waste has been managed, packaged, containerized, and labeled in accordance with the requirements of 20.9.8 NMAC and any other applicable federal, state, or local regulations.**

Printed Name:	Signature:	Date:
Bart Faris	Bart Faris	

2. **Haulers Certification: I hereby acknowledge receipt and delivery of the above described waste.**

Printed Name:	Signature:	Date:
Melissa Grossetete Franklin Patterson	Franklin Patterson	7/1/19

3. **Facility Certification: I hereby acknowledge receipt of the special waste as described on this manifest, except as noted under additional information above.**

Printed Name:	Signature:	Date:
Dominee Ewing	Dominee Ewing	7/1/19

City of Albuquerque Solid Waste Management Department
Special Waste Manifest

Special Waste Manifest	Manifest No: 1938- 018	Page 1 of 1
Generators Name: City of Albuquerque Environmental Health	**Generators Address:** One Civic Plaza #3023 Albuquerque, NM 87102	**Phone No + Email Address:** 505-768-2658 bfaris@cabq.gov
Origin of the Special Waste (project or spill location): Rail yard Cleanup – 771 1st Street SW, Albuquerque		
Haulers Company Name: Enviroworks LLC	**Haulers Address:** # 010199 5 Cinnamon Dr PO Box 340 Edgewood, NM 87015	**Phone No + Email Address:** 505-286-4891 accounting@enviroworks foryou.com
Destination of the Special Waste: Cerro Colorado Landfill	**Facility Address and NMED Permit No:** 18000 Cerro Colorado RD Albuquerque, NM87121 SWM-010221 (SP)	**Phone No + Email Address:** (505) 761-8324 ddaugherty@cabq.gov

Type of Special Waste Being Transported	Container			Weight
	I.D. No.	Type	Quantity	Tons / Lbs
Petroleum Contaminated Soil, minor concrete	Dump	End dump	18 CY	

Additional Information Regarding Wastes Listed Above:

Top Middle of cell 9

1. **Generators Certification: I hereby certify that the contents of this shipment are fully and accurately described above by type and proper name of the special waste, and that such waste has been managed, packaged, containerized, and labeled in accordance with the requirements of 20.9.8 NMAC and any other applicable federal, state, or local regulations.**

Printed Name:	Signature:	Date:
Bart Faris	Bart Faris	

2. **Haulers Certification: I hereby acknowledge receipt and delivery of the above described waste.**

Printed Name:	Signature:	Date:
Melissa Grossetete		7/1/19

3. **Facility Certification: I hereby acknowledge receipt of the special waste as described on this manifest, except as noted under additional information above.**

Printed Name:	Signature:	Date:
Lonkee Flynn		7/1/19

City of Albuquerque Solid Waste Management Department
Special Waste Manifest

Special Waste Manifest	Manifest No: 1938-019	Page 1 of 1
Generators Name: City of Albuquerque Environmental Health	**Generators Address:** One Civic Plaza #3023 Albuquerque, NM 87102	**Phone No + Email Address:** 505-768-2658 bfaris@cabq.gov
Origin of the Special Waste (project or spill location): Rail yard Cleanup – 771 1st Street SW, Albuquerque		
Haulers Company Name: Enviroworks LLC	**Haulers Address:** # 010199 5 Cinnamon Dr PO Box 340 Edgewood, NM 87015	**Phone No + Email Address:** 505-286-4891 accounting@enviroworks foryou.com
Destination of the Special Waste: Cerro Colorado Landfill	**Facility Address and NMED Permit No:** 18000 Cerro Colorado RD Albuquerque, NM87121 SWM-010221 (SP)	**Phone No + Email Address:** (505) 761-8324 ddaugherty@cabq.gov

Type of Special Waste Being Transported	Container			Weight
	I.D. No.	Type	Quantity	Tons / Lbs
Petroleum Contaminated Soil, minor concrete	Dump	End dump	18 CY	

Additional Information Regarding Wastes Listed Above:

Top Middle of cell 9

1. **Generators Certification: I hereby certify that the contents of this shipment are fully and accurately described above by type and proper name of the special waste, and that such waste has been managed, packaged, containerized, and labeled in accordance with the requirements of 20.9.8 NMAC and any other applicable federal, state, or local regulations.**

Printed Name:	Signature:	Date:
Bart Faris	Bart Faris	

2. **Haulers Certification: I hereby acknowledge receipt and delivery of the above described waste.**

Printed Name:	Signature:	Date:
Melissa Grossetete Jeff Salcedo		7/1/19

3. **Facility Certification: I hereby acknowledge receipt of the special waste as described on this manifest, except as noted under additional information above.**

Printed Name:	Signature:	Date:
Denise Ewing		7/1/2019

City of Albuquerque Solid Waste Management Department
Special Waste Manifest

Special Waste Manifest	Manifest No: 1938-020	Page 1 of 1
Generators Name: City of Albuquerque Environmental Health	**Generators Address:** One Civic Plaza #3023 Albuquerque, NM 87102	**Phone No + Email Address:** 505-768-2658 bfaris@cabq.gov
Origin of the Special Waste (project or spill location): Rail yard Cleanup – 771 1st Street SW, Albuquerque		
Haulers Company Name: Enviroworks LLC	**Haulers Address:** # 010199 5 Cinnamon Dr PO Box 340 Edgewood, NM 87015	**Phone No + Email Address:** 505-286-4891 accounting@enviroworksforyou.com
Destination of the Special Waste: Cerro Colorado Landfill	**Facility Address and NMED Permit No:** 18000 Cerro Colorado RD Albuquerque, NM87121 SWM-010221 (SP)	**Phone No + Email Address:** (505) 761-8324 ddaugherty@cabq.gov

Type of Special Waste Being Transported	Container			Weight
	I.D. No.	Type	Quantity	Tons / Lbs
Petroleum Contaminated Soil, minor concrete	Dump	End dump	18 CY	

Additional Information Regarding Wastes Listed Above:

Top middle of cell 9

1. **Generators Certification: I hereby certify that the contents of this shipment are fully and accurately described above by type and proper name of the special waste, and that such waste has been managed, packaged, containerized, and labeled in accordance with the requirements of 20.9.8 NMAC and any other applicable federal, state, or local regulations.**

Printed Name:	Signature:	Date:
Bart Faris	Bart Faris	

2. **Haulers Certification: I hereby acknowledge receipt and delivery of the above described waste.**

Printed Name:	Signature:	Date:
Melissa Grossetete ENV969 Matt DeVolder		7/1/19

3. **Facility Certification: I hereby acknowledge receipt of the special waste as described on this manifest, except as noted under additional information above.**

Printed Name:	Signature:	Date:
Dantee Ewing		7/1/19

City of Albuquerque Solid Waste Management Department
Special Waste Manifest

Special Waste Manifest	Manifest No: 1938-021	Page 1 of 1
Generators Name: City of Albuquerque Environmental Health	**Generators Address:** One Civic Plaza #3023 Albuquerque, NM 87102	**Phone No + Email Address:** 505-768-2658 bfaris@cabq.gov
Origin of the Special Waste (project or spill location): Rail yard Cleanup – 771 1st Street SW, Albuquerque		
Haulers Company Name: Enviroworks LLC	**Haulers Address:** # 010199 5 Cinnamon Dr PO Box 340 Edgewood, NM 87015	**Phone No + Email Address:** 505-286-4891 accounting@enviroworks foryou.com
Destination of the Special Waste: Cerro Colorado Landfill	**Facility Address and NMED Permit No:** 18000 Cerro Colorado RD Albuquerque, NM87121 SWM-010221 (SP)	**Phone No + Email Address:** (505) 761-8324 ddaugherty@cabq.gov

Type of Special Waste Being Transported	Container			Weight
	I.D. No.	Type	Quantity	Tons / Lbs
Petroleum Contaminated Soil, minor concrete	Dump	End dump	18 CY	

Additional Information Regarding Wastes Listed Above:

Top middle of cell 9

1. **Generators Certification: I hereby certify that the contents of this shipment are fully and accurately described above by type and proper name of the special waste, and that such waste has been managed, packaged, containerized, and labeled in accordance with the requirements of 20.9.8 NMAC and any other applicable federal, state, or local regulations.**

Printed Name:	Signature:	Date:
Bart Faris	Bart Faris	

2. **Haulers Certification: I hereby acknowledge receipt and delivery of the above described waste.**

Printed Name:	Signature:	Date:
Melissa Grossetete		7-1-19

3. **Facility Certification: I hereby acknowledge receipt of the special waste as described on this manifest, except as noted under additional information above.**

Printed Name:	Signature:	Date:
Darrec Gunn		7/1/19

City of Albuquerque Solid Waste Management Department
Special Waste Manifest

Special Waste Manifest	Manifest No: 1938- 022	Page 1 of 1
Generators Name: City of Albuquerque Environmental Health	**Generators Address:** One Civic Plaza #3023 Albuquerque, NM 87102	**Phone No + Email Address:** 505-768-2658 bfaris@cabq.gov
Origin of the Special Waste (project or spill location): Rail yard Cleanup – 771 1st Street SW, Albuquerque		
Haulers Company Name: Enviroworks LLC	**Haulers Address: # 010199** 5 Cinnamon Dr PO Box 340 Edgewood, NM 87015	**Phone No + Email Address:** 505-286-4891 accounting@enviroworks foryou.com
Destination of the Special Waste: Cerro Colorado Landfill	**Facility Address and NMED Permit No:** 18000 Cerro Colorado RD Albuquerque, NM87121 SWM-010221 (SP)	**Phone No + Email Address:** (505) 761-8324 ddaugherty@cabq.gov

Type of Special Waste Being Transported	Container			Weight
	I.D. No.	Type	Quantity	Tons / Lbs
Petroleum Contaminated Soil, minor concrete	Dump	End dump	18 CY	

Additional Information Regarding Wastes Listed Above:
Top middle of cell 9

1. **Generators Certification: I hereby certify that the contents of this shipment are fully and accurately described above by type and proper name of the special waste, and that such waste has been managed, packaged, containerized, and labeled in accordance with the requirements of 20.9.8 NMAC and any other applicable federal, state, or local regulations.**

Printed Name:	Signature:	Date:
Bart Faris	Bart Faris	

2. **Haulers Certification: I hereby acknowledge receipt and delivery of the above described waste.**

Printed Name:	Signature:	Date:
Melissa Grossetete Franklin Patterson +7		7/1/19

3. **Facility Certification: I hereby acknowledge receipt of the special waste as described on this manifest, except as noted under additional information above.**

Printed Name:	Signature:	Date:
DeMee Ewing		7/1/19

City of Albuquerque Solid Waste Management Department
Special Waste Manifest

Special Waste Manifest	Manifest No: 1938-023	Page 1 of 1
Generators Name: City of Albuquerque Environmental Health	**Generators Address:** One Civic Plaza #3023 Albuquerque, NM 87102	**Phone No + Email Address:** 505-768-2658 bfaris@cabq.gov
Origin of the Special Waste (project or spill location): Rail yard Cleanup – 771 1st Street SW, Albuquerque		
Haulers Company Name: Enviroworks LLC	**Haulers Address:** # 010199 5 Cinnamon Dr PO Box 340 Edgewood, NM 87015	**Phone No + Email Address:** 505-286-4891 accounting@enviroworks foryou.com
Destination of the Special Waste: Cerro Colorado Landfill	**Facility Address and NMED Permit No:** 18000 Cerro Colorado RD Albuquerque, NM87121 SWM-010221 (SP)	**Phone No + Email Address:** (505) 761-8324 ddaugherty@cabq.gov

Type of Special Waste Being Transported	Container			Weight
	I.D. No.	Type	Quantity	Tons / Lbs
Petroleum Contaminated Soil, minor concrete	Dump	End dump	18 CY	

Additional Information Regarding Wastes Listed Above:

Top middle of cell 9

1. **Generators Certification: I hereby certify that the contents of this shipment are fully and accurately described above by type and proper name of the special waste, and that such waste has been managed, packaged, containerized, and labeled in accordance with the requirements of 20.9.8 NMAC and any other applicable federal, state, or local regulations.**

Printed Name:	Signature:	Date:
Bart Faris	Bart Faris	

2. **Haulers Certification: I hereby acknowledge receipt and delivery of the above described waste.**

Printed Name:	Signature:	Date:
Joaquin E Mendoza Melissa Grossetete		7/1/19

3. **Facility Certification: I hereby acknowledge receipt of the special waste as described on this manifest, except as noted under additional information above.**

Printed Name:	Signature:	Date:
Lashee Ewing		7/1/19

City of Albuquerque Solid Waste Management Department
Special Waste Manifest

Special Waste Manifest	Manifest No: 1938-024	Page 1 of 1
Generators Name: City of Albuquerque Environmental Health	**Generators Address:** One Civic Plaza #3023 Albuquerque, NM 87102	**Phone No + Email Address:** 505-768-2658 bfaris@cabq.gov
Origin of the Special Waste (project or spill location): Rail yard Cleanup – 771 1St Street SW, Albuquerque		
Haulers Company Name: Enviroworks LLC	**Haulers Address:** # 010199 5 Cinnamon Dr PO Box 340 Edgewood, NM 87015	**Phone No + Email Address:** 505-286-4891 accounting@enviroworks foryou.com
Destination of the Special Waste: Cerro Colorado Landfill	**Facility Address and NMED Permit No:** 18000 Cerro Colorado RD Albuquerque, NM87121 SWM-010221 (SP)	**Phone No + Email Address:** (505) 761-8324 ddaugherty@cabq.gov

Type of Special Waste Being Transported	Container			Weight
	I.D. No.	Type	Quantity	Tons / Lbs
Petroleum Contaminated Soil, minor concrete	Dump	End dump	18 CY	18.62

Additional Information Regarding Wastes Listed Above:

1. **Generators Certification: I hereby certify that the contents of this shipment are fully and accurately described above by type and proper name of the special waste, and that such waste has been managed, packaged, containerized, and labeled in accordance with the requirements of 20.9.8 NMAC and any other applicable federal, state, or local regulations.**

Printed Name:	Signature:	Date:
Bart Faris	Bart Faris	

2. **Haulers Certification: I hereby acknowledge receipt and delivery of the above described waste.**

Printed Name:	Signature:	Date:
Melissa Grossetete		7-2-19

3. **Facility Certification: I hereby acknowledge receipt of the special waste as described on this manifest, except as noted under additional information above.**

Printed Name:	Signature:	Date:
Boyd Archuleta	Boyd Archuleta	7/2/19

City of Albuquerque Solid Waste Management Department
Special Waste Manifest

Special Waste Manifest	Manifest No: 1938-025	Page 1 of 1
Generators Name: City of Albuquerque Environmental Health	**Generators Address:** One Civic Plaza #3023 Albuquerque, NM 87102	**Phone No + Email Address:** 505-768-2658 bfaris@cabq.gov
Origin of the Special Waste (project or spill location): Rail yard Cleanup – 771 1st Street SW, Albuquerque		
Haulers Company Name: Enviroworks LLC	**Haulers Address:** # 010199 5 Cinnamon Dr PO Box 340 Edgewood, NM 87015	**Phone No + Email Address:** 505-286-4891 accounting@enviroworks foryou.com
Destination of the Special Waste: Cerro Colorado Landfill	**Facility Address and NMED Permit No:** 18000 Cerro Colorado RD Albuquerque, NM87121 SWM-010221 (SP)	**Phone No + Email Address:** (505) 761-8324 ddaugherty@cabq.gov

Type of Special Waste Being Transported	Container			Weight
	I.D. No.	Type	Quantity	Tons / Lbs
Petroleum Contaminated Soil, minor concrete	Dump	End dump	18 CY	20.29

Additional Information Regarding Wastes Listed Above:

1. **Generators Certification: I hereby certify that the contents of this shipment are fully and accurately described above by type and proper name of the special waste, and that such waste has been managed, packaged, containerized, and labeled in accordance with the requirements of 20.9.8 NMAC and any other applicable federal, state, or local regulations.**

Printed Name:	Signature:	Date:
Bart Faris	Bart Faris	

2. **Haulers Certification: I hereby acknowledge receipt and delivery of the above described waste.**

Printed Name:	Signature:	Date:
Melissa Grossetete ENV969 Matt DeVolder		7/2/19

3. **Facility Certification: I hereby acknowledge receipt of the special waste as described on this manifest, except as noted under additional information above.**

Printed Name:	Signature:	Date:
Boyd Archuleta	Boyd Archuleta	7/2/19

City of Albuquerque Solid Waste Management Department
Special Waste Manifest

Special Waste Manifest	Manifest No: 1938- 026	Page 1 of 1
Generators Name: City of Albuquerque Environmental Health	**Generators Address:** One Civic Plaza #3023 Albuquerque, NM 87102	**Phone No + Email Address:** 505-768-2658 bfaris@cabq.gov
Origin of the Special Waste (project or spill location): Rail yard Cleanup – 771 1st Street SW, Albuquerque		
Haulers Company Name: Enviroworks LLC	**Haulers Address:** # 010199 5 Cinnamon Dr PO Box 340 Edgewood, NM 87015	**Phone No + Email Address:** 505-286-4891 accounting@enviroworks foryou.com
Destination of the Special Waste: Cerro Colorado Landfill	**Facility Address and NMED Permit No:** 18000 Cerro Colorado RD Albuquerque, NM87121 SWM-010221 (SP)	**Phone No + Email Address:** (505) 761-8324 ddaugherty@cabq.gov

Type of Special Waste Being Transported	Container			Weight
	I.D. No.	Type	Quantity	Tons / Lbs
Petroleum Contaminated Soil, minor concrete	Dump	End dump	18 CY	18.66

Additional Information Regarding Wastes Listed Above:

1. **Generators Certification: I hereby certify that the contents of this shipment are fully and accurately described above by type and proper name of the special waste, and that such waste has been managed, packaged, containerized, and labeled in accordance with the requirements of 20.9.8 NMAC and any other applicable federal, state, or local regulations.**

Printed Name:	Signature:	Date:
Bart Faris	Bart Faris	

2. **Haulers Certification: I hereby acknowledge receipt and delivery of the above described waste.**

Printed Name:	Signature:	Date:
Melissa Grossetete Franklin + Patterson		7/2/19

3. **Facility Certification: I hereby acknowledge receipt of the special waste as described on this manifest, except as noted under additional information above.**

Printed Name:	Signature:	Date:
Boyd Archuleta	Boyd Archuleta	7/2/19

City of Albuquerque Solid Waste Management Department
Special Waste Manifest

Special Waste Manifest	Manifest No: 1938- 027	Page 1 of 1
Generators Name: City of Albuquerque Environmental Health	**Generators Address:** One Civic Plaza #3023 Albuquerque, NM 87102	**Phone No + Email Address:** 505-768-2658 bfaris@cabq.gov
Origin of the Special Waste (project or spill location): Rail yard Cleanup – 771 1St Street SW, Albuquerque		
Haulers Company Name: Enviroworks LLC	**Haulers Address:** # 010199 5 Cinnamon Dr PO Box 340 Edgewood, NM 87015	**Phone No + Email Address:** 505-286-4891 accounting@enviroworks foryou.com
Destination of the Special Waste: Cerro Colorado Landfill	**Facility Address and NMED Permit No:** 18000 Cerro Colorado RD Albuquerque, NM87121 SWM-010221 (SP)	**Phone No + Email Address:** (505) 761-8324 ddaugherty@cabq.gov

Type of Special Waste Being Transported	Container			Weight
	I.D. No.	Type	Quantity	Tons / Lbs
Petroleum Contaminated Soil, minor concrete	Dump	End dump	18 CY	19.97

Additional Information Regarding Wastes Listed Above:

1. **Generators Certification: I hereby certify that the contents of this shipment are fully and accurately described above by type and proper name of the special waste, and that such waste has been managed, packaged, containerized, and labeled in accordance with the requirements of 20.9.8 NMAC and any other applicable federal, state, or local regulations.**

Printed Name: Bart Faris	Signature:	Date:

2. **Haulers Certification: I hereby acknowledge receipt and delivery of the above described waste.**

Printed Name: Melissa Grossetete	Signature: #860	Date: 7/2/19

3. **Facility Certification: I hereby acknowledge receipt of the special waste as described on this manifest, except as noted under additional information above.**

Printed Name: Sal Soto	Signature:	Date:

City of Albuquerque Solid Waste Management Department Special Waste Manifest

Date	Time	Manifest #	Truck #	Trucking Co.	Driver Name
7/2/19	7:25	028	T3	~~Enviroworks~~	~~[illegible]~~
7/2/19	7:26	029	T5	ENVIROWORKS	MARTIN GARCIA
7/2/19	8:55	030	ENV969	Enviroworks	Matt DeVolder
7/2/19	~~8:56~~	031	T7	enviroworks	Franklin Patterson
7/2/19	9:12	032	860	enviroworks	Jeff Salgado
7-2-19	9:22	033	T-9	E~	[illegible]
7/2/19	~~9:35~~	034	~~T3~~	E~	[illegible]
7/2/19	9:37	035	T-5	ENVIROWORKS	MARTIN GARCIA
7/2/19	10:36	036	T7	Enviroworks	Franklin Patterson
7/2/19	10:38	037	ENV969	Enviroworks	Matt DeVolder
7/2/19	10:45	038	ENV860	Enviroworks	Jeff Salgado
7-2-19	11:00	039	T-9	E~	[illegible]
7/2/19	11:10	040	T3	E~	[illegible]
7/2/19	11:12	041	T-5	ENVIROWORKS	MARTIN GARCIA
7/2/19	12:04	042	ENV969	Enviroworks	Matt DeVolder
7/2/19	12:10	043	T7	enviroworks	Franklin Patterson
7/2/19	1219	044	860	enviroworks	Jeff Salgado
7-2-19	12:30	045	T-9	E~	[illegible]
7/2/19	~~12:40~~	046	~~T3~~	E~	[illegible]
7/2/19	12:45	047	T-5	ENVIROWORKS	MARTIN GARCIA
7/2/19	1:30	048	ENV969	Enviroworks	Matt DeVolder
7/2/19	151	049	T7	enviroworks	Franklin Patterson
7/2/19	200	050	860	Enviroworks	Jeff Salgado
7/2/19	2:20	051	T-5	ENVIROWORKS	MARTIN GARCIA
7-2-19	2:30	052	T-9	E~	[illegible]
7/2/19	~~2:35~~	053	T3	E~	[illegible]
7/3/19	7:00	054	T-5	E~	MARTIN GARCIA

The landfill gave Joe Jims manifest but his weight

Cerro Colorado Landfill

City of Albuquerque Solid Waste Management Department
Special Waste Manifest

Special Waste Manifest	Manifest No: 1938- 028	Page 1 of 1
Generators Name: City of Albuquerque Environmental Health	**Generators Address:** One Civic Plaza #3023 Albuquerque, NM 87102	**Phone No + Email Address:** 505-768-2658 bfaris@cabq.gov
Origin of the Special Waste (project or spill location): Rail yard Cleanup – 771 1st Street SW, Albuquerque		
Haulers Company Name: Enviroworks LLC	**Haulers Address: # 010199** 5 Cinnamon Dr PO Box 340 Edgewood, NM 87015	**Phone No + Email Address:** 505-286-4891 accounting@enviroworks foryou.com
Destination of the Special Waste: Cerro Colorado Landfill	**Facility Address and NMED Permit No:** 18000 Cerro Colorado RD Albuquerque, NM87121 SWM-010221 (SP)	**Phone No + Email Address:** (505) 761-8324 ddaugherty@cabq.gov

Type of Special Waste Being Transported	Container			Weight
	I.D. No.	Type	Quantity	Tons / Lbs
Petroleum Contaminated Soil, minor concrete	Dump	End dump	18 CY	

Additional Information Regarding Wastes Listed Above:

1. **Generators Certification: I hereby certify that the contents of this shipment are fully and accurately described above by type and proper name of the special waste, and that such waste has been managed, packaged, containerized, and labeled in accordance with the requirements of 20.9.8 NMAC and any other applicable federal, state, or local regulations.**

Printed Name:	Signature:	Date:
Bart Faris	Bart Faris	7-2-19

2. **Haulers Certification: I hereby acknowledge receipt and delivery of the above described waste.**

Printed Name:	Signature:	Date:
Melissa Grossetete Jim R. Price	Jim R. Price TB	7/2/19

3. **Facility Certification: I hereby acknowledge receipt of the special waste as described on this manifest, except as noted under additional information above.**

Printed Name:	Signature:	Date:
Sotelo		7/2/19

City of Albuquerque Solid Waste Management Department
Special Waste Manifest

Special Waste Manifest	Manifest No: 1938-029	Page 1 of 1
Generators Name: City of Albuquerque Environmental Health	**Generators Address:** One Civic Plaza #3023 Albuquerque, NM 87102	**Phone No + Email Address:** 505-768-2658 bfaris@cabq.gov
Origin of the Special Waste (project or spill location): Rail yard Cleanup – 771 1st Street SW, Albuquerque		
Haulers Company Name: Enviroworks LLC	**Haulers Address:** # 010199 5 Cinnamon Dr PO Box 340 Edgewood, NM 87015	**Phone No + Email Address:** 505-286-4891 accounting@enviroworks foryou.com
Destination of the Special Waste: Cerro Colorado Landfill	**Facility Address and NMED Permit No:** 18000 Cerro Colorado RD Albuquerque, NM87121 SWM-010221 (SP)	**Phone No + Email Address:** (505) 761-8324 ddaugherty@cabq.gov

Type of Special Waste Being Transported	Container			Weight
	I.D. No.	Type	Quantity	Tons / Lbs
Petroleum Contaminated Soil, minor concrete	Dump	End dump	18 CY	

Additional Information Regarding Wastes Listed Above:

1. Generators Certification: I hereby certify that the contents of this shipment are fully and accurately described above by type and proper name of the special waste, and that such waste has been managed, packaged, containerized, and labeled in accordance with the requirements of 20.9.8 NMAC and any other applicable federal, state, or local regulations.

Printed Name: MARTIN GARCIA Bart Faris	Signature:	Date: 7-2-19

2. Haulers Certification: I hereby acknowledge receipt and delivery of the above described waste.

Printed Name: MARTIN GARCIA Melissa Grossetete	Signature:	Date: 7/2/19

3. Facility Certification: I hereby acknowledge receipt of the special waste as described on this manifest, except as noted under additional information above.

Printed Name: Soto C.	Signature:	Date: 7/2/19

City of Albuquerque Solid Waste Management Department
Special Waste Manifest

Special Waste Manifest	Manifest No: 1938- 030	Page 1 of 1
Generators Name: City of Albuquerque Environmental Health	**Generators Address:** One Civic Plaza #3023 Albuquerque, NM 87102	**Phone No + Email Address:** 505-768-2658 bfaris@cabq.gov
Origin of the Special Waste (project or spill location): Rail yard Cleanup – 771 1st Street SW, Albuquerque		
Haulers Company Name: Enviroworks LLC	**Haulers Address:** # 010199 5 Cinnamon Dr PO Box 340 Edgewood, NM 87015	**Phone No + Email Address:** 505-286-4891 accounting@enviroworks foryou.com
Destination of the Special Waste: Cerro Colorado Landfill	**Facility Address and NMED Permit No:** 18000 Cerro Colorado RD Albuquerque, NM87121 SWM-010221 (SP)	**Phone No + Email Address:** (505) 761-8324 ddaugherty@cabq.gov

Type of Special Waste Being Transported	Container			Weight
	I.D. No.	Type	Quantity	Tons / Lbs
Petroleum Contaminated Soil, minor concrete	Dump	End dump	18 CY	

Additional Information Regarding Wastes Listed Above:

1. **Generators Certification: I hereby certify that the contents of this shipment are fully and accurately described above by type and proper name of the special waste, and that such waste has been managed, packaged, containerized, and labeled in accordance with the requirements of 20.9.8 NMAC and any other applicable federal, state, or local regulations.**

Printed Name:	Signature:	Date:
Bart Faris	Bart Faris	7-2-19

2. **Haulers Certification: I hereby acknowledge receipt and delivery of the above described waste.**

Printed Name:	Signature:	Date:
Melissa Grossetete ENV969 Matt DeVolder		7/2/19

3. **Facility Certification: I hereby acknowledge receipt of the special waste as described on this manifest, except as noted under additional information above.**

Printed Name:	Signature:	Date:
Soto		7/2/19

City of Albuquerque Solid Waste Management Department
Special Waste Manifest

Special Waste Manifest	Manifest No: 1938- 031	Page 1 of 1
Generators Name: City of Albuquerque Environmental Health	**Generators Address:** One Civic Plaza #3023 Albuquerque, NM 87102	**Phone No + Email Address:** 505-768-2658 bfaris@cabq.gov
Origin of the Special Waste (project or spill location): Rail yard Cleanup – 771 1st Street SW, Albuquerque		
Haulers Company Name: Enviroworks LLC	**Haulers Address:** # 010199 5 Cinnamon Dr PO Box 340 Edgewood, NM 87015	**Phone No + Email Address:** 505-286-4891 accounting@enviroworks foryou.com
Destination of the Special Waste: Cerro Colorado Landfill	**Facility Address and NMED Permit No:** 18000 Cerro Colorado RD Albuquerque, NM87121 SWM-010221 (SP)	**Phone No + Email Address:** (505) 761-8324 ddaugherty@cabq.gov

Type of Special Waste Being Transported	Container			Weight
	I.D. No.	Type	Quantity	Tons / Lbs
Petroleum Contaminated Soil, minor concrete	Dump	End dump	18 CY	

Additional Information Regarding Wastes Listed Above:

1. Generators Certification: I hereby certify that the contents of this shipment are fully and accurately described above by type and proper name of the special waste, and that such waste has been managed, packaged, containerized, and labeled in accordance with the requirements of 20.9.8 NMAC and any other applicable federal, state, or local regulations.

Printed Name:	Signature:	Date:
Bart Faris	Bart Faris	7-2-19

2. Haulers Certification: I hereby acknowledge receipt and delivery of the above described waste.

Printed Name:	Signature:	Date:
Franklin +7 Melissa Grossetete Patterson		7/2/19

3. Facility Certification: I hereby acknowledge receipt of the special waste as described on this manifest, except as noted under additional information above.

Printed Name:	Signature:	Date:
Sotelo		7/2/19

City of Albuquerque Solid Waste Management Department
Special Waste Manifest

Special Waste Manifest	Manifest No: 1938- 032	Page 1 of 1
Generators Name: City of Albuquerque Environmental Health	**Generators Address:** One Civic Plaza #3023 Albuquerque, NM 87102	**Phone No + Email Address:** 505-768-2658 bfaris@cabq.gov
Origin of the Special Waste (project or spill location): Rail yard Cleanup – 771 1st Street SW, Albuquerque		
Haulers Company Name: Enviroworks LLC	**Haulers Address: # 010199** 5 Cinnamon Dr PO Box 340 Edgewood, NM 87015	**Phone No + Email Address:** 505-286-4891 accounting@enviroworks foryou.com
Destination of the Special Waste: Cerro Colorado Landfill	**Facility Address and NMED Permit No:** 18000 Cerro Colorado RD Albuquerque, NM87121 SWM-010221 (SP)	**Phone No + Email Address:** (505) 761-8324 ddaugherty@cabq.gov

Type of Special Waste Being Transported	Container			Weight
	I.D. No.	Type	Quantity	Tons / Lbs
Petroleum Contaminated Soil, minor concrete	Dump	End dump	18 CY	

Additional Information Regarding Wastes Listed Above:

1. **Generators Certification: I hereby certify that the contents of this shipment are fully and accurately described above by type and proper name of the special waste, and that such waste has been managed, packaged, containerized, and labeled in accordance with the requirements of 20.9.8 NMAC and any other applicable federal, state, or local regulations.**

Printed Name:	Signature:	Date:
Bart Faris		7-2-19

2. **Haulers Certification: I hereby acknowledge receipt and delivery of the above described waste.**

Printed Name:	Signature:	Date:
Melissa Grossetete Jeff Schwab	#860	7/2/19

3. **Facility Certification: I hereby acknowledge receipt of the special waste as described on this manifest, except as noted under additional information above.**

Printed Name:	Signature:	Date:
Sotelo		7/2/19

City of Albuquerque/Solid Waste Management Department
Special Waste Manifest

Special Waste Manifest	Manifest No: 1938- 033	Page 1 of 1
Generators Name: City of Albuquerque Environmental Health	**Generators Address:** One Civic Plaza #3023 Albuquerque, NM 87102	**Phone No + Email Address:** 505-768-2658 bfaris@cabq.gov
Origin of the Special Waste (project or spill location): Rail yard Cleanup – 771 1st Street SW, Albuquerque		
Haulers Company Name: Enviroworks LLC	**Haulers Address:** # 010199 5 Cinnamon Dr PO Box 340 Edgewood, NM 87015	**Phone No + Email Address:** 505-286-4891 accounting@enviroworksforyou.com
Destination of the Special Waste: Cerro Colorado Landfill	**Facility Address and NMED Permit No:** 18000 Cerro Colorado RD Albuquerque, NM87121 SWM-010221 (SP)	**Phone No + Email Address:** (505) 761-8324 ddaugherty@cabq.gov

Type of Special Waste Being Transported	Container			Weight
	I.D. No.	Type	Quantity	Tons / Lbs
Petroleum Contaminated Soil, minor concrete	Dump	End dump	18 CY	

Additional Information Regarding Wastes Listed Above:

1. **Generators Certification: I hereby certify that the contents of this shipment are fully and accurately described above by type and proper name of the special waste, and that such waste has been managed, packaged, containerized, and labeled in accordance with the requirements of 20.9.8 NMAC and any other applicable federal, state, or local regulations.**

Printed Name:	Signature:	Date:
Bart Faris	Bart Faris	7-2-19

2. **Haulers Certification: I hereby acknowledge receipt and delivery of the above described waste.**

Printed Name:	Signature:	Date:
Melissa Grossetete		7-2-19

3. **Facility Certification: I hereby acknowledge receipt of the special waste as described on this manifest, except as noted under additional information above.**

Printed Name:	Signature:	Date:
		7/3/19

City of Albuquerque Solid Waste Management Department
Special Waste Manifest

Special Waste Manifest	Manifest No: 1938- 034	Page 1 of 1
Generators Name: City of Albuquerque Environmental Health	**Generators Address:** One Civic Plaza #3023 Albuquerque, NM 87102	**Phone No + Email Address:** 505-768-2658 bfaris@cabq.gov
Origin of the Special Waste (project or spill location): Rail yard Cleanup – 771 1St Street SW, Albuquerque		
Haulers Company Name: Enviroworks LLC	**Haulers Address: # 010199** 5 Cinnamon Dr PO Box 340 Edgewood, NM 87015	**Phone No + Email Address:** 505-286-4891 accounting@enviroworks foryou.com
Destination of the Special Waste: Cerro Colorado Landfill	**Facility Address and NMED Permit No:** 18000 Cerro Colorado RD Albuquerque, NM87121 SWM-010221 (SP)	**Phone No + Email Address:** (505) 761-8324 ddaugherty@cabq.gov

Type of Special Waste Being Transported	Container			Weight
	I.D. No.	Type	Quantity	Tons / Lbs
Petroleum Contaminated Soil, minor concrete	Dump	End dump	18 CY	22.32

Additional Information Regarding Wastes Listed Above:

1. Generators Certification: I hereby certify that the contents of this shipment are fully and accurately described above by type and proper name of the special waste, and that such waste has been managed, packaged, containerized, and labeled in accordance with the requirements of 20.9.8 NMAC and any other applicable federal, state, or local regulations.

Printed Name:	Signature:	Date:
Bart Faris	Bart Faris	

2. Haulers Certification: I hereby acknowledge receipt and delivery of the above described waste.

Printed Name:	Signature:	Date:
Melissa Grossetete		3/2/19

3. Facility Certification: I hereby acknowledge receipt of the special waste as described on this manifest, except as noted under additional information above.

Printed Name:	Signature:	Date:
		3/2/19

City of Albuquerque Solid Waste Management Department
Special Waste Manifest

Special Waste Manifest	Manifest No: 1938- 035	Page 1 of 1
Generators Name: City of Albuquerque Environmental Health	**Generators Address:** One Civic Plaza #3023 Albuquerque, NM 87102	**Phone No + Email Address:** 505-768-2658 bfaris@cabq.gov
Origin of the Special Waste (project or spill location): Rail yard Cleanup – 771 1st Street SW, Albuquerque		
Haulers Company Name: Enviroworks LLC	**Haulers Address:** # 010199 5 Cinnamon Dr PO Box 340 Edgewood, NM 87015	**Phone No + Email Address:** 505-286-4891 accounting@enviroworks foryou.com
Destination of the Special Waste: Cerro Colorado Landfill	**Facility Address and NMED Permit No:** 18000 Cerro Colorado RD Albuquerque, NM87121 SWM-010221 (SP)	**Phone No + Email Address:** (505) 761-8324 ddaugherty@cabq.gov

Type of Special Waste Being Transported	Container			Weight
	I.D. No.	Type	Quantity	Tons / Lbs
Petroleum Contaminated Soil, minor concrete	Dump	End dump	18 CY	23.14

Additional Information Regarding Wastes Listed Above:

1. **Generators Certification: I hereby certify that the contents of this shipment are fully and accurately described above by type and proper name of the special waste, and that such waste has been managed, packaged, containerized, and labeled in accordance with the requirements of 20.9.8 NMAC and any other applicable federal, state, or local regulations.**

Printed Name: Bart Faris	Signature: Bart Faris	Date: 7/2/19

2. **Haulers Certification: I hereby acknowledge receipt and delivery of the above described waste.**

Printed Name: MARTIN GARCIA Melissa Grossetete	Signature: Martin Garcia	Date: 7/2/19

3. **Facility Certification: I hereby acknowledge receipt of the special waste as described on this manifest, except as noted under additional information above.**

Printed Name: Soto	Signature:	Date: 7/2/19

City of Albuquerque Solid Waste Management Department
Special Waste Manifest

Special Waste Manifest	Manifest No: 1938- 020	Page 1 of 1
Generators Name: City of Albuquerque Environmental Health	**Generators Address:** One Civic Plaza #3023 Albuquerque, NM 87102	**Phone No + Email Address:** 505-768-2658 bfaris@cabq.gov
Origin of the Special Waste (project or spill location): Rail yard Cleanup – 771 1st Street SW, Albuquerque		
Haulers Company Name: Enviroworks LLC	**Haulers Address:** # 010199 5 Cinnamon Dr PO Box 340 Edgewood, NM 87015	**Phone No + Email Address:** 505-286-4891 accounting@enviroworks foryou.com
Destination of the Special Waste: Cerro Colorado Landfill	**Facility Address and NMED Permit No:** 18000 Cerro Colorado RD Albuquerque, NM87121 SWM-010221 (SP)	**Phone No + Email Address:** (505) 761-8324 ddaugherty@cabq.gov

Type of Special Waste Being Transported	Container			Weight
	I.D. No.	Type	Quantity	Tons / Lbs
Petroleum Contaminated Soil, minor concrete	Dump	End dump	18 CY	

Additional Information Regarding Wastes Listed Above:

To Cell 9 middle

1. **Generators Certification: I hereby certify that the contents of this shipment are fully and accurately described above by type and proper name of the special waste, and that such waste has been managed, packaged, containerized, and labeled in accordance with the requirements of 20.9.8 NMAC and any other applicable federal, state, or local regulations.**

Printed Name: Bart Faris	Signature: Bart Faris	Date: 7/2/19

2. **Haulers Certification: I hereby acknowledge receipt and delivery of the above described waste.**

Printed Name: Franklin Patterson +7 Melissa Grossetete	Signature:	Date: 7/2/19

3. **Facility Certification: I hereby acknowledge receipt of the special waste as described on this manifest, except as noted under additional information above.**

Printed Name: Alex Arrutia	Signature:	Date: 7/2/19

City of Albuquerque Solid Waste Management Department
Special Waste Manifest

Special Waste Manifest	Manifest No: 1938- 037	Page 1 of 1
Generators Name: City of Albuquerque Environmental Health	**Generators Address:** One Civic Plaza #3023 Albuquerque, NM 87102	**Phone No + Email Address:** 505-768-2658 bfaris@cabq.gov
Origin of the Special Waste (project or spill location): Rail yard Cleanup – 771 1st Street SW, Albuquerque		
Haulers Company Name: Enviroworks LLC	**Haulers Address:** # 010199 5 Cinnamon Dr PO Box 340 Edgewood, NM 87015	**Phone No + Email Address:** 505-286-4891 accounting@enviroworks foryou.com
Destination of the Special Waste: Cerro Colorado Landfill	**Facility Address and NMED Permit No:** 18000 Cerro Colorado RD Albuquerque, NM87121 SWM-010221 (SP)	**Phone No + Email Address:** (505) 761-8324 ddaugherty@cabq.gov

Type of Special Waste Being Transported	Container			Weight
	I.D. No.	Type	Quantity	Tons / Lbs
Petroleum Contaminated Soil, minor concrete	Dump	End dump	18 CY	

Additional Information Regarding Wastes Listed Above:

Top Cull @ 9 m. adds

1. **Generators Certification: I hereby certify that the contents of this shipment are fully and accurately described above by type and proper name of the special waste, and that such waste has been managed, packaged, containerized, and labeled in accordance with the requirements of 20.9.8 NMAC and any other applicable federal, state, or local regulations.**

Printed Name:	Signature:	Date:
Bart Faris	Bart Faris	7/2/19

2. **Haulers Certification: I hereby acknowledge receipt and delivery of the above described waste.**

Printed Name:	Signature:	Date:
Melissa Grossetete ENV969 Matt DeVolder		7/2/19

3. **Facility Certification: I hereby acknowledge receipt of the special waste as described on this manifest, except as noted under additional information above.**

Printed Name:	Signature:	Date:
Alma Loretta		7/2/19

City of Albuquerque Solid Waste Management Department
Special Waste Manifest

Special Waste Manifest	Manifest No: 1938- 038	Page 1 of 1
Generators Name: City of Albuquerque Environmental Health	**Generators Address:** One Civic Plaza #3023 Albuquerque, NM 87102	**Phone No + Email Address:** 505-768-2658 bfaris@cabq.gov
Origin of the Special Waste (project or spill location): Rail yard Cleanup – 771 1St Street SW, Albuquerque		
Haulers Company Name: Enviroworks LLC	**Haulers Address:** # 010199 5 Cinnamon Dr PO Box 340 Edgewood, NM 87015	**Phone No + Email Address:** 505-286-4891 accounting@enviroworks foryou.com
Destination of the Special Waste: Cerro Colorado Landfill	**Facility Address and NMED Permit No:** 18000 Cerro Colorado RD Albuquerque, NM87121 SWM-010221 (SP)	**Phone No + Email Address:** (505) 761-8324 ddaugherty@cabq.gov

Type of Special Waste Being Transported	Container			Weight
	I.D. No.	Type	Quantity	Tons / Lbs
Petroleum Contaminated Soil, minor concrete	Dump	End dump	18 CY	

Additional Information Regarding Wastes Listed Above:

Top middle of Cell 9

1. **Generators Certification: I hereby certify that the contents of this shipment are fully and accurately described above by type and proper name of the special waste, and that such waste has been managed, packaged, containerized, and labeled in accordance with the requirements of 20.9.8 NMAC and any other applicable federal, state, or local regulations.**

Printed Name:	Signature:	Date:
Bart Faris	Bart Faris	

2. **Haulers Certification: I hereby acknowledge receipt and delivery of the above described waste.**

Printed Name:	Signature:	Date:
Melissa Grossetete Jeff Schlegel	#860	7/2/19

3. **Facility Certification: I hereby acknowledge receipt of the special waste as described on this manifest, except as noted under additional information above.**

Printed Name:	Signature:	Date:
Dantee Ewing		7/2/19

City of Albuquerque Solid Waste Management Department
Special Waste Manifest

Special Waste Manifest	Manifest No: 1938- 039	Page 1 of 1
Generators Name: City of Albuquerque Environmental Health	**Generators Address:** One Civic Plaza #3023 Albuquerque, NM 87102	**Phone No + Email Address:** 505-768-2658 bfaris@cabq.gov
Origin of the Special Waste (project or spill location): Rail yard Cleanup – 771 1st Street SW, Albuquerque		
Haulers Company Name: Enviroworks LLC	**Haulers Address: # 010199** 5 Cinnamon Dr PO Box 340 Edgewood, NM 87015	**Phone No + Email Address:** 505-286-4891 accounting@enviroworks foryou.com
Destination of the Special Waste: Cerro Colorado Landfill	**Facility Address and NMED Permit No:** 18000 Cerro Colorado RD Albuquerque, NM87121 SWM-010221 (SP)	**Phone No + Email Address:** (505) 761-8324 ddaugherty@cabq.gov

Type of Special Waste Being Transported	Container			Weight
	I.D. No.	Type	Quantity	Tons / Lbs
Petroleum Contaminated Soil, minor concrete	Dump	End dump	18 CY	

Additional Information Regarding Wastes Listed Above:

Top cell 9 middle.

1. Generators Certification: I hereby certify that the contents of this shipment are fully and accurately described above by type and proper name of the special waste, and that such waste has been managed, packaged, containerized, and labeled in accordance with the requirements of 20.9.8 NMAC and any other applicable federal, state, or local regulations.

Printed Name:	Signature:	Date:
Bart Faris	Bart Faris	

2. Haulers Certification: I hereby acknowledge receipt and delivery of the above described waste.

Printed Name:	Signature:	Date:
Melissa Grossetete		7-2-19

3. Facility Certification: I hereby acknowledge receipt of the special waste as described on this manifest, except as noted under additional information above.

Printed Name:	Signature:	Date:
Alex Lucero	Alex Lucero	7-2-19

City of Albuquerque Solid Waste Management Department
Special Waste Manifest

Special Waste Manifest	Manifest No: 1938- 040	Page 1 of 1
Generators Name: City of Albuquerque Environmental Health	**Generators Address:** One Civic Plaza #3023 Albuquerque, NM 87102	**Phone No + Email Address:** 505-768-2658 bfaris@cabq.gov
Origin of the Special Waste (project or spill location): Rail yard Cleanup – 771 1st Street SW, Albuquerque		
Haulers Company Name: Enviroworks LLC	**Haulers Address:** # 010199 5 Cinnamon Dr PO Box 340 Edgewood, NM 87015	**Phone No + Email Address:** 505-286-4891 accounting@enviroworks foryou.com
Destination of the Special Waste: Cerro Colorado Landfill	**Facility Address and NMED Permit No:** 18000 Cerro Colorado RD Albuquerque, NM87121 SWM-010221 (SP)	**Phone No + Email Address:** (505) 761-8324 ddaugherty@cabq.gov

Type of Special Waste Being Transported	Container			Weight
	I.D. No.	Type	Quantity	Tons / Lbs
Petroleum Contaminated Soil, minor concrete	Dump	End dump	18 CY	1993

Additional Information Regarding Wastes Listed Above:

Top cell & middle.

1. Generators Certification: I hereby certify that the contents of this shipment are fully and accurately described above by type and proper name of the special waste, and that such waste has been managed, packaged, containerized, and labeled in accordance with the requirements of 20.9.8 NMAC and any other applicable federal, state, or local regulations.

Printed Name:	Signature:	Date:
Bart Faris	Bart Faris	7/2/19

2. Haulers Certification: I hereby acknowledge receipt and delivery of the above described waste.

Printed Name:	Signature:	Date:
Melissa Grossetete Tim Baker	Tim Baker TB	7/2/19

3. Facility Certification: I hereby acknowledge receipt of the special waste as described on this manifest, except as noted under additional information above.

Printed Name:	Signature:	Date:
Alex Gerding		7/2/19

City of Albuquerque Solid Waste Management Department
Special Waste Manifest

Special Waste Manifest	Manifest No: 1938- 041	Page 1 of 1
Generators Name: City of Albuquerque Environmental Health	**Generators Address:** One Civic Plaza #3023 Albuquerque, NM 87102	**Phone No + Email Address:** 505-768-2658 bfaris@cabq.gov
Origin of the Special Waste (project or spill location): Rail yard Cleanup -- 771 1st Street SW, Albuquerque		
Haulers Company Name: Enviroworks LLC	**Haulers Address:** # 010199 5 Cinnamon Dr PO Box 340 Edgewood, NM 87015	**Phone No + Email Address:** 505-286-4891 accounting@enviroworks foryou.com
Destination of the Special Waste: Cerro Colorado Landfill	**Facility Address and NMED Permit No:** 18000 Cerro Colorado RD Albuquerque, NM87121 SWM-010221 (SP)	**Phone No + Email Address:** (505) 761-8324 ddaugherty@cabq.gov

Type of Special Waste Being Transported	Container			Weight
	I.D. No.	Type	Quantity	Tons / Lbs
Petroleum Contaminated Soil, minor concrete	Dump	End dump	18 CY	20.72

Additional Information Regarding Wastes Listed Above:

Top Middle of Cell 7

1. **Generators Certification: I hereby certify that the contents of this shipment are fully and accurately described above by type and proper name of the special waste, and that such waste has been managed, packaged, containerized, and labeled in accordance with the requirements of 20.9.8 NMAC and any other applicable federal, state, or local regulations.**

Printed Name:	Signature:	Date:
Bart Faris	Bart Faris	7/2/19

2. **Haulers Certification: I hereby acknowledge receipt and delivery of the above described waste.**

Printed Name:	Signature:	Date:
Melissa Grossetete MARTIN CARCIA	Martin Garcia	7/2/19

3. **Facility Certification: I hereby acknowledge receipt of the special waste as described on this manifest, except as noted under additional information above.**

Printed Name:	Signature:	Date:
Denise Ewing		7/2/19

City of Albuquerque Solid Waste Management Department
Special Waste Manifest

Special Waste Manifest	Manifest No: 1938- 042	Page 1 of 1
Generators Name: City of Albuquerque Environmental Health	Generators Address: One Civic Plaza #3023 Albuquerque, NM 87102	Phone No + Email Address: 505-768-2658 bfaris@cabq.gov
Origin of the Special Waste (project or spill location): Rail yard Cleanup – 771 1st Street SW, Albuquerque		
Haulers Company Name: Enviroworks LLC	Haulers Address: # 010199 5 Cinnamon Dr PO Box 340 Edgewood, NM 87015	Phone No + Email Address: 505-286-4891 accounting@enviroworksforyou.com
Destination of the Special Waste: Cerro Colorado Landfill	Facility Address and NMED Permit No: 18000 Cerro Colorado RD Albuquerque, NM87121 SWM-010221 (SP)	Phone No + Email Address: (505) 761-8324 ddaugherty@cabq.gov

Type of Special Waste Being Transported	Container			Weight
	I.D. No.	Type	Quantity	Tons / Lbs
Petroleum Contaminated Soil, minor concrete	Dump	End dump	18 CY	20.86

Additional Information Regarding Wastes Listed Above:

Top Cell 9 South Side

1. **Generators Certification: I hereby certify that the contents of this shipment are fully and accurately described above by type and proper name of the special waste, and that such waste has been managed, packaged, containerized, and labeled in accordance with the requirements of 20.9.8 NMAC and any other applicable federal, state, or local regulations.**

Printed Name:	Signature:	Date:
Bart Faris	Bart Faris	7/2/19

2. **Haulers Certification: I hereby acknowledge receipt and delivery of the above described waste.**

Printed Name:	Signature:	Date:
ENV969 Melissa Grossetete Matt DeVolder		7/2/19

3. **Facility Certification: I hereby acknowledge receipt of the special waste as described on this manifest, except as noted under additional information above.**

Printed Name:	Signature:	Date:
Alexandria	Alexandria	7/2/19

City of Albuquerque Solid Waste Management Department
Special Waste Manifest

Special Waste Manifest	Manifest No: 1938- 043	Page 1 of 1
Generators Name: City of Albuquerque Environmental Health	**Generators Address:** One Civic Plaza #3023 Albuquerque, NM 87102	**Phone No + Email Address:** 505-768-2658 bfaris@cabq.gov
Origin of the Special Waste (project or spill location): Rail yard Cleanup – 771 1st Street SW, Albuquerque		
Haulers Company Name: Enviroworks LLC	**Haulers Address:** # 010199 5 Cinnamon Dr PO Box 340 Edgewood, NM 87015	**Phone No + Email Address:** 505-286-4891 accounting@enviroworksforyou.com
Destination of the Special Waste: Cerro Colorado Landfill	**Facility Address and NMED Permit No:** 18000 Cerro Colorado RD Albuquerque, NM87121 SWM-010221 (SP)	**Phone No + Email Address:** (505) 761-8324 ddaugherty@cabq.gov

Type of Special Waste Being Transported	Container			Weight
	I.D. No.	Type	Quantity	Tons / Lbs
Petroleum Contaminated Soil, minor concrete	Dump	End dump	18 CY	

Additional Information Regarding Wastes Listed Above:

Top Cell 9

1. Generators Certification: I hereby certify that the contents of this shipment are fully and accurately described above by type and proper name of the special waste, and that such waste has been managed, packaged, containerized, and labeled in accordance with the requirements of 20.9.8 NMAC and any other applicable federal, state, or local regulations.

Printed Name:	Signature:	Date:
Bart Faris	Bart Faris	

2. Haulers Certification: I hereby acknowledge receipt and delivery of the above described waste.

Printed Name:	Signature:	Date:
Franklin T T Melissa Grossetete Patterson		7/2/19

3. Facility Certification: I hereby acknowledge receipt of the special waste as described on this manifest, except as noted under additional information above.

Printed Name:	Signature:	Date:
DeAnn Ewing		7/2/19

City of Albuquerque Solid Waste Management Department
Special Waste Manifest

Special Waste Manifest	Manifest No: 1938- 044	Page 1 of 1
Generators Name: City of Albuquerque Environmental Health	**Generators Address:** One Civic Plaza #3023 Albuquerque, NM 87102	**Phone No + Email Address:** 505-768-2658 bfaris@cabq.gov
Origin of the Special Waste (project or spill location): Rail yard Cleanup – 771 1st Street SW, Albuquerque		
Haulers Company Name: Enviroworks LLC	**Haulers Address:** # 010199 5 Cinnamon Dr PO Box 340 Edgewood, NM 87015	**Phone No + Email Address:** 505-286-4891 accounting@enviroworks foryou.com
Destination of the Special Waste: Cerro Colorado Landfill	**Facility Address and NMED Permit No:** 18000 Cerro Colorado RD Albuquerque, NM87121 SWM-010221 (SP)	**Phone No + Email Address:** (505) 761-8324 ddaugherty@cabq.gov

Type of Special Waste Being Transported	Container			Weight
	I.D. No.	Type	Quantity	Tons / Lbs
Petroleum Contaminated Soil, minor concrete	Dump	End dump	18 CY	

Additional Information Regarding Wastes Listed Above:

Top middle of cell 9

1. **Generators Certification: I hereby certify that the contents of this shipment are fully and accurately described above by type and proper name of the special waste, and that such waste has been managed, packaged, containerized, and labeled in accordance with the requirements of 20.9.8 NMAC and any other applicable federal, state, or local regulations.**

Printed Name:	Signature:	Date:
Bart Faris	Bart Faris	

2. **Haulers Certification: I hereby acknowledge receipt and delivery of the above described waste.**

Printed Name:	Signature:	Date:
Melissa Grossetete Last Solgate	[illegible] #860	7/2/19

3. **Facility Certification: I hereby acknowledge receipt of the special waste as described on this manifest, except as noted under additional information above.**

Printed Name:	Signature:	Date:
Dontee Ewing	[illegible]	7/2/19

City of Albuquerque Solid Waste Management Department
Special Waste Manifest

Special Waste Manifest	Manifest No: 1938- 045	Page 1 of 1
Generators Name: City of Albuquerque Environmental Health	**Generators Address:** One Civic Plaza #3023 Albuquerque, NM 87102	**Phone No + Email Address:** 505-768-2658 bfaris@cabq.gov
Origin of the Special Waste (project or spill location): Rail yard Cleanup – 771 1St Street SW, Albuquerque		
Haulers Company Name: Enviroworks LLC	**Haulers Address: # 010199** 5 Cinnamon Dr PO Box 340 Edgewood, NM 87015	**Phone No + Email Address:** 505-286-4891 accounting@enviroworks foryou.com
Destination of the Special Waste: Cerro Colorado Landfill	**Facility Address and NMED Permit No:** 18000 Cerro Colorado RD Albuquerque, NM87121 SWM-010221 (SP)	**Phone No + Email Address:** (505) 761-8324 ddaugherty@cabq.gov

Type of Special Waste Being Transported	Container			Weight
	I.D. No.	Type	Quantity	Tons / Lbs
Petroleum Contaminated Soil, minor concrete	Dump	End dump	18 CY	

Additional Information Regarding Wastes Listed Above:

Cell 9 Top South side

1. **Generators Certification: I hereby certify that the contents of this shipment are fully and accurately described above by type and proper name of the special waste, and that such waste has been managed, packaged, containerized, and labeled in accordance with the requirements of 20.9.8 NMAC and any other applicable federal, state, or local regulations.**

Printed Name:	Signature:	Date:
Bart Faris	Bart Faris	

2. **Haulers Certification: I hereby acknowledge receipt and delivery of the above described waste.**

Printed Name:	Signature:	Date:
Melissa Grossetete		2-2-19

3. **Facility Certification: I hereby acknowledge receipt of the special waste as described on this manifest, except as noted under additional information above.**

Printed Name:	Signature:	Date:
Alex Armijo		2-2-19

City of Albuquerque Solid Waste Management Department
Special Waste Manifest

Special Waste Manifest	Manifest No: 1938- 040	Page 1 of 1
Generators Name: City of Albuquerque Environmental Health	**Generators Address:** One Civic Plaza #3023 Albuquerque, NM 87102	**Phone No + Email Address:** 505-768-2658 bfaris@cabq.gov
Origin of the Special Waste (project or spill location): Rail yard Cleanup – 771 1st Street SW, Albuquerque		
Haulers Company Name: Enviroworks LLC	**Haulers Address:** # 010199 5 Cinnamon Dr PO Box 340 Edgewood, NM 87015	**Phone No + Email Address:** 505-286-4891 accounting@enviroworks foryou.com
Destination of the Special Waste: Cerro Colorado Landfill	**Facility Address and NMED Permit No:** 18000 Cerro Colorado RD Albuquerque, NM87121 SWM-010221 (SP)	**Phone No + Email Address:** (505) 761-8324 ddaugherty@cabq.gov

Type of Special Waste Being Transported	Container			Weight
	I.D. No.	Type	Quantity	Tons / Lbs
Petroleum Contaminated Soil, minor concrete	Dump	End dump	18 CY	

Additional Information Regarding Wastes Listed Above:

Top Middle of Cell 9

1. **Generators Certification: I hereby certify that the contents of this shipment are fully and accurately described above by type and proper name of the special waste, and that such waste has been managed, packaged, containerized, and labeled in accordance with the requirements of 20.9.8 NMAC and any other applicable federal, state, or local regulations.**

Printed Name:	Signature:	Date:
Bart Faris	Bart Faris	

2. **Haulers Certification: I hereby acknowledge receipt and delivery of the above described waste.**

Printed Name:	Signature:	Date:
Melissa Grossetete	TB	7/2/19

3. **Facility Certification: I hereby acknowledge receipt of the special waste as described on this manifest, except as noted under additional information above.**

Printed Name:	Signature:	Date:
DeDee Ewing		7/2/19

City of Albuquerque Solid Waste Management Department
Special Waste Manifest

Special Waste Manifest	Manifest No: 1938- 047	Page 1 of 1
Generators Name: City of Albuquerque Environmental Health	**Generators Address:** One Civic Plaza #3023 Albuquerque, NM 87102	**Phone No + Email Address:** 505-768-2658 bfaris@cabq.gov
Origin of the Special Waste (project or spill location): Rail yard Cleanup – 771 1st Street SW, Albuquerque		
Haulers Company Name: Enviroworks LLC	**Haulers Address: # 010199** 5 Cinnamon Dr PO Box 340 Edgewood, NM 87015	**Phone No + Email Address:** 505-286-4891 accounting@enviroworks foryou.com
Destination of the Special Waste: Cerro Colorado Landfill	**Facility Address and NMED Permit No:** 18000 Cerro Colorado RD Albuquerque, NM87121 SWM-010221 (SP)	**Phone No + Email Address:** (505) 761-8324 ddaugherty@cabq.gov

Type of Special Waste Being Transported	Container			Weight
	I.D. No.	Type	Quantity	Tons / Lbs
Petroleum Contaminated Soil, minor concrete	Dump	End dump	18 CY	21.78

Additional Information Regarding Wastes Listed Above:

Top Cell 9 South end

1. **Generators Certification: I hereby certify that the contents of this shipment are fully and accurately described above by type and proper name of the special waste, and that such waste has been managed, packaged, containerized, and labeled in accordance with the requirements of 20.9.8 NMAC and any other applicable federal, state, or local regulations.**

Printed Name:	Signature:	Date:
Bart Faris	Bart Faris	7/2/19

2. **Haulers Certification: I hereby acknowledge receipt and delivery of the above described waste.**

Printed Name:	Signature:	Date:
MARTINGARCIA Melissa Grossetete	Martin Garcia	7/2/19

3. **Facility Certification: I hereby acknowledge receipt of the special waste as described on this manifest, except as noted under additional information above.**

Printed Name:	Signature:	Date:
		7/2/19

City of Albuquerque Solid Waste Management Department
Special Waste Manifest

Special Waste Manifest	Manifest No: 1938- 048	Page 1 of 1
Generators Name: City of Albuquerque Environmental Health	**Generators Address:** One Civic Plaza #3023 Albuquerque, NM 87102	**Phone No + Email Address:** 505-768-2658 bfaris@cabq.gov

Origin of the Special Waste (project or spill location):

Rail yard Cleanup – 771 1st Street SW, Albuquerque

Haulers Company Name:	Haulers Address: # 010199	Phone No + Email Address:
Enviroworks LLC ENV969	5 Cinnamon Dr PO Box 340 Edgewood, NM 87015	505-286-4891 accounting@enviroworksforyou.com
Destination of the Special Waste: Cerro Colorado Landfill Cell 9 Top	**Facility Address and NMED Permit No:** 18000 Cerro Colorado RD Albuquerque, NM87121 SWM-010221 (SP)	**Phone No + Email Address:** (505) 761-8324 ddaugherty@cabq.gov

Type of Special Waste Being Transported	Container			Weight
	I.D. No.	Type	Quantity	Tons / Lbs
Petroleum Contaminated Soil, minor concrete	Dump	End dump	18 CY	

Additional Information Regarding Wastes Listed Above:

1. **Generators Certification: I hereby certify that the contents of this shipment are fully and accurately described above by type and proper name of the special waste, and that such waste has been managed, packaged, containerized, and labeled in accordance with the requirements of 20.9.8 NMAC and any other applicable federal, state, or local regulations.**

Printed Name:	Signature:	Date:
Bart Faris	Bart Faris	7/2/19

2. **Haulers Certification: I hereby acknowledge receipt and delivery of the above described waste.**

Printed Name:	Signature:	Date:
Melissa Grossetete Matt DeVolder		7/2/19

3. **Facility Certification: I hereby acknowledge receipt of the special waste as described on this manifest, except as noted under additional information above.**

Printed Name:	Signature:	Date:
Chris Zamora	Chris Zamora	7-2-19

City of Albuquerque Solid Waste Management Department
Special Waste Manifest

Special Waste Manifest	Manifest No: 1938- 049	Page 1 of 1
Generators Name: City of Albuquerque Environmental Health	**Generators Address:** One Civic Plaza #3023 Albuquerque, NM 87102	**Phone No + Email Address:** 505-768-2658 bfaris@cabq.gov
Origin of the Special Waste (project or spill location): Rail yard Cleanup – 771 1st Street SW, Albuquerque		
Haulers Company Name: Enviroworks LLC	**Haulers Address:** # 010199 5 Cinnamon Dr PO Box 340 Edgewood, NM 87015	**Phone No + Email Address:** 505-286-4891 accounting@enviroworks foryou.com
Destination of the Special Waste: Cerro Colorado Landfill Cell 9 Top	**Facility Address and NMED Permit No:** 18000 Cerro Colorado RD Albuquerque, NM87121 SWM-010221 (SP)	**Phone No + Email Address:** (505) 761-8324 ddaugherty@cabq.gov

Type of Special Waste Being Transported	Container			Weight
	I.D. No.	Type	Quantity	Tons / Lbs
Petroleum Contaminated Soil, minor concrete	Dump	End dump	18 CY	

Additional Information Regarding Wastes Listed Above:

1. **Generators Certification: I hereby certify that the contents of this shipment are fully and accurately described above by type and proper name of the special waste, and that such waste has been managed, packaged, containerized, and labeled in accordance with the requirements of 20.9.8 NMAC and any other applicable federal, state, or local regulations.**

Printed Name:	Signature:	Date:
Bart Faris	Bart Faris	7-2-19

2. **Haulers Certification: I hereby acknowledge receipt and delivery of the above described waste.**

Printed Name:	Signature:	Date:
Franklin +7 Jefferson Melissa Grossetete		7/2/19

3. **Facility Certification: I hereby acknowledge receipt of the special waste as described on this manifest, except as noted under additional information above.**

Printed Name:	Signature:	Date:
Chris Zamora	Chris Zamora	7-2-19

City of Albuquerque Solid Waste Management Department
Special Waste Manifest

Special Waste Manifest	Manifest No: 1938- 050	Page 1 of 1
Generators Name: City of Albuquerque Environmental Health	**Generators Address:** One Civic Plaza #3023 Albuquerque, NM 87102	**Phone No + Email Address:** 505-768-2658 bfaris@cabq.gov

Origin of the Special Waste (project or spill location):

Rail yard Cleanup – 771 1st Street SW, Albuquerque

Haulers Company Name:	Haulers Address: # 010199	Phone No + Email Address:
Enviroworks LLC	5 Cinnamon Dr PO Box 340 Edgewood, NM 87015	505-286-4891 accounting@enviroworks foryou.com
Destination of the Special Waste: Cerro Colorado Landfill Cell 9 Top	**Facility Address and NMED Permit No:** 18000 Cerro Colorado RD Albuquerque, NM87121 SWM-010221 (SP)	**Phone No + Email Address:** (505) 761-8324 ddaugherty@cabq.gov

Type of Special Waste Being Transported	Container			Weight
	I.D. No.	Type	Quantity	Tons / Lbs
Petroleum Contaminated Soil, minor concrete	Dump	End dump	18 CY	

Additional Information Regarding Wastes Listed Above:

1. **Generators Certification: I hereby certify that the contents of this shipment are fully and accurately described above by type and proper name of the special waste, and that such waste has been managed, packaged, containerized, and labeled in accordance with the requirements of 20.9.8 NMAC and any other applicable federal, state, or local regulations.**

Printed Name:	Signature:	Date:
Bart Faris	Bart Faris	7-2-19

2. **Haulers Certification: I hereby acknowledge receipt and delivery of the above described waste.**

Printed Name:	Signature:	Date:
Melissa Grossetete Jeff Sisneros	#860	7/2/19

3. **Facility Certification: I hereby acknowledge receipt of the special waste as described on this manifest, except as noted under additional information above.**

Printed Name:	Signature:	Date:
Chris Zamora	Chris Zamora	7/2/19

City of Albuquerque Solid Waste Management Department
Special Waste Manifest

Special Waste Manifest	Manifest No: 1938- 051	Page 1 of 1
Generators Name: City of Albuquerque Environmental Health	**Generators Address:** One Civic Plaza #3023 Albuquerque, NM 87102	**Phone No + Email Address:** 505-768-2658 bfaris@cabq.gov
Origin of the Special Waste (project or spill location): Rail yard Cleanup – 771 1st Street SW, Albuquerque		
Haulers Company Name: Enviroworks LLC	**Haulers Address:** # 010199 5 Cinnamon Dr PO Box 340 Edgewood, NM 87015	**Phone No + Email Address:** 505-286-4891 accounting@enviroworks foryou.com
Destination of the Special Waste: Cerro Colorado Landfill Cell 9 Top	**Facility Address and NMED Permit No:** 18000 Cerro Colorado RD Albuquerque, NM87121 SWM-010221 (SP)	**Phone No + Email Address:** (505) 761-8324 ddaugherty@cabq.gov

Type of Special Waste Being Transported	Container			Weight
	I.D. No.	Type	Quantity	Tons / Lbs
Petroleum Contaminated Soil, minor concrete	Dump	End dump	18 CY	

Additional Information Regarding Wastes Listed Above:

1. **Generators Certification: I hereby certify that the contents of this shipment are fully and accurately described above by type and proper name of the special waste, and that such waste has been managed, packaged, containerized, and labeled in accordance with the requirements of 20.9.8 NMAC and any other applicable federal, state, or local regulations.**

Printed Name:	Signature:	Date:
Bart Faris	Bart Faris	7/2/19

2. **Haulers Certification: I hereby acknowledge receipt and delivery of the above described waste.**

Printed Name:	Signature:	Date:
MARTIN GARCIA Melissa Grossetete	Martin Garcia	7/2/19

3. **Facility Certification: I hereby acknowledge receipt of the special waste as described on this manifest, except as noted under additional information above.**

Printed Name:	Signature:	Date:
Chris Zamora	Chris Zamora	

City of Albuquerque Solid Waste Management Department
Special Waste Manifest

Special Waste Manifest	Manifest No: 1938- 052	Page 1 of 1
Generators Name: City of Albuquerque Environmental Health	**Generators Address:** One Civic Plaza #3023 Albuquerque, NM 87102	**Phone No + Email Address:** 505-768-2658 bfaris@cabq.gov
Origin of the Special Waste (project or spill location): Rail yard Cleanup – 771 1st Street SW, Albuquerque		
Haulers Company Name: Enviroworks LLC	**Haulers Address: # 010199** 5 Cinnamon Dr PO Box 340 Edgewood, NM 87015	**Phone No + Email Address:** 505-286-4891 accounting@enviroworks foryou.com
Destination of the Special Waste: Cerro Colorado Landfill Cell 9 Top	**Facility Address and NMED Permit No:** 18000 Cerro Colorado RD Albuquerque, NM87121 SWM-010221 (SP)	**Phone No + Email Address:** (505) 761-8324 ddaugherty@cabq.gov

Type of Special Waste Being Transported	Container			Weight
	I.D. No.	Type	Quantity	Tons / Lbs
Petroleum Contaminated Soil, minor concrete	Dump	End dump	18 CY	

Additional Information Regarding Wastes Listed Above:

1. Generators Certification: I hereby certify that the contents of this shipment are fully and accurately described above by type and proper name of the special waste, and that such waste has been managed, packaged, containerized, and labeled in accordance with the requirements of 20.9.8 NMAC and any other applicable federal, state, or local regulations.

Printed Name:	Signature:	Date:
Bart Faris	Bart Faris	7-2-19

2. Haulers Certification: I hereby acknowledge receipt and delivery of the above described waste.

Printed Name:	Signature:	Date:
Melissa Grossetete		7-2-19

3. Facility Certification: I hereby acknowledge receipt of the special waste as described on this manifest, except as noted under additional information above.

Printed Name:	Signature:	Date:
Chris Zamora	Chris Zamora	7-2-19

City of Albuquerque Solid Waste Management Department
Special Waste Manifest

Special Waste Manifest	Manifest No: 1938- 053	Page 1 of 1
Generators Name: City of Albuquerque Environmental Health	**Generators Address:** One Civic Plaza #3023 Albuquerque, NM 87102	**Phone No + Email Address:** 505-768-2658 bfaris@cabq.gov
Origin of the Special Waste (project or spill location): Rail yard Cleanup – 771 1st Street SW, Albuquerque		
Haulers Company Name: Enviroworks LLC	**Haulers Address: # 010199** 5 Cinnamon Dr PO Box 340 Edgewood, NM 87015	**Phone No + Email Address:** 505-286-4891 accounting@enviroworks foryou.com
Destination of the Special Waste: Cerro Colorado Landfill Cell 9 Top	**Facility Address and NMED Permit No:** 18000 Cerro Colorado RD Albuquerque, NM87121 SWM-010221 (SP)	**Phone No + Email Address:** (505) 761-8324 ddaugherty@cabq.gov

Type of Special Waste Being Transported	Container			Weight
	I.D. No.	Type	Quantity	Tons / Lbs
Petroleum Contaminated Soil, minor concrete	Dump	End dump	18 CY	

Additional Information Regarding Wastes Listed Above:

1. **Generators Certification: I hereby certify that the contents of this shipment are fully and accurately described above by type and proper name of the special waste, and that such waste has been managed, packaged, containerized, and labeled in accordance with the requirements of 20.9.8 NMAC and any other applicable federal, state, or local regulations.**

Printed Name:	Signature:	Date:
Bart Faris	Bart Faris	7-2-19

2. **Haulers Certification: I hereby acknowledge receipt and delivery of the above described waste.**

Printed Name:	Signature:	Date:
Melissa Grossetete		7/2/19

3. **Facility Certification: I hereby acknowledge receipt of the special waste as described on this manifest, except as noted under additional information above.**

Printed Name:	Signature:	Date:
Chris [illegible]	Chris Zamora	7-2-19

City of Albuquerque Solid Waste Management Department
Special Waste Manifest

Special Waste Manifest	Manifest No: 1938- 054	Page 1 of 1
Generators Name: City of Albuquerque Environmental Health	**Generators Address:** One Civic Plaza #3023 Albuquerque, NM 87102	**Phone No + Email Address:** 505-768-2658 bfaris@cabq.gov
Origin of the Special Waste (project or spill location): Rail yard Cleanup – 771 1st Street SW, Albuquerque		
Haulers Company Name: Enviroworks LLC	**Haulers Address:** # 010199 5 Cinnamon Dr PO Box 340 Edgewood, NM 87015	**Phone No + Email Address:** 505-286-4891 accounting@enviroworksforyou.com
Destination of the Special Waste: Cerro Colorado Landfill	**Facility Address and NMED Permit No:** 18000 Cerro Colorado RD Albuquerque, NM87121 SWM-010221 (SP)	**Phone No + Email Address:** (505) 761-8324 ddaugherty@cabq.gov

Type of Special Waste Being Transported	Container			Weight
	I.D. No.	Type	Quantity	Tons / Lbs
Petroleum Contaminated Soil, minor concrete	Dump	End dump	18 CY	

Additional Information Regarding Wastes Listed Above:

1. **Generators Certification: I hereby certify that the contents of this shipment are fully and accurately described above by type and proper name of the special waste, and that such waste has been managed, packaged, containerized, and labeled in accordance with the requirements of 20.9.8 NMAC and any other applicable federal, state, or local regulations.**

Printed Name:	Signature:	Date:
Bart Faris	Bart Faris	7/3/19

2. **Haulers Certification: I hereby acknowledge receipt and delivery of the above described waste.**

Printed Name:	Signature:	Date:
MARTIN GARCIA Melissa Grossetete		7/3/19

3. **Facility Certification: I hereby acknowledge receipt of the special waste as described on this manifest, except as noted under additional information above.**

Printed Name:	Signature:	Date:
Annemarie Tafoya		7/3/19

City of Albuquerque Solid Waste Management Department Special Waste Manifest

Date	Time	Manifest #	Truck #	Trucking Co.	Driver Name
7-3-19	7:00	055	T-9	EV	
7/3/19	7:05	056	ENV969	Enviroworks	Matt DeVolder
7-3-19	7:10	057	ENV 859	ENV	Manuel Gonzalez
7/3/19	8:30	058	T-5	ENVIROWORKS	MARTIN GARCIA
7/3/19	8:48	059	ENV969	Enviroworks	Matt DeVolder
7-3-19	8:57	060	T-9	EV	
7-3-19	9:11	061	859	ENV	Manuel Gonzalez
7/3/19	10:10	062	T-5	ENV	MARTIN GARCIA
7/3/19	10:18	063	ENV969	Enviroworks	Matt DeVolder
7-3-19	10:30	064	859	ENV	Manuel Gonzalez
		065			
		066			
		067			
		068			
		069			
		070			
		071			
		072			
		073			
		074			
		075			
		076			
		077			
		078			
		079			
		080			
		081			

City of Albuquerque Solid Waste Management Department
Special Waste Manifest

Special Waste Manifest	Manifest No: 1938- 055	Page 1 of 1
Generators Name: City of Albuquerque Environmental Health	**Generators Address:** One Civic Plaza #3023 Albuquerque, NM 87102	**Phone No + Email Address:** 505-768-2658 bfaris@cabq.gov
Origin of the Special Waste (project or spill location): Rail yard Cleanup – 771 1st Street SW, Albuquerque		
Haulers Company Name: Enviroworks LLC	**Haulers Address: # 010199** 5 Cinnamon Dr PO Box 340 Edgewood, NM 87015	**Phone No + Email Address:** 505-286-4891 accounting@enviroworks foryou.com
Destination of the Special Waste: Cerro Colorado Landfill	**Facility Address and NMED Permit No:** 18000 Cerro Colorado RD Albuquerque, NM87121 SWM-010221 (SP)	**Phone No + Email Address:** (505) 761-8324 ddaugherty@cabq.gov

Type of Special Waste Being Transported	Container			Weight
	I.D. No.	Type	Quantity	Tons / Lbs
Petroleum Contaminated Soil, minor concrete	Dump	End dump	18 CY	

Additional Information Regarding Wastes Listed Above:

1. Generators Certification: I hereby certify that the contents of this shipment are fully and accurately described above by type and proper name of the special waste, and that such waste has been managed, packaged, containerized, and labeled in accordance with the requirements of 20.9.8 NMAC and any other applicable federal, state, or local regulations.

Printed Name:	Signature:	Date:
Bart Faris	Bart Faris	

2. Haulers Certification: I hereby acknowledge receipt and delivery of the above described waste.

Printed Name:	Signature:	Date:
Melissa Grossetete		7-18-17

3. Facility Certification: I hereby acknowledge receipt of the special waste as described on this manifest, except as noted under additional information above.

Printed Name:	Signature:	Date:
Steve		7/18/17

City of Albuquerque Solid Waste Management Department
Special Waste Manifest

Special Waste Manifest	Manifest No: 1938- 060	Page 1 of 1
Generators Name: City of Albuquerque Environmental Health	**Generators Address:** One Civic Plaza #3023 Albuquerque, NM 87102	**Phone No + Email Address:** 505-768-2658 bfaris@cabq.gov
Origin of the Special Waste (project or spill location): Rail yard Cleanup – 771 1st Street SW, Albuquerque		
Haulers Company Name: Enviroworks LLC	**Haulers Address:** # 010199 5 Cinnamon Dr PO Box 340 Edgewood, NM 87015	**Phone No + Email Address:** 505-286-4891 accounting@enviroworks foryou.com
Destination of the Special Waste: Cerro Colorado Landfill	**Facility Address and NMED Permit No:** 18000 Cerro Colorado RD Albuquerque, NM87121 SWM-010221 (SP)	**Phone No + Email Address:** (505) 761-8324 ddaugherty@cabq.gov

Type of Special Waste Being Transported	Container			Weight
	I.D. No.	Type	Quantity	Tons / Lbs
Petroleum Contaminated Soil, minor concrete	Dump	End dump	18 CY	

Additional Information Regarding Wastes Listed Above:

1. **Generators Certification: I hereby certify that the contents of this shipment are fully and accurately described above by type and proper name of the special waste, and that such waste has been managed, packaged, containerized, and labeled in accordance with the requirements of 20.9.8 NMAC and any other applicable federal, state, or local regulations.**

Printed Name:	Signature:	Date:
Bart Faris	Bart Faris	7/3/19

2. **Haulers Certification: I hereby acknowledge receipt and delivery of the above described waste.**

Printed Name:	Signature:	Date:
ENV969 Melissa Grossetete Matt DeVolder		7/3/19

3. **Facility Certification: I hereby acknowledge receipt of the special waste as described on this manifest, except as noted under additional information above.**

Printed Name:	Signature:	Date:
Rusty Lyon		7/3/19

City of Albuquerque Solid Waste Management Department
Special Waste Manifest

Special Waste Manifest	Manifest No: 1938- 067	Page 1 of 1
Generators Name: City of Albuquerque Environmental Health	**Generators Address:** One Civic Plaza #3023 Albuquerque, NM 87102	**Phone No + Email Address:** 505-768-2658 bfaris@cabq.gov
Origin of the Special Waste (project or spill location): Rail yard Cleanup – 771 1st Street SW, Albuquerque		
Haulers Company Name: Enviroworks LLC	**Haulers Address:** # 010199 5 Cinnamon Dr PO Box 340 Edgewood, NM 87015	**Phone No + Email Address:** 505-286-4891 accounting@enviroworksforyou.com
Destination of the Special Waste: Cerro Colorado Landfill	**Facility Address and NMED Permit No:** 18000 Cerro Colorado RD Albuquerque, NM87121 SWM-010221 (SP)	**Phone No + Email Address:** (505) 761-8324 ddaugherty@cabq.gov

Type of Special Waste Being Transported	Container			Weight
	I.D. No.	Type	Quantity	Tons / Lbs
Petroleum Contaminated Soil, minor concrete	Dump	End dump	18 CY	

Additional Information Regarding Wastes Listed Above:

1. **Generators Certification: I hereby certify that the contents of this shipment are fully and accurately described above by type and proper name of the special waste, and that such waste has been managed, packaged, containerized, and labeled in accordance with the requirements of 20.9.8 NMAC and any other applicable federal, state, or local regulations.**

Printed Name:	Signature:	Date:
Bart Faris		

2. **Haulers Certification: I hereby acknowledge receipt and delivery of the above described waste.**

Printed Name:	Signature:	Date:
Melissa Grossetete		7-3-19

3. **Facility Certification: I hereby acknowledge receipt of the special waste as described on this manifest, except as noted under additional information above.**

Printed Name:	Signature:	Date:
		7/3/19

City of Albuquerque Solid Waste Management Department
Special Waste Manifest

Special Waste Manifest	Manifest No: 1938- 068	Page 1 of 1
Generators Name: City of Albuquerque Environmental Health	**Generators Address:** One Civic Plaza #3023 Albuquerque, NM 87102	**Phone No + Email Address:** 505-768-2658 bfaris@cabq.gov
Origin of the Special Waste (project or spill location): Rail yard Cleanup – 771 1st Street SW, Albuquerque		
Haulers Company Name: Enviroworks LLC	**Haulers Address:** # 010199 5 Cinnamon Dr PO Box 340 Edgewood, NM 87015	**Phone No + Email Address:** 505-286-4891 accounting@enviroworks foryou.com
Destination of the Special Waste: Cerro Colorado Landfill	**Facility Address and NMED Permit No:** 18000 Cerro Colorado RD Albuquerque, NM87121 SWM-010221 (SP)	**Phone No + Email Address:** (505) 761-8324 ddaugherty@cabq.gov

Type of Special Waste Being Transported	Container			Weight
	I.D. No.	Type	Quantity	Tons / Lbs
Petroleum Contaminated Soil, minor concrete	Dump	End dump	18 CY	

Additional Information Regarding Wastes Listed Above:

1. **Generators Certification: I hereby certify that the contents of this shipment are fully and accurately described above by type and proper name of the special waste, and that such waste has been managed, packaged, containerized, and labeled in accordance with the requirements of 20.9.8 NMAC and any other applicable federal, state, or local regulations.**

Printed Name: Bart Faris	Signature: Bart Faris	Date: 7/3/19

2. **Haulers Certification: I hereby acknowledge receipt and delivery of the above described waste.**

Printed Name: MARTIN GARCIA Melissa Grossetete	Signature: Martin Garcia	Date: 7/3/19

3. **Facility Certification: I hereby acknowledge receipt of the special waste as described on this manifest, except as noted under additional information above.**

Printed Name: Sotelo	Signature:	Date: 7/3/19

City of Albuquerque Solid Waste Management Department
Special Waste Manifest

Special Waste Manifest	Manifest No: 1938- 059	Page 1 of 1
Generators Name: City of Albuquerque Environmental Health	**Generators Address:** One Civic Plaza #3023 Albuquerque, NM 87102	**Phone No + Email Address:** 505-768-2658 bfaris@cabq.gov
Origin of the Special Waste (project or spill location): Rail yard Cleanup – 771 1st Street SW, Albuquerque		
Haulers Company Name: Enviroworks LLC ENV969	**Haulers Address:** # 010199 5 Cinnamon Dr PO Box 340 Edgewood, NM 87015	**Phone No + Email Address:** 505-286-4891 accounting@enviroworks foryou.com
Destination of the Special Waste: Cerro Colorado Landfill	**Facility Address and NMED Permit No:** 18000 Cerro Colorado RD Albuquerque, NM87121 SWM-010221 (SP)	**Phone No + Email Address:** (505) 761-8324 ddaugherty@cabq.gov

Type of Special Waste Being Transported	Container			Weight
	I.D. No.	Type	Quantity	Tons / Lbs
Petroleum Contaminated Soil, minor concrete	Dump	End dump	18 CY	

Additional Information Regarding Wastes Listed Above:

1. **Generators Certification: I hereby certify that the contents of this shipment are fully and accurately described above by type and proper name of the special waste, and that such waste has been managed, packaged, containerized, and labeled in accordance with the requirements of 20.9.8 NMAC and any other applicable federal, state, or local regulations.**

Printed Name:	Signature:	Date:
Bart Faris	Bart Faris	7/3/19

2. **Haulers Certification: I hereby acknowledge receipt and delivery of the above described waste.**

Printed Name:	Signature:	Date:
Melissa Grossetete Matt DeVolder		7/3/19

3. **Facility Certification: I hereby acknowledge receipt of the special waste as described on this manifest, except as noted under additional information above.**

Printed Name:	Signature:	Date:
Sotelo		7/8/19

City of Albuquerque Solid Waste Management Department
Special Waste Manifest

Special Waste Manifest	Manifest No: 1938- 060	Page 1 of 1
Generators Name: City of Albuquerque Environmental Health	**Generators Address:** One Civic Plaza #3023 Albuquerque, NM 87102	**Phone No + Email Address:** 505-768-2658 bfaris@cabq.gov

Origin of the Special Waste (project or spill location):

Rail yard Cleanup – 771 1st Street SW, Albuquerque

Haulers Company Name:	Haulers Address: # 010199	Phone No + Email Address:
Enviroworks LLC	5 Cinnamon Dr PO Box 340 Edgewood, NM 87015	505-286-4891 accounting@enviroworksforyou.com
Destination of the Special Waste: Cerro Colorado Landfill	**Facility Address and NMED Permit No:** 18000 Cerro Colorado RD Albuquerque, NM87121 SWM-010221 (SP)	**Phone No + Email Address:** (505) 761-8324 ddaugherty@cabq.gov

Type of Special Waste Being Transported	Container			Weight
	I.D. No.	Type	Quantity	Tons / Lbs
Petroleum Contaminated Soil, minor concrete	Dump	End dump	18 CY	

Additional Information Regarding Wastes Listed Above:

1. **Generators Certification: I hereby certify that the contents of this shipment are fully and accurately described above by type and proper name of the special waste, and that such waste has been managed, packaged, containerized, and labeled in accordance with the requirements of 20.9.8 NMAC and any other applicable federal, state, or local regulations.**

Printed Name:	Signature:	Date:
Bart Faris	Bart Faris	

2. **Haulers Certification: I hereby acknowledge receipt and delivery of the above described waste.**

Printed Name:	Signature:	Date:
Melissa Grossetete		7-3-19

3. **Facility Certification: I hereby acknowledge receipt of the special waste as described on this manifest, except as noted under additional information above.**

Printed Name:	Signature:	Date:
Kurt Lopez		7/3/19

City of Albuquerque Solid Waste Management Department
Special Waste Manifest

Special Waste Manifest	Manifest No: 1938- 061	Page 1 of 1
Generators Name: City of Albuquerque Environmental Health	**Generators Address:** One Civic Plaza #3023 Albuquerque, NM 87102	**Phone No + Email Address:** 505-768-2658 bfaris@cabq.gov

Origin of the Special Waste (project or spill location):

Rail yard Cleanup – 771 1st Street SW, Albuquerque

Haulers Company Name:	Haulers Address: # 010199	Phone No + Email Address:
Enviroworks LLC	5 Cinnamon Dr PO Box 340 Edgewood, NM 87015	505-286-4891 accounting@enviroworksforyou.com
Destination of the Special Waste: Cerro Colorado Landfill	**Facility Address and NMED Permit No:** 18000 Cerro Colorado RD Albuquerque, NM87121 SWM-010221 (SP)	**Phone No + Email Address:** (505) 761-8324 ddaugherty@cabq.gov

Type of Special Waste Being Transported	Container			Weight
	I.D. No.	Type	Quantity	Tons / Lbs
Petroleum Contaminated Soil, minor concrete	Dump	End dump	18 CY	

Additional Information Regarding Wastes Listed Above:

1. **Generators Certification: I hereby certify that the contents of this shipment are fully and accurately described above by type and proper name of the special waste, and that such waste has been managed, packaged, containerized, and labeled in accordance with the requirements of 20.9.8 NMAC and any other applicable federal, state, or local regulations.**

Printed Name: Bart Faris	Signature: Bart Faris	Date:

2. **Haulers Certification: I hereby acknowledge receipt and delivery of the above described waste.**

Printed Name: Melissa Grossetete	Signature: (859)	Date: 7-3-19

3. **Facility Certification: I hereby acknowledge receipt of the special waste as described on this manifest, except as noted under additional information above.**

Printed Name: Sotelo	Signature:	Date: 7/3/19

City of Albuquerque Solid Waste Management Department
Special Waste Manifest

Special Waste Manifest	Manifest No: 1938- 002	Page 1 of 1
Generators Name: City of Albuquerque Environmental Health	**Generators Address:** One Civic Plaza #3023 Albuquerque, NM 87102	**Phone No + Email Address:** 505-768-2658 bfaris@cabq.gov
Origin of the Special Waste (project or spill location): Rail yard Cleanup – 771 1st Street SW, Albuquerque		
Haulers Company Name: Enviroworks LLC	**Haulers Address:** # 010199 5 Cinnamon Dr PO Box 340 Edgewood, NM 87015	**Phone No + Email Address:** 505-286-4891 accounting@enviroworksforyou.com
Destination of the Special Waste: Cerro Colorado Landfill	**Facility Address and NMED Permit No:** 18000 Cerro Colorado RD Albuquerque, NM87121 SWM-010221 (SP)	**Phone No + Email Address:** (505) 761-8324 ddaugherty@cabq.gov

Type of Special Waste Being Transported	Container			Weight
	I.D. No.	Type	Quantity	Tons / Lbs
Petroleum Contaminated Soil, minor concrete	Dump	End dump	18 CY	

Additional Information Regarding Wastes Listed Above:

1. **Generators Certification: I hereby certify that the contents of this shipment are fully and accurately described above by type and proper name of the special waste, and that such waste has been managed, packaged, containerized, and labeled in accordance with the requirements of 20.9.8 NMAC and any other applicable federal, state, or local regulations.**

Printed Name:	Signature:	Date:
Bart Faris	Bart Faris	7/3/19

2. **Haulers Certification: I hereby acknowledge receipt and delivery of the above described waste.**

Printed Name:	Signature	Date:
MARTIN GARCIA Melissa Grossetete	Martin Garcia	7/3/19

3. **Facility Certification: I hereby acknowledge receipt of the special waste as described on this manifest, except as noted under additional information above.**

Printed Name:	Signature:	Date:
		7/3/19

City of Albuquerque Solid Waste Management Department
Special Waste Manifest

Special Waste Manifest	Manifest No: 1938- 0063	Page 1 of 1
Generators Name: City of Albuquerque Environmental Health	Generators Address: One Civic Plaza #3023 Albuquerque, NM 87102	Phone No + Email Address: 505-768-2658 bfaris@cabq.gov
Origin of the Special Waste (project or spill location): Rail yard Cleanup – 771 1St Street SW, Albuquerque		
Haulers Company Name: Enviroworks LLC ENV969	Haulers Address: # 010199 5 Cinnamon Dr PO Box 340 Edgewood, NM 87015	Phone No + Email Address: 505-286-4891 accounting@enviroworks foryou.com
Destination of the Special Waste: Cerro Colorado Landfill	Facility Address and NMED Permit No: 18000 Cerro Colorado RD Albuquerque, NM87121 SWM-010221 (SP)	Phone No + Email Address: (505) 761-8324 ddaugherty@cabq.gov

Type of Special Waste Being Transported	Container			Weight
	I.D. No.	Type	Quantity	Tons / Lbs
Petroleum Contaminated Soil, minor concrete	Dump	End dump	18 CY	

Additional Information Regarding Wastes Listed Above:

1. **Generators Certification: I hereby certify that the contents of this shipment are fully and accurately described above by type and proper name of the special waste, and that such waste has been managed, packaged, containerized, and labeled in accordance with the requirements of 20.9.8 NMAC and any other applicable federal, state, or local regulations.**

Printed Name:	Signature:	Date:
Bart Faris	Bart Faris	7/3/19

2. **Haulers Certification: I hereby acknowledge receipt and delivery of the above described waste.**

Printed Name:	Signature:	Date:
Melissa Grossetete Matt DeVolder		7/3/19

3. **Facility Certification: I hereby acknowledge receipt of the special waste as described on this manifest, except as noted under additional information above.**

Printed Name:	Signature:	Date:
Sotelo		7/3/19

City of Albuquerque Solid Waste Management Department
Special Waste Manifest

Special Waste Manifest	Manifest No: 1938- 0104	Page 1 of 1
Generators Name: City of Albuquerque Environmental Health	**Generators Address:** One Civic Plaza #3023 Albuquerque, NM 87102	**Phone No + Email Address:** 505-768-2658 bfaris@cabq.gov
Origin of the Special Waste (project or spill location): Rail yard Cleanup – 771 1st Street SW, Albuquerque		
Haulers Company Name: Enviroworks LLC	**Haulers Address:** # 010199 5 Cinnamon Dr PO Box 340 Edgewood, NM 87015	**Phone No + Email Address:** 505-286-4891 accounting@enviroworksforyou.com
Destination of the Special Waste: Cerro Colorado Landfill	**Facility Address and NMED Permit No:** 18000 Cerro Colorado RD Albuquerque, NM87121 SWM-010221 (SP)	**Phone No + Email Address:** (505) 761-8324 ddaugherty@cabq.gov

Type of Special Waste Being Transported	Container			Weight
	I.D. No.	Type	Quantity	Tons / Lbs
Petroleum Contaminated Soil, minor concrete	Dump	End dump	18 CY	

Additional Information Regarding Wastes Listed Above:

Bottom South corner of cell 9

1. **Generators Certification: I hereby certify that the contents of this shipment are fully and accurately described above by type and proper name of the special waste, and that such waste has been managed, packaged, containerized, and labeled in accordance with the requirements of 20.9.8 NMAC and any other applicable federal, state, or local regulations.**

Printed Name:	Signature:	Date:
Bart Faris	Bart Faris	

2. **Haulers Certification: I hereby acknowledge receipt and delivery of the above described waste.**

Printed Name:	Signature:	Date:
Melissa Grossetete Manuel		7-3-19

3. **Facility Certification: I hereby acknowledge receipt of the special waste as described on this manifest, except as noted under additional information above.**

Printed Name:	Signature:	Date:
Donnee Ewing		7/3/19

CITY of ALBUQUERQUE
SOLID WASTE MANAGEMENT DEPARTMENT
CERRO COLORADO LANDFILL (505)761-8306
18000 CERRO COLORADO
ALBUQUERQUE, NM 87121

ORIGINAL

DATE: 07/01/2019
TIME IN: 09:33:23 AM
TIME OUT: 10:16:30 AM

TICKET#: 1,733,021

CUSTOMER: ENVIROWORKS RAIL YARDS
ACCOUNT#: 4408374131
BILL TO: ENVIROWORKS RAIL YARDS
HAULER: ENVIROWORKS RAIL YARDS
TRUCK#: ENV 969
CONTAINER:
PROFILE:
MATERIAL: CONTAMINATED SOIL
COMMENT: 87102 // RAIL YARDS SOIL//TRK#ENV969

--- Driver On Scale (Yes if checked)

	POUNDS	TONS
GROSS:	74,160	37.08
TARE:	32,400	16.20
NET:	41,760	20.88

PRODUCT COST: $0.00
SPECIAL FEE: $0.00
TAX: $0.00

TOTAL COST: $0.0(

WEIGHER: [illegible]

CUSTOMER SIGNATURE: [signature]

CITY of ALBUQUERQUE
SOLID WASTE MANAGEMENT DEPARTMENT
CERRO COLORADO LANDFILL (505)761-8306
18000 CERRO COLORADO
ALBUQUERQUE, NM 87121

ORIGINAL

TICKET#: 1,733,047

DATE: 07/01/2019
TIME IN: 09:35:29 AM
TIME OUT: 10:48:28 AM

CUSTOMER: ENVIROWORKS RAIL YARDS
ACCOUNT#: 4408374131
BILL TO: ENVIROWORKS RAIL YARDS
HAULER: ENVIROWORKS RAIL YARDS
TRUCK#: ENV 700
CONTAINER:
PROFILE:
MATERIAL: CONTAMINATED SOIL
COMMENT: 87102 // RAIL YARD SOIL//T-7

Driver On Scale (Yes if checked)

	POUNDS	TONS
GROSS:	75,920	37.96
TARE:	36,220	18.11
NET:	39,700	19.85

PRODUCT COST: $0.00
SPECIAL FEE: $0.00
TAX: $0.00
TOTAL COST: $0.0(

WEIGHER: swdaxp

CUSTOMER SIGNATURE:

CITY of ALBUQUERQUE
SOLID WASTE MANAGEMENT DEPARTMENT
CERRO COLORADO LANDFILL (505)761-8306
18000 CERRO COLORADO
ALBUQUERQUE, NM 87121

ORIGINAL

DATE: 07/01/2019
TIME IN: 09:43:07 AM
TIME OUT: 10:20:27 AM

TICKET#: 1,733,022

CUSTOMER: ENVIROWORKS RAIL YARDS
ACCOUNT#: 4408374131
BILL TO: ENVIROWORKS RAIL YARDS
HAULER: ENVIROWORKS RAIL YARDS
TRUCK#: ENV 860
CONTAINER:
PROFILE:

Driver On Scale (Yes if checked)

	POUNDS	TONS
GROSS:	73,180	36.59
TARE:	32,920	16.46
NET:	40,260	20.13

MATERIAL: CONTAMINATED SOIL
COMMENT: 87102 // SOIL FROM THE RAIL YARDS // TRUCK # 860

PRODUCT COST:	$0.00
SPECIAL FEE:	$0.00
TAX:	$0.00
TOTAL COST:	$0.00

WEIGHER: swdaxn

CUSTOMER SIGNATURE:

CITY of ALBUQUERQUE
SOLID WASTE MANAGEMENT DEPARTMENT
CERRO COLORADO LANDFILL (505)761-8306
18000 CERRO COLORADO
ALBUQUERQUE, NM 87121

ORIGINAL

DATE: 07/01/2019
TIME IN: 09:47:37 AM
TIME OUT: 10:22:51 AM

TICKET#: 1,733,024

CUSTOMER: ENVIROWORKS RAIL YARDS
ACCOUNT#: 4402374131
BILLTO: ENVIROWORKS RAIL YARDS
HAULER: ENVIROWORKS RAIL YARDS
TRUCK#: ENV 500
CONTAINER:
PROFILE:
MATERIAL CONTAMINATED SOIL
COMMENT: 87102 // SOIL FROM THE RAIL YARDS B// TRUCK # T-5

Driver On Scale (Yes if checked)

	POUNDS	TONS
GROSS:	74,620	37.31
TARE:	35,920	17.96
NET:	38,700	19.35

PRODUCT COST: $0.00
SPECIAL FEE: $0.00
TAX: $0.00

TOTAL COST: $0.00

WEIGHER: awilson

CUSTOMER SIGNATURE:

CITY of ALBUQUERQUE
SOLID WASTE MANAGEMENT DEPARTMENT
CERRO COLORADO LANDFILL (505)761-8306
18000 CERRO COLORADO
ALBUQUERQUE, NM 87121

ORIGINAL

DATE: 07/01/2019
TIME IN: 10:25:52 AM
TIME OUT: 10:44:24 AM

TICKET#: 1,733,045

CUSTOMER: ENVIROWORKS RAIL YARDS
ACCOUNT#: 4408374131
BILL TO: ENVIROWORKS RAIL YARDS
HAULER: ENVIROWORKS RAIL YARDS
TRUCK#: ENV T-3
CONTAINER:
PROFILE:
MATERIAL: CONTAMINATED SOIL
COMMENT: 87102 // RAIL YARD SOIL // TRUCK # T-3

--- Driver On Scale (Yes if checked)

	POUNDS	TONS
GROSS:	75,060	37.53
TARE:	38,060	19.03
NET:	37,000	18.50

PRODUCT COST:	$0.00
SPECIAL FEE:	$0.00
TAX:	$0.00
TOTAL COST:	$0.00

WEIGHER: swdavm

CUSTOMER SIGNATURE: _____

CITY of ALBUQUERQUE
SOLID WASTE MANAGEMENT DEPARTMENT
CERRO COLORADO LANDFILL (505)761-8306
18000 CERRO COLORADO
ALBUQUERQUE NM 87121

ORIGINAL

DATE: 07/01/2019
TIME IN: 10:03:16 AM
TIME OUT: 10:40:24 AM

TICKET#: 1,733,041

CUSTOMER: ENVIROWORKS RAIL YARDS
ACCOUNT#: 4408374131
BILL TO: ENVIROWORKS RAIL YARDS
HAULER: ENVIROWORKS RAIL YARDS
TRUCK#: ENV 900
CONTAINER:
PROFILE:
MATERIAL: CONTAMINATED SOIL
COMMENT: 87102 // RAIL YARD SOIL // TRUCK # T-9

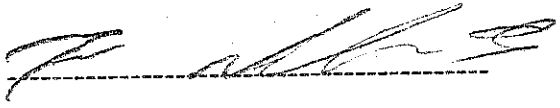
Driver On Scale (Yes if checked)

	POUNDS	TONS
GROSS:	78,420	39.21
TARE:	39,180	19.59
NET:	39,240	19.62

PRODUCT COST: $0.00
SPECIAL FEE: $0.00
TAX: $0.00

TOTAL COST: $0.00

WEIGHER: swdaxp

CUSTOMER SIGNATURE: 

CITY of ALBUQUERQUE
SOLID WASTE MANAGEMENT DEPARTMENT
CERRO COLORADO LANDFILL (505)761-8306
18000 CERRO COLORADO
ALBUQUERQUE, NM 87121

ORIGINAL

DATE: 07/01/2019
TIME IN: 11:46:52 AM
TIME OUT: 11:55:28 AM

TICKET#: 1,733,097

CUSTOMER: ENVIROWORKS RAIL YARDS
ACCOUNT#: 4408374131
BILL TO: ENVIROWORKS RAIL YARDS
HAULER: ENVIROWORKS RAIL YARDS
TRUCK#: ENV 860
CONTAINER:
PROFILE:
MATERIAL: CONTAMINATED SOIL
COMMENT: 87102 // RAIL YARD SOIL // TRUCK # 860

-- Driver On Scale (Yes if checked)

	POUNDS	TONS
GROSS:	75,240	37.62
TARE:	32,880	16.44
NET:	42,360	21.18

PRODUCT COST: $0.00
SPECIAL FEE: $0.00
TAX: $0.00

TOTAL COST: $0.0(

WEIGHER: *evidence*

CUSTOMER SIGNATURE:

CITY of ALBUQUERQUE

SOLID WASTE MANAGEMENT DEPARTMENT
CERRO COLORADO LANDFILL (505)761-8306
18000 CERRO COLORADO
ALBUQUERQUE, NM 87121

ORIGINAL

TICKET#: 1,733,104

DATE: 07/01/2019
TIME IN: 11:48:01 AM
TIME OUT: 12:06:59 PM

CUSTOMER: ENVIROWORKS RAIL YARDS
ACCOUNT#: 4408374131
BILL TO: ENVIROWORKS RAIL YARDS
HAULER: ENVIROWORKS RAIL YARDS
TRUCK#: ENV 969
CONTAINER:
PROFILE:
MATERIAL: CONTAMINATED SOIL
COMMENT: 87102 // RAIL YARD SOIL

--- Driver On Scale (Yes if checked)

	POUNDS	TONS
GROSS:	77,140	38.57
TARE:	32,280	16.14
NET:	44,860	22.43

PRODUCT COST:	$0.00
SPECIAL FEE:	$0.00
TAX:	$0.00
TOTAL COST:	$0.00

WEIGHER: swdcxe

CUSTOMER SIGNATURE: _____

CITY of ALBUQUERQUE
SOLID WASTE MANAGEMENT DEPARTMENT
CERRO COLORADO LANDFILL (505)761-8306
18000 CERRO COLORADO
ALBUQUERQUE NM 87121

ORIGINAL

DATE: 07/01/2019
TIME IN: 11:58:22 AM
TIME OUT: 12:09:38 PM

TICKET#: 1,733,106

CUSTOMER: ENVIROWORKS RAIL YARDS
ACCOUNT#: 4408374131
BILL TO: ENVIROWORKS RAIL YARDS
HAULER: ENVIROWORKS RAIL YARDS
TRUCK#: ENV 500
CONTAINER:
PROFILE:

--- Driver On Scale (Yes if checked)

	POUNDS	TONS
GROSS:	79,600	39.80
TARE:	35,880	17.94
NET:	43,720	21.86

MATERIAL: CONTAMINATED SOIL
COMMENT: 87102 // RAIL YARD SOIL // TRUCK # T 5

PRODUCT COST:	$0.00
SPECIAL FEE:	$0.00
TAX:	$0.00
TOTAL COST:	$0.00

WEIGHER: swdexe

CUSTOMER SIGNATURE:

...GEMENT DEPARTMENT
...O LANDFILL (505)761-8306
18000 CERRO COLORADO
ALBUQUERQUE, NM 87121

ORIGINAL

TICKET#: 1,733,115

DATE: 07/01/2019
TIME IN: 12:07:36 PM
TIME OUT: 12:23:38 PM

CUSTOMER: ENVIROWORKS RAIL YARDS
ACCOUNT#: 4408374131
BILL TO: ENVIROWORKS RAIL YARDS
HAULER: ENVIROWORKS RAIL YARDS
TRUCK#: ENV 900
CONTAINER:
PROFILE:
MATERIAL: CONTAMINATED SOIL
COMMENT: 87102//RAIL YARD SOIL//T-9

Driver On Scale (Yes if checked)

	POUNDS	TONS
GROSS:	83,920	41.96
TARE:	39,100	19.55
NET:	44,820	22.41

PRODUCT COST: $0.00
SPECIAL FEE: $0.00
TAX: $0.00
TOTAL COST: $0.0(

WEIGHER: swalters

CUSTOMER SIGNATURE:

CITY of ALBUQUERQUE
SOLID WASTE MANAGEMENT DEPARTMENT
CERRO COLORADO LANDFILL (505)761-8306
18000 CERRO COLORADO
ALBUQUERQUE, NM 87121

ORIGINAL

DATE: 07/01/2019
TIME IN: 12:32:59 PM
TIME OUT: 12:48:51 PM

TICKET#: 1,733,131

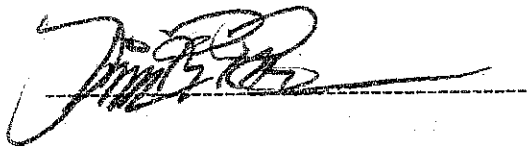
CUSTOMER: ENVIROWORKS RAIL YARDS
ACCOUNT#: 4408374131
BILL TO: ENVIROWORKS RAIL YARDS
HAULER: ENVIROWORKS RAIL YARDS
TRUCK#: ENV T-3
CONTAINER:
PROFILE:
MATERIAL: CONTAMINATED SOIL
COMMENT: 87102//RAIL YARD SOIL//T-3

--- Driver On Scale (Yes if checked)

	POUNDS	TONS
GROSS:	76,720	38.36
TARE:	36,340	18.17
NET:	40,380	20.19

PRODUCT COST:	$0.00
SPECIAL FEE:	$0.00
TAX:	$0.00
TOTAL COST:	$0.0(

WEIGHER: swdcxe

CUSTOMER SIGNATURE: 

CITY of ALBUQUERQUE
SOLID WASTE MANAGEMENT DEPARTMENT
CERRO COLORADO LANDFILL (505)761-8306
18000 CERRO COLORADO
ALBUQUERQUE, NM 87121

ORIGINAL

DATE: 07/01/2019
TIME IN: 12:31:23 PM
TIME OUT: 12:46:44 PM

TICKET#: 1,733,130

CUSTOMER: ENVIROWORKS RAIL YARDS
ACCOUNT#: 4408374131
BILL TO: ENVIROWORKS RAIL YARDS
HAULER: ENVIROWORKS RAIL YARDS
TRUCK#: ENV 700
CONTAINER:
PROFILE:
MATERIAL: CONTAMINATED SOIL
COMMENT: 87102//RAIL YARD SOIL//T-7

Driver On Scale (Yes if checked)

	POUNDS	TONS
GROSS:	74,620	37.31
TARE:	36,120	18.06
NET:	38,500	19.25

PRODUCT COST:	$0.00
SPECIAL FEE:	$0.00
TAX:	$0.00
TOTAL COST:	$0.0(

WEIGHER: swdcxe

CUSTOMER SIGNATURE: _____

CITY of ALBUQUERQUE
SOLID WASTE MANAGEMENT DEPARTMENT
CERRO COLORADO LANDFILL (505)761-8306
18000 CERRO COLORADO
ALBUQUERQUE, NM 87121

ORIGINAL

DATE: 07/01/2019
TIME IN: 01:18:44 PM
TIME OUT: 01:39:00 PM

TICKET#: 1,733,154

CUSTOMER: ENVIROWORKS RAIL YARDS
ACCOUNT#: 4408?74131
BILL TO: ENVIROWORKS RAIL YARDS
HAULER: ENVIROWORKS RAIL YARDS
TRUCK#: ENV 969
CONTAINER:
PROFILE:
MATERIAL: CONTAMINATED SOIL
COMMENT: 87102//RAIL YARD SOIL//ENV 969

Driver On Scale (Yes if checked)

	POUNDS	TONS
GROSS:	72,540	36.27
TARE:	32,260	16.13
NET:	40,280	20.14

PRODUCT COST: $0.00
SPECIAL FEE: $0.00
TAX: $0.00
TOTAL COST: $0.0(

WEIGHER: swdedn

CUSTOMER SIGNATURE:

CITY of ALBUQUERQUE
SOLID WASTE MANAGEMENT DEPARTMENT
CERRO COLORADO LANDFILL (505)761-8306
18000 CERRO COLORADO
ALBUQUERQUE, NM 87121

ORIGINAL

TICKET#: 1,733,151

DATE: 07/01/2019
TIME IN: 01:27:29 PM
TIME OUT: 01:34:54 PM

CUSTOMER: ENVIROWORKS RAIL YARDS
ACCOUNT#: 440837413 1
BILL TO: ENVIROWORKS RAIL YARDS
HAULER: ENVIROWORKS RAIL YARDS
TRUCK#: ENV 860
CONTAINER:
PROFILE:
MATERIAL: CONTAMINATED SOIL
COMMENT: 87102//RAIL YARD SOIL//TK# 860

--- Driver On Scale (Yes if checked)

	POUNDS	TONS
GROSS:	73,720	36.86
TARE:	32,780	16.39
NET:	40,940	20.47

PRODUCT COST: $0.00
SPECIAL FEE: $0.00
TAX: $0.00
TOTAL COST: $0.00

WEIGHER: swelsdn

CUSTOMER SIGNATURE:

CITY of ALBUQUERQUE
SOLID WASTE MANAGEMENT DEPARTMENT
CERRO COLORADO LANDFILL (505)761-8306
18000 CERRO COLORADO
ALBUQUERQUE, NM 87121

ORIGINAL

TICKET#: 1,733,184

DATE: 07/01/2019
TIME IN: 02:16:40 PM
TIME OUT: 02:26:34 PM

CUSTOMER: ENVIROWORKS RAIL YARDS
ACCOUNT#: 4408374131
BILLTO: ENVIROWORKS RAIL YARDS
HAULER: ENVIROWORKS RAIL YARDS
TRUCK#: ENV 500
CONTAINER:
PROFILE:
MATERIAL: CONTAMINATED SOIL
COMMENT: 87107//RAIL YARD SOIL//T-5

--- Driver On Scale (Yes if checked)

	POUNDS	TONS
GROSS:	80,140	40.07
TARE:	35,320	17.66
NET:	44,820	22.41

PRODUCT COST:	$0.00
SPECIAL FEE:	$0.00
TAX:	$0.00
TOTAL COST:	$0.0(

WEIGHER: swdsdn

CUSTOMER SIGNATURE: X

CITY of ALBUQUERQUE
SOLID WASTE MANAGEMENT DEPARTMENT
CERRO COLORADO LANDFILL (505)761-8306
18000 CERRO COLORADO
ALBUQUERQUE, NM 87121

ORIGINAL

TICKET#: 1,733,166

DATE: 07/01/2019
TIME IN: 01:41:45 PM
TIME OUT: 01:56:48 PM

CUSTOMER: ENVIROWORKS RAIL YARDS
ACCOUNT#: 4408374131
BILL TO: ENVIROWORKS RAIL YARDS
HAULER: ENVIROWORKS RAIL YARDS
TRUCK#: ENV 900
CONTAINER:
PROFILE:
MATERIAL: CONTAMINATED SOIL
COMMENT: 87102//RAIL YARD SOIL//T-9

--- Driver On Scale (Yes if checked)

	POUNDS	TONS
GROSS:	~~77,480~~	38.74
TARE:	39,000	19.50
NET:	38,480	19.24

PRODUCT COST: $0.00
SPECIAL FEE: $0.00
TAX: $0.00
TOTAL COST: $0.00

WEIGHER: swelsdn

CUSTOMER SIGNATURE:

CITY of ALBUQUERQUE
SOLID WASTE MANAGEMENT DEPARTMENT
CERRO COLORADO LANDFILL (505)761-8306
18000 CERRO COLORADO
ALBUQUERQUE, NM 87121

ORIGINAL

DATE: 07/01/2019
TIME IN: 02:04:34 PM
TIME OUT: 02:18:36 PM

TICKET#: 1,733,180

CUSTOMER: ENVIROWORKS RAIL YARDS
ACCOUNT#: 4408374131
BILL TO: ENVIROWORKS RAIL YARDS
HAULER: ENVIROWORKS RAIL YARDS
TRUCK#: ENV 700
CONTAINER:
PROFILE:
MATERIAL: CONTAMINATED SOIL
COMMENT: 87102//RAIL YARD SOIL//ENV 700

--- Driver On Scale (Yes if checked)

	POUNDS	TONS
GROSS:	76,160	38.08
TARE:	36,080	18.04
NET:	40,080	20.04

PRODUCT COST: $0.00
SPECIAL FEE: $0.00
TAX: $0.00

TOTAL COST: $0.0(

WEIGHER: swdsdn

CUSTOMER SIGNATURE:

CITY of ALBUQUERQUE
SOLID WASTE MANAGEMENT DEPARTMENT
CERRO COLORADO LANDFILL (505)761-8306
18000 CERRO COLORADO
ALBUQUERQUE NM 87121

ORIGINAL

DATE: 07/01/2019
TIME IN: 02:34:00 PM
TIME OUT: 02:47:15 PM

TICKET#: 1,733,194

CUSTOMER: ENVIROWORKS RAIL YARDS
ACCOUNT#: 4408374131
BILL TO: ENVIROWORKS RAIL YARDS
HAULER: ENVIROWORKS RAIL YARDS
TRUCK#: ENV T-3
CONTAINER:
PROFILE:
MATERIAL: CONTAMINATED SOIL
COMMENT: 87107//RAIL YARD SOIL//T-3

--- Driver On Scale (Yes if checked) ---

	POUNDS	TONS
GROSS:	78,280	39.14
TARE:	36,280	18.14
NET:	42,000	21.00

PRODUCT COST: $0.00
SPECIAL FEE: $0.00
TAX: $0.00
TOTAL COST: $0.0(

WEIGHER: swdsdn

CUSTOMER SIGNATURE:

CITY of ALBUQUERQUE
SOLID WASTE MANAGEMENT DEPARTMENT
CERRO COLORADO LANDFILL (505)761-8306
18000 CERRO COLORADO
ALBUQUERQUE, NM 87121

ORIGINAL

DATE: 07/01/2019
TIME IN: 02:52:06 PM
TIME OUT: 03:02:09 PM

TICKET#: 1,733,204

CUSTOMER: ENVIROWORKS RAIL YARDS
ACCOUNT#: 440R374131
BILLTO: ENVIROWORKS RAIL YARDS
HAULER: ENVIROWORKS RAIL YARDS
TRUCK#: ENV 860
CONTAINER:
PROFILE:
MATERIAL: CONTAMINATED SOIL
COMMENT: 87120 // RAIL YARD SOIL // TRUCK# 860

--- Driver On Scale (Yes if checked)

	POUNDS	TONS
GROSS:	~~76,830~~	38.41
TARE:	32,760	16.38
NET:	44,060	22.03

PRODUCT COST: $0.00
SPECIAL FEE: $0.00
TAX: $0.00
TOTAL COST: $0.00

WEIGHER: swristin

CUSTOMER SIGNATURE:

CITY of ALBUQUERQUE
SOLID WASTE MANAGEMENT DEPARTMENT
CERRO COLORADO LANDFILL (505)761-8306
18000 CERRO COLORADO
ALBUQUERQUE NM 87121

ORIGINAL

DATE: 07/01/2019
TIME IN: 02:52:53 PM
TIME OUT: 03:04:22 PM

TICKET#: 1,733,206

CUSTOMER: ENVIROWORKS RAIL YARDS
ACCOUNT#: 4408374131
BILL TO: ENVIROWORKS RAIL YARDS
HAULER: ENVIROWORKS RAIL YARDS
TRUCK#: ENV 969
CONTAINER:
PROFILE:
MATERIAL: CONTAMINATED SOIL
COMMENT: 87120 // RAIL YARD SOIL

--- Driver On Scale (Yes if checked)

	POUNDS	TONS
GROSS:	75,720	37.86
TARE:	32,220	16.11
NET:	43,500	21.75

PRODUCT COST: $0.00
SPECIAL FEE: $0.00
TAX: $0.00

TOTAL COST: $0.00

WEIGHER: swalsdin

CUSTOMER SIGNATURE:

CITY of ALBUQUERQUE
SOLID WASTE MANAGEMENT DEPARTMENT
CERRO COLORADO LANDFILL (505)761-8306
18000 CERRO COLORADO
ALBUQUERQUE NM 87121

ORIGINAL

DATE: 07/01/2019
TIME IN: 03:40:17 PM
TIME OUT: 03:52:22 PM

TICKET#: 1,733,216

CUSTOMER: ENVIROWORKS RAIL YARDS
ACCOUNT#: 4408374131
BILLTO: ENVIROWORKS RAIL YARDS
HAULER: ENVIROWORKS RAIL YARDS
TRUCK#: ENV 900
CONTAINER:
PROFILE:
MATERIAL: CONTAMINATED SOIL
COMMENT: 87102 // RAIL YARD SOIL // TRUCK # T-9

--- Driver On Scale (Yes if checked)

	POUNDS	TONS
GROSS:	82,060	41.03
TARE:	38,940	19.47
NET:	43,120	21.56

PRODUCT COST:	$0.00
SPECIAL FEE:	$0.00
TAX:	$0.00
TOTAL COST:	$0.0(

WEIGHER: swdexe

CUSTOMER SIGNATURE:

CITY of ALBUQUERQUE
SOLID WASTE MANAGEMENT DEPARTMENT
CERRO COLORADO LANDFILL (505)761-8306
18000 CERRO COLORADO
ALBUQUERQUE NM 87121

ORIGINAL

DATE: 07/01/2019
TIME IN: 03:42:04 PM
TIME OUT: 03:54:42 PM

TICKET#: 1,733,212

CUSTOMER: ENVIROWORKS RAIL YARDS
ACCOUNT#: 4408374131
BILL TO: ENVIROWORKS RAIL YARDS
HAULER: ENVIROWORKS RAIL YARDS
TRUCK#: ENV 700
CONTAINER:
PROFILE:
MATERIAL CONTAMINATED SOIL
COMMENT: 87102 // RAIL YARD SOIL // TRUCK T-7

--- Driver On Scale (Yes if checked)

	POUNDS	TONS
GROSS:	78,120	39.06
TARE:	36,060	18.03
NET:	42,060	21.03

PRODUCT COST:	$0.00
SPECIAL FEE:	$0.00
TAX:	$0.00
TOTAL COST:	$0.00

WEIGHER: swdcrw

CUSTOMER SIGNATURE: _____

CITY OF ALBUQUERQUE
SOLID WASTE MANAGEMENT DEPARTMENT
CERRO COLORADO LANDFILL (505) 761-8306
18000 CERRO COLORADO
ALBUQUERQUE, NM 87121

ORIGINAL

DATE: 07/01/2019
TIME IN: 03:51:07 PM
TIME OUT: 03:58:57 PM

TICKET#: 1,733,220

CUSTOMER: ENVIROWORKS RAIL YARDS
ACCOUNT#: 4309774127
BILL TO: ENVIROWORKS RAIL YARDS
HAULER: ENVIROWORKS RAIL YARDS
TRUCK#: ENV 300
CONTAINER:
PROFILE:
MATERIAL: CONTAMINATED SOIL
COMMENT: 8710 // RAIL YARD SOIL // TRUCK # T-3

Driver On Scale (Yes if checked)

	POUNDS	TONS
GROSS:	75,660	37.83
TARE:	35,400	17.70
NET:	40,260	20.13

PRODUCT COST: $0.00
SPECIAL FEE: $0.00
TAX: $0.00

TOTAL COST: $0.00

WEIGHER: mendova

CUSTOMER'S SIGNATURE:

CITY of ALBUQUERQUE
SOLID WASTE MANAGEMENT DEPARTMENT
CERRO COLORADO LANDFILL (505)761-8306
18000 CERRO COLORADO
ALBUQUERQUE NM 87121

ORIGINAL

DATE: 07/02/2019
TIME IN: 08:10:07 AM
TIME OUT: 08:27:25 AM

TICKET#: 1,733,275

CUSTOMER: ENVIROWORKS RAIL YARDS
ACCOUNT#: 4408374131
BILL TO: ENVIROWORKS RAIL YARDS
HAULER: ENVIROWORKS RAIL YARDS
TRUCK#: ENV 900
CONTAINER:
PROFILE:
MATERIAL: CONTAMINATED SOIL
COMMENT: 87102 // RAIL YARD SOIL // TRUCK T 9

--- Driver On Scale (Yes if checked)

	POUNDS	TONS
GROSS:	76,080	38.04
TARE:	38,840	19.42
NET:	37,240	18.62

PRODUCT COST: $0.00
SPECIAL FEE: $0.00
TAX: $0.00

TOTAL COST: $0.0(

WEIGHER: ramiio

CUSTOMER SIGNATURE: _____

CITY of ALBUQUERQUE
SOLID WASTE MANAGEMENT DEPARTMENT
CERRO COLORADO LANDFILL (505)761-8306
18000 CERRO COLORADO
ALBUQUERQUE, NM 87121

ORIGINAL

DATE: 07/02/2019
TIME IN: 08:16:17 AM
TIME OUT: 08:29:31 AM

TICKET#: 1,733,276

CUSTOMER: ENVIROWORKS RAIL YARDS
ACCOUNT#: 4408374131
BILL TO: ENVIROWORKS RAIL YARDS
HAULER: ENVIROWORKS RAIL YARDS
TRUCK#: ENV 969
CONTAINER:
PROFILE:
MATERIAL: CONTAMINATED SOIL
COMMENT: 87102 // RAIL YARD SOIL // TRUCK # 81969

--- Driver On Scale (Yes if checked)

	POUNDS	TONS
GROSS:	72,600	36.30
TARE:	32,020	16.01
NET:	40,580	20.29

PRODUCT COST:	$0.00
SPECIAL FEE:	$0.00
TAX:	$0.00
TOTAL COST:	$0.00

WEIGHER: ramirio

CUSTOMER SIGNATURE: _____

CITY of ALBUQUERQUE

SOLID WASTE MANAGEMENT DEPARTMENT
CERRO COLORADO LANDFILL (505)761-8306
18000 CERRO COLORADO
ALBUQUERQUE NM 87121

ORIGINAL

DATE: 07/02/2019
TIME IN: 08:11:56 AM
TIME OUT: 08:25:00 AM

TICKET#: 1,733,273

CUSTOMER: ENVIROWORKS RAIL YARDS
ACCOUNT#: 4408374131
BILL TO: ENVIROWORKS RAIL YARDS
HAULER: ENVIROWORKS RAIL YARDS
TRUCK#: ENV 700
CONTAINER:
PROFILE:
MATERIAL: CONTAMINATED SOIL
COMMENT: 87102 // RAIL YARD SOIL // TRUCK T- 7

Driver On Scale (Yes if checked)

	POUNDS	TONS
GROSS:	74,200	37.10
TARE:	36,880	18.44
NET:	37,320	18.66

PRODUCT COST: $0.00
SPECIAL FEE: $0.00
TAX: $0.00

TOTAL COST: $0.0(

WEIGHER: rarmijo

CUSTOMER SIGNATURE:

CITY of ALBUQUERQUE
SOLID WASTE MANAGEMENT DEPARTMENT
CERRO COLORADO LANDFILL (505)761-8306
18000 CERRO COLORADO
ALBUQUERQUE, NM 87121

ORIGINAL

DATE: 07/02/2019
TIME IN: 08:25:37 AM
TIME OUT: 08:39:20 AM

TICKET#: 1,733,281

CUSTOMER: ENVIROWORKS RAIL YARDS
ACCOUNT#: 440837413 1
BILL TO: ENVIROWORKS RAIL YARDS
HAULER: ENVIROWORKS RAIL YARDS
TRUCK#: ENV 860
CONTAINER:
PROFILE:
MATERIAL: CONTAMINATED SOIL
COMMENT: 87102 // RAIL YARD SOIL // TRUCK # 860

--- Driver On Scale (Yes if checked)

	POUNDS	TONS
GROSS:	73,140	36.57
TARE:	33,200	16.60
NET:	39,940	19.97

PRODUCT COST:	$0.00
SPECIAL FEE:	$0.00
TAX:	$0.00
TOTAL COST:	$0.00

WEIGHER: ramirio

CUSTOMER SIGNATURE:

CITY of ALBUQUERQUE
SOLID WASTE MANAGEMENT DEPARTMENT
CERRO COLORADO LANDFILL (505)761-8306
18000 CERRO COLORADO
ALBUQUERQUE, NM 87121

ORIGINAL

DATE: 07/02/2019
TIME IN: 08:45:42 AM
TIME OUT: 09:03:57 AM

TICKET#: 1,733,298

CUSTOMER: ENVIROWORKS RAIL YARDS
ACCOUNT#: 4408374131
BILL TO: ENVIROWORKS RAIL YARDS
HAULER: ENVIROWORKS RAIL YARDS
TRUCK#: ENV T-3
CONTAINER:
PROFILE:
MATERIAL: CONTAMINATED SOIL
COMMENT: 87102 // RAIL YARD SOIL // TRUCK # T-3

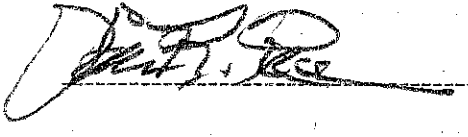
--- Driver On Scale (Yes if checked)

	POUNDS	TONS
GROSS:	77,060	38.53
TARE:	36,220	18.11
NET:	40,840	20.42

PRODUCT COST: $0.00
SPECIAL FEE: $0.00
TAX: $0.00

TOTAL COST: $0.00

WEIGHER: swilson

CUSTOMER SIGNATURE: 

CITY of ALBUQUERQUE
SOLID WASTE MANAGEMENT DEPARTMENT
CERRO COLORADO LANDFILL (505)761-8306
18000 CERRO COLORADO
ALBUQUERQUE NM 87121

ORIGINAL

DATE: 07/02/2019
TIME IN: 08:47:30 AM
TIME OUT: 09:01:38 AM

TICKET#: 1,733,295

CUSTOMER: ENVIROWORKS RAIL YARDS
ACCOUNT#: 4408374131
BILL TO: ENVIROWORKS RAIL YARDS
HAULER: ENVIROWORKS RAIL YARDS
TRUCK#: ENV 500
CONTAINER:
PROFILE:
MATERIAL: CONTAMINATED SOIL
COMMENT: 87102 // RAIL YARD SOIL // TRUCK # T-5

Driver On Scale (Yes if checked)

	POUNDS	TONS
GROSS:	81,340	40.67
TARE:	35,440	17.72
NET:	45,900	22.95

PRODUCT COST:	$0.00
SPECIAL FEE:	$0.00
TAX:	$0.00
TOTAL COST:	$0.00

WEIGHER: swdavm

CUSTOMER SIGNATURE:

CITY of ALBUQUERQUE
SOLID WASTE MANAGEMENT DEPARTMENT
CERRO COLORADO LANDFILL (505)761-8306
18000 CERRO COLORADO
ALBUQUERQUE NM 87121

ORIGINAL

DATE: 07/02/2019
TIME IN: 09:45:29 AM
TIME OUT: 10:07:21 AM

TICKET#: 1,733,348

CUSTOMER: ENVIROWORKS RAIL YARDS
ACCOUNT#: 4408374131
BILL TO: ENVIROWORKS RAIL YARDS
HAULER: ENVIROWORKS RAIL YARDS
TRUCK#: ENV 969
CONTAINER:
PROFILE:
MATERIAL: CONTAMINATED SOIL
COMMENT: 87102 // RAIL YARD SOIL // TRUCK # 81969

Driver On Scale (Yes if checked)

	POUNDS	TONS
GROSS:	74,800	37.40
TARE:	32,020	16.01
NET:	42,780	21.39

PRODUCT COST: $0.00
SPECIAL FEE: $0.00
TAX: $0.00

TOTAL COST: $0.00

WEIGHER: swalters

CUSTOMER SIGNATURE:

CITY of ALBUQUERQUE
SOLID WASTE MANAGEMENT DEPARTMENT
CERRO COLORADO LANDFILL (505)761-8306
18000 CERRO COLORADO
ALBUQUERQUE, NM 87121

ORIGINAL

DATE: 07/02/2019
TIME IN: 09:51:36 AM
TIME OUT: 10:04:59 AM

TICKET#: 1,733,347

CUSTOMER: ENVIROWORKS RAIL YARDS
ACCOUNT#: 4408374131
BILL TO: ENVIROWORKS RAIL YARDS
HAULER: ENVIROWORKS RAIL YARDS
TRUCK#: ENV 700
CONTAINER:
PROFILE:
MATERIAL: CONTAMINATED SOIL
COMMENT: 87102 // RAIL YARD SOIL // TRUCK # T-7

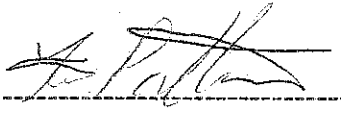
--- Driver On Scale (Yes if checked)

	POUNDS	TONS
GROSS:	76,960	38.48
TARE:	36,860	18.43
NET:	40,100	20.05

PRODUCT COST: $0.00
SPECIAL FEE: $0.00
TAX: $0.00

TOTAL COST: $0.00

WEIGHER: swdaxp

CUSTOMER SIGNATURE: 

CITY of ALBUQUERQUE

SOLID WASTE MANAGEMENT DEPARTMENT
CERRO COLORADO LANDFILL (505)761-8306
18000 CERRO COLORADO
ALBUQUERQUE, NM 87121

ORIGINAL

DATE: 07/02/2019
TIME IN: 10:09:24 AM
TIME OUT: 10:16:54 AM

TICKET#: 1,733,355

CUSTOMER: ENVIROWORKS RAIL YARDS
ACCOUNT#: 4408374131
BILL TO: ENVIROWORKS RAIL YARDS
HAULER: ENVIROWORKS RAIL YARDS
TRUCK#: ENV 860
CONTAINER:
PROFILE:
MATERIAL: CONTAMINATED SOIL
COMMENT: 87102 // RAIL YARD SOIL // TRUCK # 860

Driver On Scale (Yes if checked)

	POUNDS	TONS
GROSS:	78,240	39.12
TARE:	33,140	16.57
NET:	45,100	22.55

PRODUCT COST:	$0.00
SPECIAL FEE:	$0.00
TAX:	$0.00
TOTAL COST:	$0.00

WEIGHER: swvisrv

CUSTOMER SIGNATURE:

CITY of ALBUQUERQUE
SOLID WASTE MANAGEMENT DEPARTMENT
CERRO COLORADO LANDFILL (505)761-8306
18000 CERRO COLORADO
ALBUQUERQUE, NM 87121

ORIGINAL

DATE: 07/02/2019
TIME IN: 10:07:50 AM
TIME OUT: 10:22:49 AM

TICKET#: 1,733,359

CUSTOMER: ENVIROWORKS RAIL YARDS
ACCOUNT#: 4408374131
BILL TO: ENVIROWORKS RAIL YARDS
HAULER: ENVIROWORKS RAIL YARDS
TRUCK#: ENV 900
CONTAINER:
PROFILE:
MATERIAL: CONTAMINATED SOIL
COMMENT: 87102 // RAIL YARD SOIL // TRUCK # T-9

--- Driver On Scale (Yes if checked)

	POUNDS	TONS
GROSS:	79,320	39.66
TARE:	39,500	19.75
NET:	39,820	19.91

PRODUCT COST: $0.00
SPECIAL FEE: $0.00
TAX: $0.00

TOTAL COST: $0.0(

WEIGHER: swdavn

CUSTOMER SIGNATURE:

CITY of ALBUQUERQUE
SOLID WASTE MANAGEMENT DEPARTMENT
CERRO COLORADO LANDFILL (505)761-8306
18000 CERRO COLORADO
ALBUQUERQUE NM 87121

ORIGINAL

DATE: 07/02/2019
TIME IN: 10:25:31 AM
TIME OUT: 10:34:11 AM

TICKET#: 1,733,366

CUSTOMER: ENVIROWORKS RAIL YARDS
ACCOUNT#: 4408374131
BILL TO: ENVIROWORKS RAIL YARDS
HAULER: ENVIROWORKS RAIL YARDS
TRUCK#: ENV 300
CONTAINER:
PROFILE:
MATERIAL: CONTAMINATED SOIL
COMMENT: 87120 // RAIL YARD SOIL // TRUCK# T-3

--- Driver On Scale (Yes if checked)

	POUNDS	TONS
GROSS:	80,780	40.39
TARE:	36,140	18.07
NET:	44,640	22.32

PRODUCT COST:	$0.00
SPECIAL FEE:	$0.00
TAX:	$0.00
TOTAL COST:	$0.00

WEIGHER: swidmyer

CUSTOMER SIGNATURE: _____

CITY of ALBUQUERQUE
SOLID WASTE MANAGEMENT DEPARTMENT
CERRO COLORADO LANDFILL (505)761-8306
18000 CERRO COLORADO
ALBUQUERQUE NM 87121

ORIGINAL

DATE: 07/02/2019
TIME IN: 10:31:13 AM
TIME OUT: 10:37:37 AM

TICKET#: 1,733,368

CUSTOMER: ENVIROWORKS RAIL YARDS
ACCOUNT#: 4408374131
BILL TO: ENVIROWORKS RAIL YARDS
HAULER: ENVIROWORKS RAIL YARDS
TRUCK#: ENV 500
CONTAINER:
PROFILE:
MATERIAL: CONTAMINATED SOIL
COMMENT: 87120 // RAILYARD SOIL // TRUCK# T-5

--- Driver On Scale (Yes if checked)

	POUNDS	TONS
GROSS:	81,600	40.80
TARE:	35,320	17.66
NET:	46,280	23.14

PRODUCT COST: $0.00
SPECIAL FEE: $0.00
TAX: $0.00

TOTAL COST: $0.0(

WEIGHER: swdaxp

CUSTOMER SIGNATURE:

CITY of ALBUQUERQUE

SOLID WASTE MANAGEMENT DEPARTMENT
CERRO COLORADO LANDFILL (505)761-8306
18000 CERRO COLORADO
ALBUQUERQUE NM 87121

ORIGINAL

DATE: 07/02/2019
TIME IN: 11:23:23 AM
TIME OUT: 11:36:47 AM

TICKET#: 1,733,408

CUSTOMER: ENVIROWORKS RAIL YARDS
ACCOUNT#: 4408374131
BILLTO: ENVIROWORKS RAIL YARDS
HAULER: ENVIROWORKS RAIL YARDS
TRUCK#: ENV 700
CONTAINER:
PROFILE:
MATERIAL: CONTAMINATED SOIL
COMMENT: 87102 // RAILYARD SOIL // TRUCK # T-7

Driver On Scale (Yes if checked)

	POUNDS	TONS
GROSS:	86,820	43.41
TARE:	36,780	18.39
NET:	50,040	25.02

PRODUCT COST:	$0.00
SPECIAL FEE:	$0.00
TAX:	$0.00
TOTAL COST:	$0.00

WEIGHER: swdexe

CUSTOMER SIGNATURE: _____

CITY of ALBUQUERQUE
SOLID WASTE MANAGEMENT DEPARTMENT
CERRO COLORADO LANDFILL (505)761-8306
18000 CERRO COLORADO
ALBUQUERQUE NM 87121

ORIGINAL

DATE: 07/02/2019
TIME IN: 11:26:56 AM
TIME OUT: 11:34:50 AM

TICKET#: 1,733,406

CUSTOMER: ENVIROWORKS RAIL YARDS
ACCOUNT#: 4408374131
BILL TO: ENVIROWORKS RAIL YARDS
HAULER: ENVIROWORKS RAIL YARDS
TRUCK#: ENV 969
CONTAINER:
PROFILE:
MATERIAL: CONTAMINATED SOIL
COMMENT: 87102 // RAILYARD SOIL // TRUCK #81969

--- Driver On Scale (Yes if checked)

	POUNDS	TONS
GROSS:	72,920	36.46
TARE:	31,920	15.96
NET:	41,000	20.50

PRODUCT COST: $0.00
SPECIAL FEE: $0.00
TAX: $0.00

TOTAL COST: $0.0(

WEIGHER: swdcss

CUSTOMER SIGNATURE: _____

CITY of ALBUQUERQUE

SOLID WASTE MANAGEMENT DEPARTMENT
CERRO COLORADO LANDFILL (505)761-8306
18000 CERRO COLORADO
ALBUQUERQUE, NM 87121

ORIGINAL

DATE: 07/02/2019
TIME IN: 11:37:01 AM
TIME OUT: 11:49:07 AM

TICKET#: 1,733,417

CUSTOMER: ENVIROWORKS RAIL YARDS
ACCOUNT#: 4408374131
BILL TO: ENVIROWORKS RAIL YARDS
HAULER: ENVIROWORKS RAIL YARDS
TRUCK#: ENV 860
CONTAINER:
PROFILE:
MATERIAL: CONTAMINATED SOIL
COMMENT: 87102 // RAILYARD SOIL // TRUCK # 860

Driver On Scale (Yes if checked)

	POUNDS	TONS
GROSS:	74,000	37.00
TARE:	33,040	16.52
NET:	40,960	20.48

PRODUCT COST:	$0.00
SPECIAL FEE:	$0.00
TAX:	$0.00
TOTAL COST:	$0.00

WEIGHER: swdcxs

CUSTOMER SIGNATURE:

CITY of ALBUQUERQUE
SOLID WASTE MANAGEMENT DEPARTMENT
CERRO COLORADO LANDFILL (505)761-8306
18000 CERRO COLORADO
ALBUQUERQUE, NM 87121

ORIGINAL

DATE: 07/02/2019
TIME IN: 11:47:34 AM
TIME OUT: 12:00:40 PM

TICKET#: 1,733,423

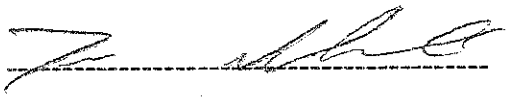
CUSTOMER: ENVIROWORKS RAIL YARDS
ACCOUNT#: 4408?74131
BILL TO: ENVIROWORKS RAIL YARDS
HAULER: ENVIROWORKS RAIL YARDS
TRUCK#: ENV 900
CONTAINER:
PROFILE:
MATERIAL: CONTAMINATED SOIL
COMMENT: 87102 // RAI YARD SOIL // TRUCK # T-9

Driver On Scale (Yes if checked)

	POUNDS	TONS
GROSS:	80,300	40.15
TARE:	39,420	19.71
NET:	40,880	20.44

PRODUCT COST: $0.00
SPECIAL FEE: $0.00
TAX: $0.00
TOTAL COST: $0.0(

WEIGHER: swdcxe

CUSTOMER SIGNATURE: 

CITY of ALBUQUERQUE
SOLID WASTE MANAGEMENT DEPARTMENT
CERRO COLORADO LANDFILL (505)761-8306
18000 CERRO COLORADO
ALBUQUERQUE, NM 87121

ORIGINAL

DATE: 07/02/2019
TIME IN: 11:58:30 AM
TIME OUT: 12:09:11 PM

TICKET#: 1,733,429

CUSTOMER: ENVIROWORKS RAIL YARDS
ACCOUNT#: 4408374131
BILL TO: ENVIROWORKS RAIL YARDS
HAULER: ENVIROWORKS RAIL YARDS
TRUCK#: ENV 300
CONTAINER:
PROFILE:
MATERIAL: CONTAMINATED SOIL
COMMENT: 87102 // RAIL YARD SOIL // TRUCK # T-3

--- Driver On Scale (Yes if checked)

	POUNDS	TONS
GROSS:	75,940	37.97
TARE:	36,080	18.04
NET:	39,860	19.93

PRODUCT COST:	$0.00
SPECIAL FEE:	$0.00
TAX:	$0.00
TOTAL COST:	$0.0(

WEIGHER: ramiio

CUSTOMER SIGNATURE:

CITY of ALBUQUERQUE

SOLID WASTE MANAGEMENT DEPARTMENT
CERRO COLORADO LANDFILL (505)761-8306
18000 CERRO COLORADO
ALBUQUERQUE, NM 87121

ORIGINAL

DATE: 07/02/2019
TIME IN: 12:03:34 PM
TIME OUT: 12:12:41 PM

TICKET#: 1,733,430

CUSTOMER: ENVIROWORKS RAIL YARDS
ACCOUNT#: 4408374131
BILL TO: ENVIROWORKS RAIL YARDS
HAULER: ENVIROWORKS RAIL YARDS
TRUCK#: ENV 500
CONTAINER:
PROFILE:
MATERIAL: CONTAMINATED SOIL
COMMENT: 87102 // RAIL YARD SOIL // TRUCK # T-5

--- Driver On Scale (Yes if checked)

	POUNDS	TONS
GROSS:	76,680	38.34
TARE:	35,240	17.62
NET:	41,440	20.72

PRODUCT COST: $0.00
SPECIAL FEE: $0.00
TAX: $0.00

TOTAL COST: $0.0(

WEIGHER: rarmijo

CUSTOMER SIGNATURE:

CITY of ALBUQUERQUE
SOLID WASTE MANAGEMENT DEPARTMENT
CERRO COLORADO LANDFILL (505)761-8306
18000 CERRO COLORADO
ALBUQUERQUE, NM 87121

ORIGINAL

DATE: 07/02/2019
TIME IN: 12:47:58 PM
TIME OUT: 12:59:59 PM

TICKET#: 1,733,463

CUSTOMER: ENVIROWORKS RAIL YARDS
ACCOUNT#: 4408374131
BILLTO: ENVIROWORKS RAIL YARDS
HAULER: ENVIROWORKS RAIL YARDS
TRUCK#: ENV 969
CONTAINER:
PROFILE:
MATERIAL: CONTAMINATED SOIL
COMMENT: 87120 // RAILYARD SOIL // TRUCK# 81969

--- Driver On Scale (Yes if checked)

	POUNDS	TONS
GROSS:	73,560	36.78
TARE:	31,840	15.92
NET:	41,720	20.86

PRODUCT COST:	$0.00
SPECIAL FEE:	$0.00
TAX:	$0.00
TOTAL COST:	$0.00

WEIGHER: ramirio

CUSTOMER SIGNATURE: _____

CITY of ALBUQUERQUE
SOLID WASTE MANAGEMENT DEPARTMENT
CERRO COLORADO LANDFILL (505)761-8306
18000 CERRO COLORADO
ALBUQUERQUE NM 87121

ORIGINAL

TICKET#: 1,733,478

DATE: 07/02/2019
TIME IN: 01:07:03 PM
TIME OUT: 01:14:46 PM

CUSTOMER: ENVIROWORKS RAIL YARDS
ACCOUNT#: 4408374131
BILL TO: ENVIROWORKS RAIL YARDS
HAULER: ENVIROWORKS RAIL YARDS
TRUCK#: ENV 700
CONTAINER:
PROFILE:
MATERIAL: CONTAMINATED SOIL
COMMENT: 87102//RAIL YARD SOIL//T-7

Driver On Scale (Yes if checked)

	POUNDS	TONS
GROSS:	81,120	40.56
TARE:	36,720	18.36
NET:	44,400	22.20

PRODUCT COST: $0.00
SPECIAL FEE: $0.00
TAX: $0.00
TOTAL COST: $0.0(

WEIGHER: rarmijo

CUSTOMER SIGNATURE:

CITY of ALBUQUERQUE
SOLID WASTE MANAGEMENT DEPARTMENT
CERRO COLORADO LANDFILL (505)761-8306
18000 CERRO COLORADO
ALBUQUERQUE, NM 87121

ORIGINAL

DATE: 07/02/2019
TIME IN: 01:10:51 PM
TIME OUT: 01:18:20 PM

TICKET#: 1,733,481

CUSTOMER: ENVIROWORKS RAIL YARDS
ACCOUNT#: 4408374131
BILL TO: ENVIROWORKS RAIL YARDS
HAULER: ENVIROWORKS RAIL YARDS
TRUCK#: ENV 860
CONTAINER:
PROFILE:
MATERIAL: CONTAMINATED SOIL
COMMENT: 87102 // RAIL YARD SOIL // TRUCK # 860

--- Driver On Scale (Yes if checked)

	POUNDS	TONS
GROSS:	73,020	36.51
TARE:	33,000	16.50
NET:	40,020	20.01

PRODUCT COST: $0.00
SPECIAL FEE: $0.00
TAX: $0.00

TOTAL COST: $0.00

WEIGHER: [illegible]

CUSTOMER SIGNATURE: [signature]

CITY of ALBUQUERQUE
SOLID WASTE MANAGEMENT DEPARTMENT
CERRO COLORADO LANDFILL (505)761-8306
18000 CERRO COLORADO
ALBUQUERQUE, NM 87121

ORIGINAL

DATE: 07/02/2019
TIME IN: 01:47:37 PM
TIME OUT: 01:59:11 PM

TICKET#: 1,733,510

CUSTOMER: ENVIROWORKS RAIL YARDS
ACCOUNT#: 4408374131
BILL TO: ENVIROWORKS RAIL YARDS
HAULER: ENVIROWORKS RAIL YARDS
TRUCK#: ENV 900
CONTAINER:
PROFILE:
MATERIAL: CONTAMINATED SOIL
COMMENT: 87102 // RAIL YARD SOIL // TRUCK # T-9

--- Driver On Scale (Yes if checked)

	POUNDS	TONS
GROSS:	78,780	39.39
TARE:	39,360	19.68
NET:	39,420	19.71

PRODUCT COST: $0.00
SPECIAL FEE: $0.00
TAX: $0.00

TOTAL COST: $0.0(

WEIGHER: ramirio

CUSTOMER SIGNATURE:

CITY of ALBUQUERQUE
SOLID WASTE MANAGEMENT DEPARTMENT
CERRO COLORADO LANDFILL (505)761-8306
18000 CERRO COLORADO
ALBUQUERQUE NM 87121

ORIGINAL

DATE: 07/02/2019
TIME IN: 01:49:56 PM
TIME OUT: 02:02:32 PM

TICKET#: 1,733,513

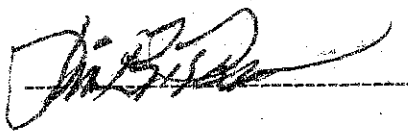
CUSTOMER: ENVIROWORKS RAIL YARDS
ACCOUNT#: 4408374131
BILL TO: ENVIROWORKS RAIL YARDS
HAULER: ENVIROWORKS RAIL YARDS
TRUCK#: ENV 300
CONTAINER:
PROFILE:
MATERIAL: CONTAMINATED SOIL
COMMENT: 87102 // RAIL YARD SOIL // TRUCK # T-3

--- Driver On Scale (Yes if checked)

	POUNDS	TONS
GROSS:	78,820	39.41
TARE:	36,000	18.00
NET:	42,820	21.41

PRODUCT COST:	$0.00
SPECIAL FEE:	$0.00
TAX:	$0.00
TOTAL COST:	$0.00

WEIGHER: rarmijo

CUSTOMER SIGNATURE: 

CITY of ALBUQUERQUE

SOLID WASTE MANAGEMENT DEPARTMENT
CERRO COLORADO LANDFILL (505)761-8306
18000 CERRO COLORADO
ALBUQUERQUE, NM 87121

ORIGINAL

DATE: 07/02/2019
TIME IN: 01:33:39 PM
TIME OUT: 01:43:29 PM

TICKET#: 1,733,497

CUSTOMER: ENVIROWORKS RAIL YARDS
ACCOUNT#: 4408374131
BILL TO: ENVIROWORKS RAIL YARDS
HAULER: ENVIROWORKS RAIL YARDS
TRUCK#: ENV 500
CONTAINER:
PROFILE:
MATERIAL: CONTAMINATED SOIL
COMMENT: 87102 // RAIL YARD SOIL // TRUCK # T-5

--- Driver On Scale (Yes if checked)

	POUNDS	TONS
GROSS:	78,740	39.37
TARE:	35,180	17.59
NET:	43,560	21.78

PRODUCT COST:	$0.00
SPECIAL FEE:	$0.00
TAX:	$0.00
TOTAL COST:	$0.00

WEIGHER: rarmijo

CUSTOMER SIGNATURE: Martin L

CITY of ALBUQUERQUE
SOLID WASTE MANAGEMENT DEPARTMENT
CERRO COLORADO LANDFILL (505)761-8306
18000 CERRO COLORADO
ALBUQUERQUE, NM 87121

ORIGINAL

DATE: 07/02/2019
TIME IN: 02:15:26 PM
TIME OUT: 02:35:34 PM

TICKET#: 1,733,529

CUSTOMER: ENVIROWORKS RAIL YARDS
ACCOUNT#: 4408374131
BILL TO: ENVIROWORKS RAIL YARDS
HAULER: ENVIROWORKS RAIL YARDS
TRUCK#: ENV 969
CONTAINER:
PROFILE:
MATERIAL: CONTAMINATED SOIL
COMMENT: 87102 // RAIL YARD SOIL // TRUCK # 86969

--- Driver On Scale (Yes if checked)

	POUNDS	TONS
GROSS:	75,760	37.88
TARE:	31,800	15.90
NET:	43,960	21.98

PRODUCT COST: $0.00
SPECIAL FEE: $0.00
TAX: $0.00

TOTAL COST: $0.00

WEIGHER: swdavis

CUSTOMER SIGNATURE: _____

CITY of ALBUQUERQUE
SOLID WASTE MANAGEMENT DEPARTMENT
CERRO COLORADO LANDFILL (505)761-8306
18000 CERRO COLORADO
ALBUQUERQUE NM 87121

ORIGINAL

DATE: 07/02/2019
TIME IN: 02:40:51 PM
TIME OUT: 02:54:39 PM

TICKET#: 1,733,542

CUSTOMER: ENVIROWORKS RAIL YARDS
ACCOUNT#: 4408374131
BILL TO: ENVIROWORKS RAIL YARDS
HAULER: ENVIROWORKS RAIL YARDS
TRUCK#: ENV 700
CONTAINER:
PROFILE:
MATERIAL: CONTAMINATED SOIL
COMMENT: 87102 / RAIL YARD SOIL // TRUCK # T-7

--- Driver On Scale (Yes if checked)

	POUNDS	TONS
GROSS:	77,380	38.69
TARE:	36,640	18.32
NET:	40,740	20.37

PRODUCT COST:	$0.00
SPECIAL FEE:	$0.00
TAX:	$0.00
TOTAL COST:	$0.00

WEIGHER: swalters

CUSTOMER SIGNATURE: _____

CITY of ALBUQUERQUE
SOLID WASTE MANAGEMENT DEPARTMENT
CERRO COLORADO LANDFILL (505)761-8306
18000 CERRO COLORADO
ALBUQUERQUE NM 87121

ORIGINAL

DATE: 07/02/2019
TIME IN: 02:47:06 PM
TIME OUT: 02:57:47 PM

TICKET#: 1,733,543

CUSTOMER: ENVIROWORKS RAIL YARDS
ACCOUNT#: 4408374131
BILL TO: ENVIROWORKS RAIL YARDS
HAULER: ENVIROWORKS RAIL YARDS
TRUCK#: ENV 860
CONTAINER:
PROFILE:
MATERIAL: CONTAMINATED SOIL
COMMENT: 87102 // RAIL YARD SOIL / TRUCK # 860

Driver On Scale (Yes if checked)

	POUNDS	TONS
GROSS:	72,280	36.14
TARE:	32,900	16.45
NET:	39,380	19.69

PRODUCT COST: $0.00
SPECIAL FEE: $0.00
TAX: $0.00

TOTAL COST: $0.00

WEIGHER: svendsen

CUSTOMER SIGNATURE:

CITY of ALBUQUERQUE
SOLID WASTE MANAGEMENT DEPARTMENT
CERRO COLORADO LANDFILL (505)761-8306
18000 CERRO COLORADO
ALBUQUERQUE, NM 87121

MANUAL
ORIGINAL

DATE: 07/02/2019
TIME IN: 02:39:46 PM
TIME OUT: 03:09:51 PM

TICKET#: 1,733,547

CUSTOMER: ENVIROWORKS RAIL YARDS
ACCOUNT#: 4408374131
BILL TO: ENVIROWORKS RAIL YARDS
HAULER: ENVIROWORKS RAIL YARDS
TRUCK#: ENV 500
CONTAINER:
PROFILE:
MATERIAL: CONTAMINATED SOIL
COMMENT: 87102 //RAIL YARD SOIL // TRUCK # T-5

--- Driver On Scale (Yes if checked)

	POUNDS	TONS
GROSS:	63,500	31.75
TARE:	35,120	17.56
NET:	28,380	14.19

PRODUCT COST: $0.00
SPECIAL FEE: $0.00
TAX: $0.00

TOTAL COST: $0.00

WEIGHER: swdavis

CUSTOMER SIGNATURE:

CITY of ALBUQUERQUE
SOLID WASTE MANAGEMENT DEPARTMENT
CERRO COLORADO LANDFILL (505)761-2306
12000 CERRO COLORADO
ALBUQUERQUE, NM 87121

ORIGINAL

DATE: 07/02/2019
TIME IN: 03:22:16 PM
TIME OUT: 03:40:49 PM

TICKET#: 1,733,560

CUSTOMER: ENVIROWORKS RAIL YARDS
ACCOUNT#: 4408374131
BILL TO: ENVIROWORKS RAIL YARDS
HAULER: ENVIROWORKS RAIL YARDS
TRUCK#: ENV 300
CONTAINER:
PROFILE:
MATERIAL: CONTAMINATED SOIL
COMMENT: 87102 // RAIL YARD SOIL // TRUCK # T-3

Driver On Scale (Yes if checked)

	POUNDS	TONS
GROSS:	76,620	38.31
TARE:	35,980	17.99
NET:	40,640	20.32

PRODUCT COST:	$0.00
SPECIAL FEE:	$0.00
TAX:	$0.00
TOTAL COST:	$0.00

WEIGHER: awilson

CUSTOMER SIGNATURE:

CITY of ALBUQUERQUE

SOLID WASTE MANAGEMENT DEPARTMENT
CERRO COLORADO LANDFILL (505)761-8306
18000 CERRO COLORADO
ALBUQUERQUE, NM 87121

ORIGINAL

DATE: 07/02/2019
TIME IN: 03:17:37 PM
TIME OUT: 03:30:22 PM

TICKET#: 1,733,556

CUSTOMER: ENVIROWORKS RAIL YARDS
ACCOUNT#: 4408374131
BILLTO: ENVIROWORKS RAIL YARDS
HAULER: ENVIROWORKS RAIL YARDS
TRUCK#: ENV 900
CONTAINER:
PROFILE:
MATERIAL: CONTAMINATED SOIL
COMMENT: 87102 // RAIL YARD SOIL // TRUCK # T-9

Driver On Scale (Yes if checked)

	POUNDS	TONS
GROSS:	74,620	37.31
TARE:	39,300	19.65
NET:	35,320	17.66

PRODUCT COST: $0.00
SPECIAL FEE: $0.00
TAX: $0.00

TOTAL COST: $0.0(

WEIGHER: swdaxp

CUSTOMER SIGNATURE:

CITY of ALBUQUERQUE
SOLID WASTE MANAGEMENT DEPARTMENT
CERRO COLORADO LANDFILL (505)761-8306
18000 CERRO COLORADO
ALBUQUERQUE NM 87121

ORIGINAL

DATE: 07/03/2019
TIME IN: 07:47:21 AM
TIME OUT: 07:54:38 AM

TICKET#: 1,733,612

CUSTOMER: ENVIROWORKS RAIL YARDS
ACCOUNT#: 4408374131
BILL TO: ENVIROWORKS RAIL YARDS
HAULER: ENVIROWORKS RAIL YARDS
TRUCK#: ENV 500
CONTAINER:
PROFILE:
MATERIAL: CONTAMINATED SOIL
COMMENT: 87102 // RAIL YARD SOIL // TRUCK # T-5

--- Driver On Scale (Yes if checked)

	POUNDS	TONS
GROSS:	80,360	40.18
TARE:	35,000	17.50
NET:	45,360	22.68

PRODUCT COST:	$0.00
SPECIAL FEE:	$0.00
TAX:	$0.00
TOTAL COST:	$0.00

WEIGHER: ramiio

CUSTOMER SIGNATURE:

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18000 CERRO COLORADO
ALBUQUERQUE, NM 87121

ORIGINAL

DATE: 07/03/2019
TIME IN: 07:58:57 AM
TIME OUT: 08:14:08 AM

TICKET#: 1,733,622

CUSTOMER: ENVIROWORKS RAIL YARDS
ACCOUNT#: 4408374131
BILL TO: ENVIROWORKS RAIL YARDS
HAULER: ENVIROWORKS RAIL YARDS
TRUCK#: ENV 900
CONTAINER:
PROFILE:
MATERIAL: CONTAMINATED SOIL
COMMENT: 87102 // RAIL YARD SOIL // TRUCK # T-9

--- Driver On Scale (Yes if checked)

	POUNDS	TONS
GROSS:	77,280	38.64
TARE:	39,240	19.62
NET:	38,040	19.02

PRODUCT COST: $0.00
SPECIAL FEE: $0.00
TAX: $0.00

TOTAL COST: $0.0(

WEIGHER: [illegible]

CUSTOMER SIGNATURE: _____

CITY of ALBUQUERQUE
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CERRO COLORADO LANDFILL (505)761-8306
18000 CERRO COLORADO
ALBUQUERQUE, NM 87121

ORIGINAL

DATE: 07/03/2019
TIME IN: 08:03:15 AM
TIME OUT: 08:10:38 AM

TICKET#: 1,733,620

CUSTOMER: ENVIROWORKS RAIL YARDS
ACCOUNT#: 4408374131
BILL TO: ENVIROWORKS RAIL YARDS
HAULER: ENVIROWORKS RAIL YARDS
TRUCK#: ENV 969
CONTAINER:
PROFILE:
MATERIAL: CONTAMINATED SOIL
COMMENT: 87102 // RAIL YARD SOIL // TRUCK # 81969

Driver On Scale (Yes if checked)

	POUNDS	TONS
GROSS:	74,200	37.10
TARE:	32,340	16.17
NET:	41,860	20.93

PRODUCT COST: $0.00
SPECIAL FEE: $0.00
TAX: $0.00

TOTAL COST: $0.00

WEIGHER: ramiio

CITY of ALBUQUERQUE
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CERRO COLORADO LANDFILL (505)761-8306
18000 CERRO COLORADO
ALBUQUERQUE, NM 87121

ORIGINAL

DATE: 07/03/2019
TIME IN: 08:14:15 AM
TIME OUT: 08:39:21 AM

TICKET#: 1,733,635

CUSTOMER: ENVIROWORKS RAIL YARDS
ACCOUNT#: 440R374131
BILL TO: ENVIROWORKS RAIL YARDS
HAULER: ENVIROWORKS RAIL YARDS
TRUCK#: ENV 859
CONTAINER:
PROFILE:
MATERIAL: CONTAMINATED SOIL
COMMENT: 87102 // RAIL YARD SOIL // TRUCK # 859

--- Driver On Scale (Yes if checked)

	POUNDS	TONS
GROSS:	76,120	38.06
TARE:	33,100	16.55
NET:	43,020	21.51

PRODUCT COST: $0.00
SPECIAL FEE: $0.00
TAX: $0.00

TOTAL COST: $0.00

WEIGHER: ramirez

CUSTOMER SIGNATURE:

CITY of ALBUQUERQUE
SOLID WASTE MANAGEMENT DEPARTMENT
CERRO COLORADO LANDFILL (505)761-8306
18000 CERRO COLORADO
ALBUQUERQUE NM 87121

ORIGINAL

DATE: 07/03/2019
TIME IN: 09:19:27 AM
TIME OUT: 09:34:39 AM

TICKET#: 1,733,658

CUSTOMER: ENVIROWORKS RAIL YARDS
ACCOUNT#: 4408374131
BILL TO: ENVIROWORKS RAIL YARDS
HAULER: ENVIROWORKS RAIL YARDS
TRUCK#: ENV 300
CONTAINER:
PROFILE:
MATERIAL: CONTAMINATED SOIL
COMMENT: 87102 // RAILYARD SOIL // TRUCK # T-5

Driver On Scale (Yes if checked)

	POUNDS	TONS
GROSS:	76,700	38.35
TARE:	35,040	17.52
NET:	41,660	20.83

PRODUCT COST: $0.00
SPECIAL FEE: $0.00
TAX: $0.00
TOTAL COST: $0.0(

WEIGHER: swdcxe

CUSTOMER SIGNATURE:

CITY of ALBUQUERQUE
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18000 CERRO COLORADO
ALBUQUERQUE NM 87121

ORIGINAL

DATE: 07/03/2019
TIME IN: 09:32:01 AM
TIME OUT: 09:49:29 AM

TICKET#: 1,733,668

CUSTOMER: ENVIROWORKS RAIL YARDS
ACCOUNT#: 440R374131
BILL TO: ENVIROWORKS RAIL YARDS
HAULER: ENVIROWORKS RAIL YARDS
TRUCK#: ENV 969
CONTAINER:
PROFILE:
MATERIAL: CONTAMINATED SOIL
COMMENT: 87102 // RAILYARD SOIL // TRUCK # 81969

Driver On Scale (Yes if checked)

	POUNDS	TONS
GROSS:	74,400	37.20
TARE:	32,260	16.13
NET:	42,140	21.07

PRODUCT COST: $0.00
SPECIAL FEE: $0.00
TAX: $0.00

TOTAL COST: $0.00

WEIGHER: swdexe

CUSTOMER SIGNATURE:

CITY of ALBUQUERQUE

SOLID WASTE MANAGEMENT DEPARTMENT
CERRO COLORADO LANDFILL (505)761-8306
18000 CERRO COLORADO
ALBUQUERQUE, NM 87121

ORIGINAL

DATE: 07/03/2019
TIME IN: 09:41:18 AM
TIME OUT: 09:58:56 AM

TICKET#: 1,733,677

CUSTOMER: ENVIROWORKS RAIL YARDS
ACCOUNT#: 4408374131
BILL TO: ENVIROWORKS RAIL YARDS
HAULER: ENVIROWORKS RAIL YARDS
TRUCK#: ENV 900
CONTAINER:
PROFILE:
MATERIAL: CONTAMINATED SOIL
COMMENT: 87102 // RAIL YARD SOIL // TRUCK # T-9

Driver On Scale (Yes if checked)

	POUNDS	TONS
GROSS:	77,440	38.72
TARE:	39,160	19.58
NET:	38,280	19.14

PRODUCT COST: $0.00
SPECIAL FEE: $0.00
TAX: $0.00

TOTAL COST: $0.00

WEIGHER: swdave

CUSTOMER SIGNATURE:

CITY of ALBUQUERQUE
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18000 CERRO COLORADO
ALBUQUERQUE NM 87121

ORIGINAL

DATE: 07/03/2019
TIME IN: 09:55:47 AM
TIME OUT: 10:21:08 AM

TICKET#: 1,733,702

CUSTOMER: ENVIROWORKS RAIL YARDS
ACCOUNT#: 4408374131
BILL TO: ENVIROWORKS RAIL YARDS
HAULER: ENVIROWORKS RAIL YARDS
TRUCK#: ENV 859
CONTAINER:
PROFILE:
MATERIAL: CONTAMINATED SOIL
COMMENT: 87102/RAILYARD SOIL//TRUCK 859

Driver On Scale (Yes if checked)

	POUNDS	TONS
GROSS:	76,380	38.19
TARE:	33,000	16.50
NET:	43,380	21.69

PRODUCT COST:	$0.00
SPECIAL FEE:	$0.00
TAX:	$0.00
TOTAL COST:	$0.0(

WEIGHER: swdcxs

CUSTOMER SIGNATURE:

CITY of ALBUQUERQUE
SOLID WASTE MANAGEMENT DEPARTMENT
CERRO COLORADO LANDFILL (505)761-8306
18000 CERRO COLORADO
ALBUQUERQUE NM 87121

ORIGINAL

TICKET#: 1,733,728

DATE: 07/03/2019
TIME IN: 10:56:01 AM
TIME OUT: 11:06:16 AM

CUSTOMER: ENVIROWORKS RAIL YARDS
ACCOUNT#: 4408374131
BILLTO: ENVIROWORKS RAIL YARDS
HAULER: ENVIROWORKS RAIL YARDS
TRUCK#: ENV 500
CONTAINER:
PROFILE:
MATERIAL: CONTAMINATED SOIL
COMMENT: 87102//RAIL YARD SOIL //TRUCK T5

--- Driver On Scale (Yes if checked)

	POUNDS	TONS
GROSS:	75,840	37.92
TARE:	34,880	17.44
NET:	40,960	20.48

PRODUCT COST:	$0.00
SPECIAL FEE:	$0.00
TAX:	$0.00
TOTAL COST:	$0.0(

WEIGHER: swdsdn

CUSTOMER SIGNATURE:

CITY of ALBUQUERQUE

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CERRO COLORADO LANDFILL (505)761-8306
18000 CERRO COLORADO
ALBUQUERQUE, NM 87121

ORIGINAL

DATE: 07/03/2019
TIME IN: 11:04:19 AM
TIME OUT: 11:13:01 AM

TICKET#: 1,733,733

CUSTOMER: ENVIROWORKS RAIL YARDS
ACCOUNT#: 440R374131
BILL TO: ENVIROWORKS RAIL YARDS
HAULER: ENVIROWORKS RAIL YARDS
TRUCK#: ENV 969
CONTAINER:
PROFILE:
MATERIAL: CONTAMINATED SOIL
COMMENT: 87102//RAIL YARD SOIL// TRUCK 969

--- Driver On Scale (Yes if checked)

	POUNDS	TONS
GROSS:	75,400	37.70
TARE:	32,240	16.12
NET:	43,160	21.58

PRODUCT COST: $0.00
SPECIAL FEE: $0.00
TAX: $0.00

TOTAL COST: $0.00

WEIGHER: swiesdn

CUSTOMER SIGNATURE:

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ALBUQUERQUE, NM 87121

ORIGINAL

DATE: 07/03/2019
TIME IN: 11:40:37 AM
TIME OUT: 11:57:58 AM

TICKET#: 1,733,768

CUSTOMER: ENVIROWORKS RAIL YARDS
ACCOUNT#: 4408374131
BILL TO: ENVIROWORKS RAIL YARDS
HAULER: ENVIROWORKS RAIL YARDS
TRUCK#: ENV 859
CONTAINER:
PROFILE:
MATERIAL: CONTAMINATED SOIL
COMMENT: 87102 // RAILYARD SOIL // TRUCK# 859

--- Driver On Scale (Yes if checked)

	POUNDS	TONS
GROSS:	69,800	34.90
TARE:	32,940	16.47
NET:	36,860	18.43

PRODUCT COST: $0.00
SPECIAL FEE: $0.00
TAX: $0.00
TOTAL COST: $0.00

WEIGHER: swisdn

CUSTOMER SIGNATURE:

NMDOT Base Course Submittal

Project:	Supplier Information	Report Date:	1/11/18
Client:	C & C Services	Sample Date:	12/28/17
Address:	2901 2nd st. SW	Sampled By:	Abe Sandoval
	Albuquerque, NM 87105	Material Tested:	Recycled Base Course
	Attn.: LuisTarin	Date Tested:	12/29/17- 1/10/18
		Tested By:	Mary / Annkah
	NMDOT Section 303 (2014)	Visual Description:	Crushed Concrete / Gravel mix
Sample received:	12/28/2017	Sample Location:	Stockpile at Plant
Laboratory #:	ABQ LL002-18 /ABQ LL 003-18	Sample Source:	2nd St. / Woodward Yard

Sieve Analysis

C-117 & C136/T-11 & T-27

Sieve Size	% Passing	Specs
	NMDOT 2014	
	section 303	
		Type I
1.5" (37.5mm)		
1" (25mm)	100	100
3/4" (19mm)	98	80-100
1/2" (12.5mm)	83	
3/8" (9mm)	72	
#4 (4.75mm)	54	30-60
#8 (2.36mm)	41	
#10 (2mm)	39	20-45
#16 (1.18mm)		
#30 (0.6mm)		
#40 (0.425mm)	21	
#50 (0.3mm)		
#80 (0.18mm)	12	
#100 (0.15mm)		
#200 (0.75mm)	6.9	3-10

Classification of Soil . A-1-a

Stone fragments,Gravel and Sand

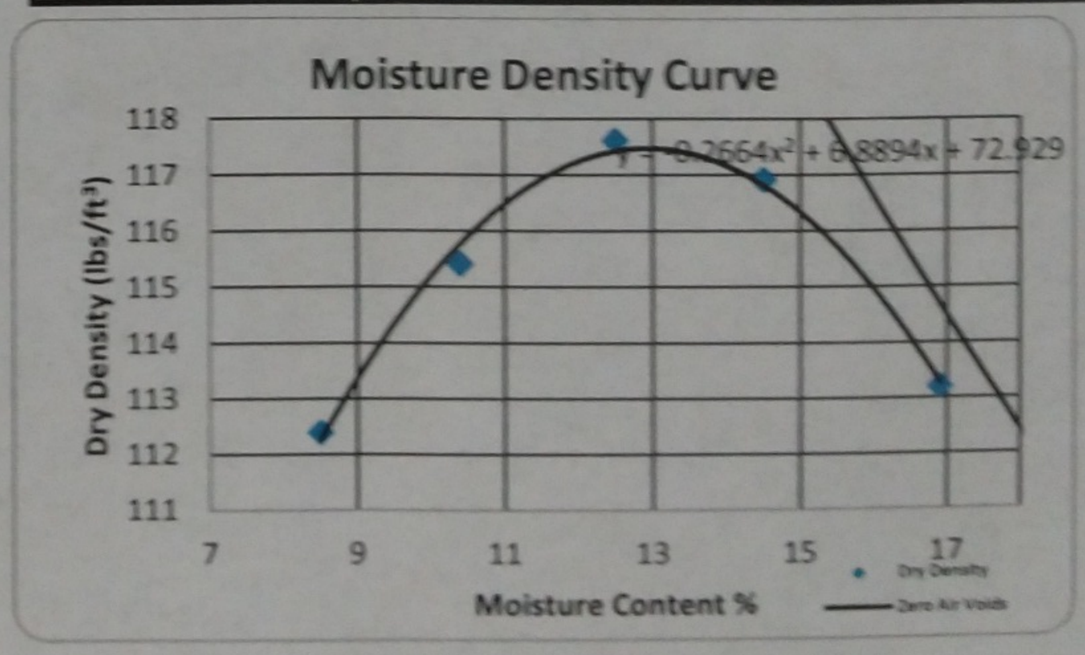
General rating as Excellent to Good

Note : NP = Non Plastic

Type Rammer Mechanical

Test Results

Standard		Physical Properties	Results	Specs
NMDOT Sect 901	Aggregate Index	Partial Aggregate Index	16	35% max
C-88	Soundness	Coarse Soundness Loss, %	1.32	
C-131	L.A.	LA Wear, %	33.9%	
T-96	Abrasion	Grading	B	
C-127	Coarse	Bulk Specific Gravity	2.352	
	Specific	Bulk Specific Gravity, SSD	2.406	
T-85	Gravity &	Apparent Specific Gravity	2.486	
	Absorption	Absorption, %	2.3	
D5821	Fractured	1 face	98	50% Min
	Faces	2 faces	97	
D-4318	Afterburg	Liquid Limit	0	25 Max
	Limits	Plastic Limit	0	
T-89/90		Plasticity Index	(NP) 0	6.0 Max
T-180	Proctor	Max Density, (lbs/ft^3)	117.5	
	(Modified)	Optimum Moisture, %	12.9	
	Dry Prep	Method	D	



Reports to: fax/email
Luis Carlos Tarin
candcservices@live.com

Respectfully Submitted,

Abe Sandoval

Abe Sandoval, Manager of Technical Services

Concrete, Aggregate and Asphalt Testing, LLC
414 Bibb Industrial Dr.
P.O.Box 1228
Las Vegas, NM 87701
505-718-3030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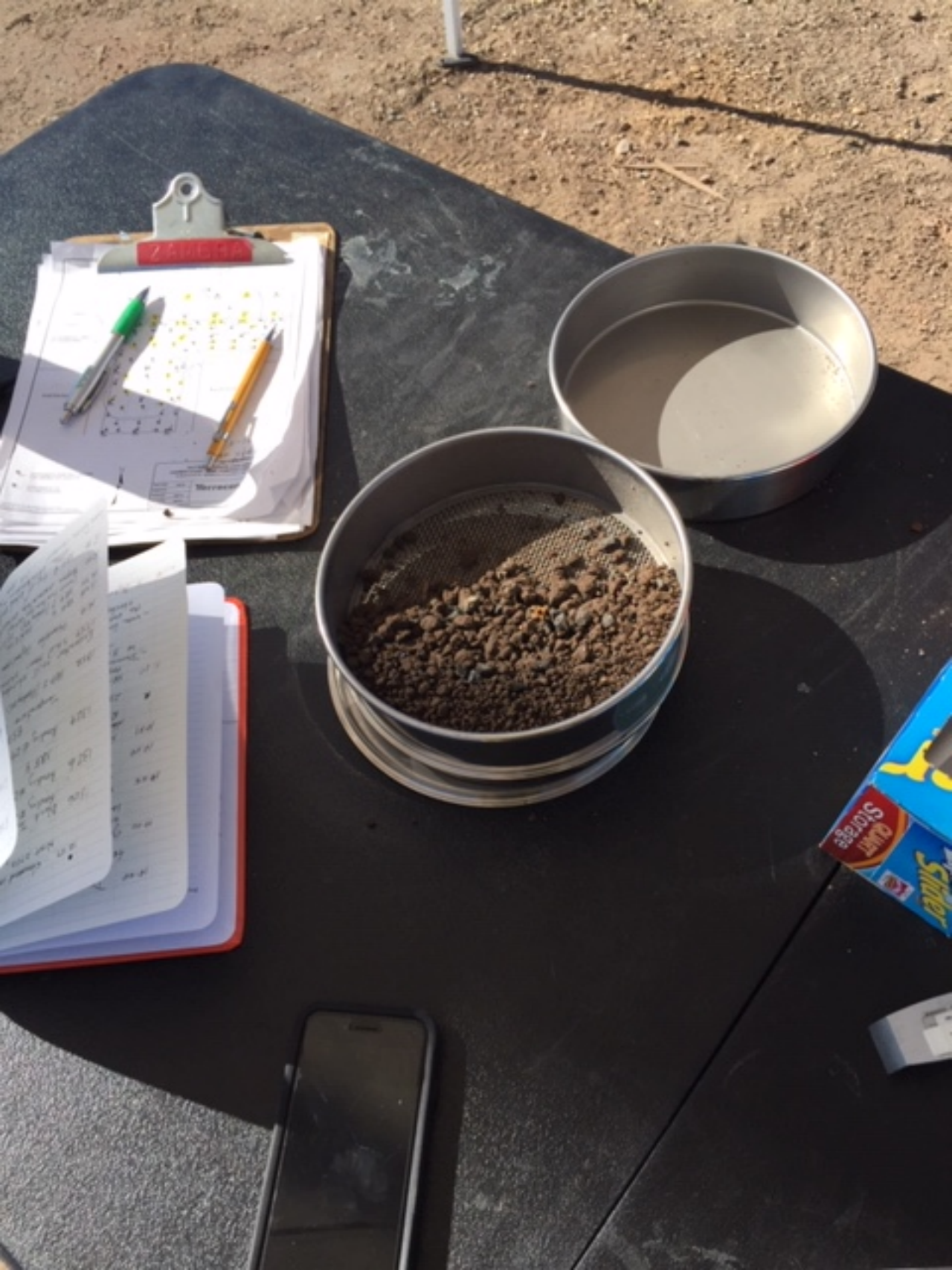


ZipperSeal
25 Bags
MICRO FLEX
SUPRENO EC
MICRO FLEX
SUPRENO EC