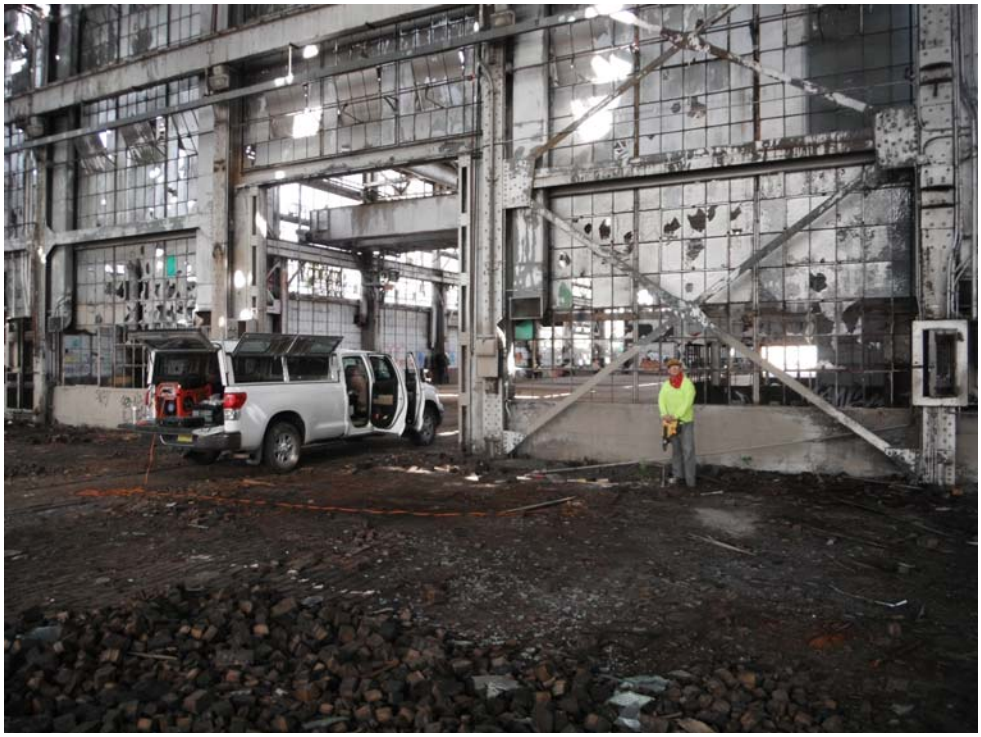
PARCEL 8 ADDITIONAL CHARACTERIZATION REPORT

CITY OF ALBUQUERQUE RAIL YARDS

Albuquerque, Bernalillo County, New Mexico



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ACRONYMS AND ABBREVIATIONS

$\mu g/m^3$	micrograms per cubic meter
ACBM	asbestos-containing building materials
ATSF	Atchison, Topeka and Santa Fe
Beacon	Beacon Environmental Services
BNSF	Burlington Northern Santa Fe
BTEX	benzene, toluene, ethylbenzene, and total xylenes
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
Innovar	Innovar Environmental, Inc.
INTERA	INTERA Incorporated
LBP	lead-based paint
LNAPL	light non-aqueous phase liquid
MDL	method detection limit
mg/cm^2	milligrams per square centimeter
mL	milliliter
MRO	motor oil range organics
NMED	New Mexico Environment Department
OSHA	Occupational Safety and Health Administration

PID	photoionization detector
PPE	personal protective equipment
Report	this *Parcel 8 Additional Characterization Report*
RL	reporting detection limit
RMD	Radiation Monitoring Device
SIMs	selective ion monitoring
Site	Albuquerque Rail Yards located in downtown Albuquerque, New Mexico
SOP	standard operating procedure
SOW	Scope of Work (INTERA, 2016a)
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)

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 8 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 in support of participation in the New Mexico Environmental Department (NMED) Voluntary Remediation Program (VRP). 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, 2016):

- 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 8, which this Report summarizes, contains the combined footprint of the historic Boiler Shop, Flue Shop, and Tender Repair Shop structures (**Figure 2b**). The three structures are currently linked to one another through interior connections, thereby affording the possibility of a single tenant utilizing all three spaces. Alternatively, Parcel 8 may be developed in a multi-tenant arrangement with common areas. Similar to Parcel 7, Parcel 8 accesses 2nd Street via Parcel 6 and will use the parking area in Parcel 10 to the North (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). The primary intended redevelopment use of Parcel 8 includes office/business space and includes the historic Boiler Shop (including roof tiles), Flue Shop, and Tender Repair Shop. Further characterization of Parcel 8 includes an ACBM and LBP survey, conducted by DCE, for the three buildings and sub-slab soil vapor sampling within each structure. Although the Site redevelopment plan has been developed, additional characterization activities were designed for a site-wide residential redevelopment scenario to allow flexibility for a variety of redevelopment plans while also evaluating construction worker safety. 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 8:

- Collect ten sub-slab soil vapor samples below the concrete slab of the Boiler Shop, Flue Shop, and Tender Repair Shop using Vapor Pins™ and submit for analysis of volatile organic compounds (VOCs) via U.S. Environmental Protection Agency (EPA) Method TO-17, and,
- Oversee an ACBM and LBP survey for each structure.

1.3 Work Plan Deviations

There were no work plan deviations during this additional characterization field event.

2.0 FIELD ACTIVITIES

Field activities for this additional characterization event were conducted on October 26 and 31, 2016 and November 1 through 3, 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 Sub-Slab Soil Vapor Sampling

On October 31, 2016 and November 2 and 3, 2016, 10 sub-slab soil vapor samples were collected below the concrete slabs of the Boiler Shop, Tender Repair Shop, and Flue Shop structures using Vapor Pins™. Six sub-slab soil vapor samples (SV-08-01, SV-08-02, SV-08-07, SV-08-08, SV-08-09, and SV-08-10) were collected below the concrete slab of the Boiler Shop structure, two sub-slab soil vapor samples (SV-08-03 and SV-08-04) were collected below the concrete slab of the Flue Shop and two sub-slab soil vapor samples (SV-08-05 and SV-08-06) were collected below the concrete slab of the Tender Repair Shop using Vapor Pins™. The Vapor Pins™ borings were installed using a rotary hammer drill equipped with a 5/8-in hammer bit and drilled to an approximate depth of 2-feet below the top of the concrete slab. The concrete slab thickness ranged from 6- to 11-inches thick in the Boiler Shop, 5.5- to 14.5-inches thick in the Flue Shop, and was 12-inches thick in the Tender Repair shop; the boring was continued to a depth of 2-feet in order to produce a small vapor well below each Vapor Pin™. The Vapor Pins™ were fitted with silicone sleeves and hammered into each slab hole per the Vapor Pin™ installation standard operating procedure (SOP).

Soil vapor samples were collected through Teflon lined polyethylene tubing attached directly to the Vapor Pin™. The tubing was then connected to a three-way valve which is then connected to the hand-held sampling units and/or the collection vessel (sorbent tubes) as well as a vacuum pump located at the surface. Once the soil gas sampling system was set up, the soil gas was purged out of the 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 photoionization detector (PID) prior to sample collection and the concentration was recorded. The soil gas samples were then collected by INTERA by pumping directly through a sorbent tube at a rate of 200 milliliters (ml) per minute for a period of five minutes (total of 1-liter of soil vapor passes through the sorbent tube) at each sampling location.

The sub-slab soil vapor samples were submitted for laboratory analysis of VOCs via EPA Method TO-17 by Vista Geosciences LLC (Vista) to Beacon Environmental Services (Beacon). The laboratory analytical results are summarized in **Table 1,** copies of field forms are provided in **Appendix A**, and a copy of the sub-slab soil vapor laboratory report is in **Appendix B.**

2.2 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 31, 2016 and November 1, 2016. The asbestos/LBP survey was conducted to determine the presence, location, and quantity of asbestos remaining within the historic Boiler Shop, Flue Shop, and Tender Repair Shop structures and to establish the basis for the presence of lead-containing finishes within the Site structures (DCE, 2016).

DCE conducted a visual inspection for asbestos-containing building materials within teach building and bulk samples 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).

3.0 RESULTS AND DISCUSSION

The sub-slab soil vapor results of the 2016 additional characterization field activities conducted within Parcel 8 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 the Parcel 8. A CSM Update section has been included to facilitate evaluation of all Site data with regards to impacts to future redevelopment.

Select soil vapor 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 laboratory (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 NMED vapor intrusion screening levels (VISLs) with the exception of 1,2-dibromoethane (EDB) in soil vapor/soil gas. The RL EDB will be discussed further in Section 3.1.

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 C.**

3.1 Sub-Slab Soil Vapor Results

1,3-dichlorobenzene was detected in all 10 sub-slab soil vapor samples (**Table 1**). 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**).

Several VOC constituents were detected in the sub-slab soil vapor samples collected at the Boiler Shop including: 1,1,1-trichloroethane, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, 2-methylnaphthalene, carbon tetrachloride, ethylbenzene, naphthalene, o-xylene, p&m-xylene, and toluene; however, the detected concentrations did not exceed their respective NMED or EPA VISLs with the exception of naphthalene (**Table 1**). Naphthalene was detected in four of the six sub-slab soil vapor samples collected within the Boiler Shop: SV-08-07 (89.4 micrograms per cubic meter [µg/m^3]), SV-08-08 (4.22 J µg/m^3), SV-08-09 (7.38 J µg/m^3), and SV-08-10 (55.0 µg/m^3). The concentration of total naphthalenes detected at sub-slab soil vapor samples SV-08-07 and SV-08-10 exceeded the NMED VISL of 8.26 µg/m^3 (**Table 1**).

Numerous VOC constituents were detected in the sub-slab soil vapor samples collected at the Tender Repair Shop including: 1,1,1-trichloroethane, 2-methylnaphthalene, ethylbenzene, naphthalene, p&m-xylene, and toluene; however, the detected concentrations did not exceed their respective NMED or EPA VISLs with the exception of naphthalene (**Table 1**). The concentration of total naphthalenes detected at sub-slab soil vapor samples SV-08-05 (56.69 µg/m^3) and SV-08-06 (12.95 µg/m^3) exceeded the NMED VISL of 8.26 µg/m^3 (**Table 1**).

Lastly, several VOC constituents were detected in the sub-slab soil vapor samples collected at the Flue Shop including: 1,1,1-trichloroethane, 1,4-dioxane, benzene, p&m-xylene, and toluene. The detected concentrations were below their respective NMED or EPA VISLs (**Table 1**).

A copy of the laboratory analytical report is included in **Appendix B.** 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.

3.1.1 Conceptual Site Model Update

The CSM identified that there was inadequate coverage with regard to sub-slab soil vapor data within Parcel 8. To fill this data gap, INTERA collected 10 sub-slab soil vapor samples within the Boiler Shop, Tender Repair Shop, and Flue Shop. The results from the sub-slab soil vapor sampling revealed the presence of 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, and toluene in sub-slab soil vapor. NMED and EPA do not have an established VISL for 1,3-dichlorobenzene. With the exception of naphthalene, the other detected sub-slab soil vapor concentrations did not exceed their respective NMED and/or EPA VISLs. Naphthalene sub-slab soil vapor detections were greater than the NMED VISL at four of the ten sampling locations indicating a potential for soil vapor intrusion within Parcel 8.

3.2 ACBM and LBP Sampling Results

3.2.1 ACBM Sampling Results

Asbestos was identified in the Boiler Shop, Flue Shop, and Tender Repair Shop and is summarized in Table 2.

Table 2. Asbestos Sample Analyses

Sample #	Building Name	Analyst physical description of subsample	Asbestos Visual Estimate Percent/Type
16-179-100	Boiler Shop	Window Putty	2% Chrysotile
16-179-101	Boiler Shop	Window Putty	2% Chrysotile
16-179-102	Boiler Shop	Window Putty	2% Chrysotile
16-179-106	Boiler Shop	Exterior pipe lagging	2% Chrysotile
16-179-107	Boiler Shop	Exterior pipe lagging	2% Chrysotile
16-179-108	Boiler Shop	Exterior pipe lagging	2% Chrysotile
16-178-103	Flue Shop	Brown cork TSI from pipe	2% Chrysotile
16-178-107	Flue Shop	Building seam mastic	2% Chrysotile
16-178-108	Flue Shop	Building seam mastic	2% Chrysotile
16-178-109	Flue Shop	Building seam mastic	2% Chrysotile
16-178-113	Flue Shop	Window putty	2% Chrysotile
16-178-114	Flue Shop	Window putty	2% Chrysotile
16-178-115	Flue Shop	Window putty	2% Chrysotile
16-180-107	Tender Repair Shop	Crane Gasket Rope	22% Chrysotile
16-180-108	Tender Repair Shop	12x12 off white floor tile from office	2% Chrysotile
16-180-109	Tender Repair Shop	12x12 off white floor tile from office	2% Chrysotile
16-180-110	Tender Repair Shop	12x12 off white floor tile from office	2% Chrysotile
16-180-117	Tender Repair Shop	White roofing material	2% Chrysotile
16-180-118	Tender Repair Shop	White roofing material	2% Chrysotile
16-180-119	Tender Repair Shop	White roofing material	2% Chrysotile
16-180-124	Tender Repair Shop	Boiler pipe Flange Gasket	48% Chrysotile

A copy of the asbestos survey report, which includes the asbestos laboratory results, is provided in **Appendix D.**

3.2.2 LBP Sampling Results

LBP was identified in the Boiler Shop, Flue Shop, and Tender Repair Shop.

The lead based paint surfaces detected in the *Boiler Shop* included:

- silver paint on the metal center column,
- silver paint on the mezzanine walkway railing,
- silver paint on the stair stringer,
- silver paint on the stair tread,
- silver paint on the interior beam,
- silver paint on the interior crane support beam,

- silver paint on the interior C-wall,
- gray paint on the interior D-wall,
- silver paint on the interior folding door frame,
- silver paint on the interior column strip D-wall,
- gray paint on the interior duct work,
- green paint on the interior beam cross brace,
- green paint on the interior column,
- green paint on the interior window frame,
- silver paint on the Tool Room 1 A-wall,
- black paint on the Tool Room 1 B, C, D-wall,
- silver paint on the Tool Room 1 and Tool Room 2 door frames,
- silver paint on the Tool Room 2 column,
- red paint on the Tool Room 2 floor stripe,
- gray paint on the exterior window frame, and,
- black paint on the exterior door frame.

The lead based paint surfaces detected in the *Flue Shop* included:

- white paint on the concrete floor,
- beige paint on the wooden door,
- black paint on the metal door, and,
- black paint on the metal door stop.

The lead based paint surfaces detected in the *Tender Repair Shop* included:

- black paint on the A-wall column,
- silver paint on the A-wall column,
- silver paint on window,
- silver paint on the metal door on the B-wall,
- white paint on the floor stripe,
- white paint on the small door within the rolling door,
- silver paint on the A-wall beam in the interior office,
- off-white paint on the exterior C-wall column,
- black paint on the steel door frame in the interior boiler room,
- gray paint on the metal window sill in the interior boiler room,
- black paint on the metal door in the interior boiler room, and,
- gray paint on the metal duct work in the interior boiler room.

LBP chip analyses was conducted to verify XRF readings, and it confirmed LBP in the Boiler Shop, Flue Shop, and Tender Repair Shop. A copy of the LBP survey report, which includes the LBP chip laboratory results and XRF screening results, is provided in **Appendix D.**

3.2.3 Conceptual Site Model Update

The CSM recommended that a Site inspection of all the building materials at the Site be conducted to determine if the asbestos and LBP sampling historically conducted at the Site was comprehensive and fill 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.

Boiler Shop

A previous asbestos inspection was conducted in 2005 by Terracon identified the collection of approximately 22 bulk asbestos samples from the interior and exterior of the Boiler Shop (INTERA, 2015). ACBM were identified and include the following:

- tan colored window glazing on the south side of the Boiler Shop (2% Chrysotile) and,
- beige colored window glazing had trace amounts of asbestos (<1% Chrysotile).

DCE collected 15 asbestos bulk samples in the Boiler Shop; six samples were positive for the presence of asbestos in the Boiler Shop. Details pertaining to the location of asbestos within the Boiler Shop is discussed in detail in Section 3.2.1 and in the DCE Survey Report provided in **Appendix D.**

Previous LBP samples collected in the Boiler Shop in 2011 by Innovar Environmental, Inc. (Innovar) indicate that LBP was identified in the Boiler Shop in the silver paint located on three columns inside the building (INTERA, 2015). DCE screened over 70 paint samples in the Boiler Shop 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 Boiler Shop is discussed in detail in Section 3.2.2 and in the DCE Survey Report provided in **Appendix D.**

Flue Shop

No evidence of previous asbestos inspections performed at the Flue Shop were found (INTERA, 2015). To fill in the data gap, DCE collected 22 interior and exterior asbestos bulk samples in the Flue Shop; seven samples were positive for the presence of asbestos in the Flue Shop. Details pertaining to the location of asbestos within the Flue Shop is discussed in detail in Section 3.3.1 and in the DCE Survey Report provided in **Appendix D.**

There are no data indicated LBP samples were historically collected in the Flue Shop (INTERA, 2015). DCE screened approximately 30 samples in the Flue Shop 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 D.**

Tender Repair Shop

No evidence of previous asbestos inspections performed at the Tender Repair Shop were found (INTERA, 2015). To fill in the data gap, DCE collected approximately 25 interior and exterior asbestos bulk samples in the Tender Repair Shop; eight samples were positive for the presence of asbestos in the Tender Repair Shop. Details pertaining to the location of asbestos within the Tender Repair Shop is discussed in detail in Section 3.3.1 and in the DCE Survey Report provided in **Appendix D.**

There are no data indicated LBP samples were historically collected in the Tender Repair Shop (INTERA, 2015). To fill in the data gap, DCE screened approximately 56 samples in the Tender Repair Shop 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 D.**

4.0 CONCLUSIONS AND RECOMMENDATIONS

Based on the results of the additional characterization and evaluation of all data, INTERA has compiled the following conclusions and recommendations.

4.1 Conclusions

- Naphthalene concentrations in soil gas exceeded the NMED VISL of 8.26 µg/m^3 at four of the 10 sub-slab soil vapor sampling locations, two within the Tender Repair Shop and two within the Boiler Shop, indicating a potential for vapor intrusion (**Table 1** and **Figure 3**).
- The laboratory RL for EDB in soil gas exceeded the corresponding NMED VISL (**Table 1**).
- Asbestos and LBP were detected in the Boiler Shop, Flue Shop, and Tender Repair Shop.

4.2 Recommendations

Based on the results of the additional characterization field event for Parcel 8, INTERA makes the following recommendations:

- Soil Gas Engineering Controls: Soil gas samples collected within Parcel 8 revealed potential vapor intrusion issues within the Boiler Shop and Tender Repair Shop (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 Boiler Shop, Tender Repair Shop, and/or Flue Shop 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 Boiler Shop, Tender Repair Shop, and/or

Flue Shop 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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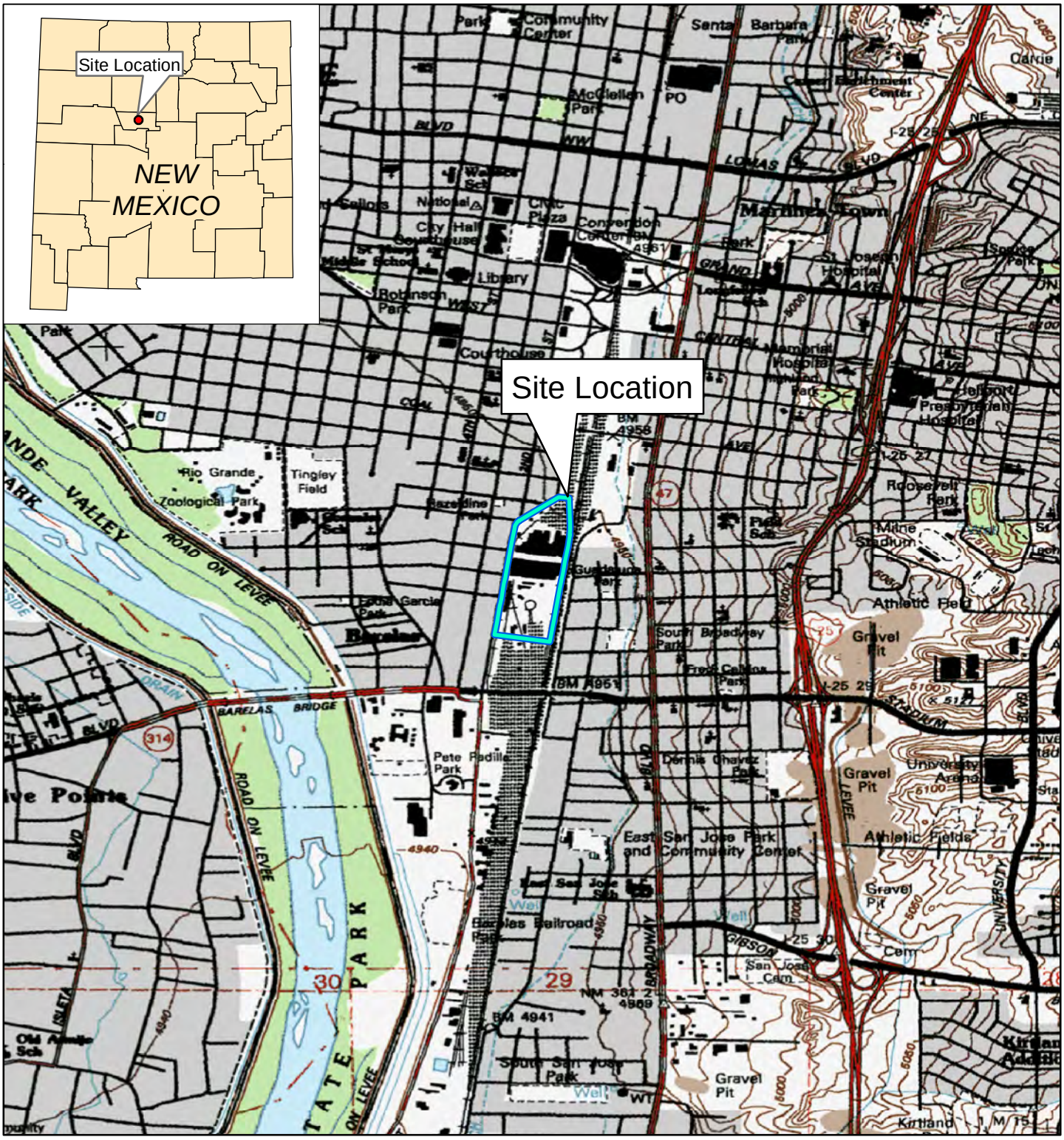
FIGURES



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

Figure 1
Site Location
Additional Characterization,
Voluntary Remediation Program Activities,
Albuquerque Rail Yards, Albuquerque,
Bernalillo County, New Mexico

S:\ABQ\COA On-Call 2014\Task_17_Railyard_VRP\Graphics\GIS\MapDocs\ContaminantMap_AllReports\Parcel_7\01_Parcel7_SiteLocation.mxd 1/5/2017

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_7\02a_Parcel7_SitePlanParcels.mxd 1/5/2017

Legend

- Subslab Soil Vapor Sample (2016)
- Soil Boring Sample (2016)
- Soil Boring/Soil Gas Sample (2016)
- Soil Boring Sample
- Monitoring Well
- Surface Soil Sample
- Property Boundary
- Parcel 8 Boundary

N

60 30 0 60

Feet

INTERA

Source(s): Aerial – BERNCO GIS website, dated 2014.

Figure 2b
Parcel 8 2016 Sub-Slab Soil Vapor Sample 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_8\02b_Parcel8_SitePlanZoom.mxd 2/7/2017

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
- Property Boundary
- Parcel 8 Boundary

N

60 30 0 60

Feet

Figure 3
Naphthalene 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\Parcel_8\03_Parcel8_ResVISL_Naphthalene.mxd 2/7/2017

TABLES

TABLE 1
Laboratory Analytical Results - Sub-Slab Soil Vapor
Parcel 8 Additional Site Characterization Report
City of Albuquerque Rail Yards, Albuquerque, New Mexico

		VOCs (µg/m^3) [1]														
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
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
SV-08-01	11/3/2016	<10	<10	<10	130.6	<10	<10	<10	<10	<10	<2.5	<10	<10	<10	29.05	**<10**
SV-08-02	11/2/2016	<10	<10	<10	113.95	<10	<10	<10	<10	<10	<2.5	<10	<10	<10	21.02	**<10**
SV-08-03	10/31/2016	16.02	<10	<10	1207.58 E	12.82	<10	10.18	<10	<10	<2.5	<10	<10	<10	52.86	**<10**
SV-08-04	10/31/2016	13.15	<10	<10	108.32	15.33	<10	10.57	<10	<10	<2.5	<10	11.15	<10	57.07	**<10**
SV-08-05	11/2/2016	<10	<10	<10	904.26 E	<10	16.43	<10	<10	11.07	**59.69**	<10	30.27	<10	65.96	**<10**
SV-08-06	11/2/2016	18.38	<10	<10	974.36 E	<10	<10	<10	<10	12.02	**12.95**	<10	33.56	<10	70.62	**<10**
SV-08-07	11/3/2016	10.17	<10	<10	470.72 E	<10	21.28	<10	<10	18.63	**89.4**	12.78	46.51	<10	106.17	**<10**
SV-08-08	11/3/2016	<10	<10	<10	794.56 E	<10	<10	<10	<10	13.59	4.22 J	<10	35.28	<10	94.74	**<10**
SV-08-09	11/2/2016	<10	<10	<10	834.78 E	<10	<10	<10	<10	<10	7.38 J	<10	23.46	<10	45.32	**<10**
SV-08-10	11/2/2016	<10	46.07	17.41	626.19 E	<10	13.25	<10	11.31	10.95	**55.0**	<10	27.47	<10	47.67	**<10**

Notes:

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

µg/m^3 = micrograms per cubic meter
E = Measurement exceeded upper calibration range of instrument
EPA = U.S. Environmental Protection Agency
J = Estimated value below the RL
MDL = method detection limit
NE = None Established
NMED = New Mexico Environment Department
RL = Reporting Limit
VISL = Vapor Intrusion Screening Level
VOCs = volatile organic compounds

INTERA
GEOSCIENCE & ENGINEERING SOLUTIONS

APPENDIX A

Field Notes and Field Forms

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-Day work permit, expires COB Nov 4.
- Must notify one call 2 Business days before Nov 4 for Permit Extension
- Utility Locator to Complete work by 10/21/2016.

1120 Update J. Tracy, E. Morcillo

1135 M. Sephy off-site

MJS

10/24/2016 Add'l Site Characterization MJS

0850 M. Sephy 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
call 550-5066
office 243-6269
She will open/close Wheels museum during DCE's investigation.

Matt Butkus - COA
here today while Gake 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 parcel by parcel. Will check if OK w/ E. Morcillo/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

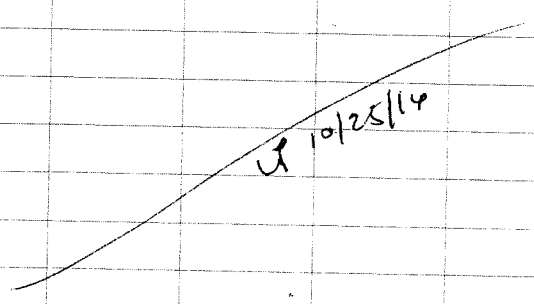
SB-10 0-5 = 0.4
10-10 = 0.5

- 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

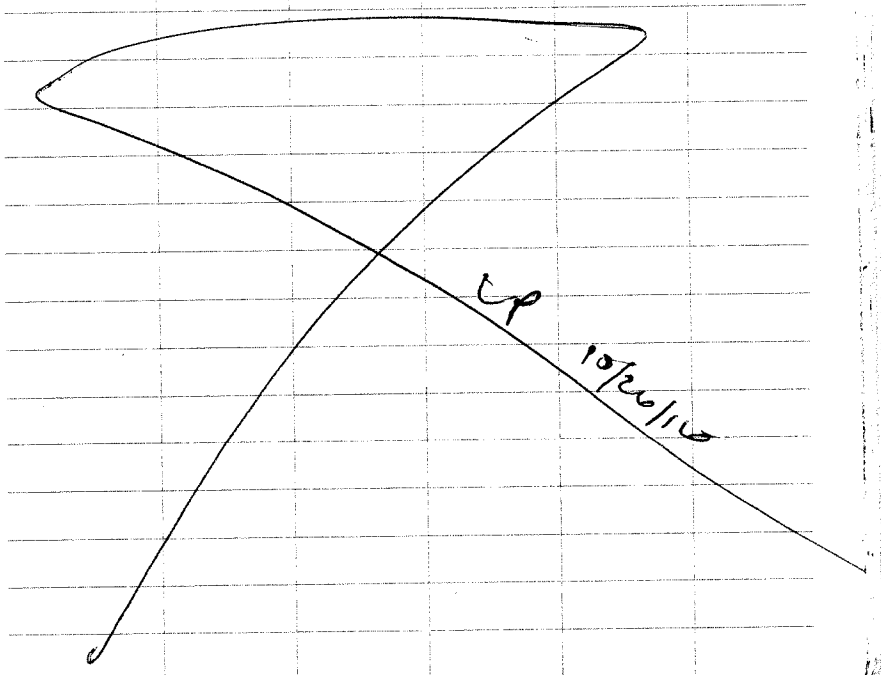
Summary of PID Readings

	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	

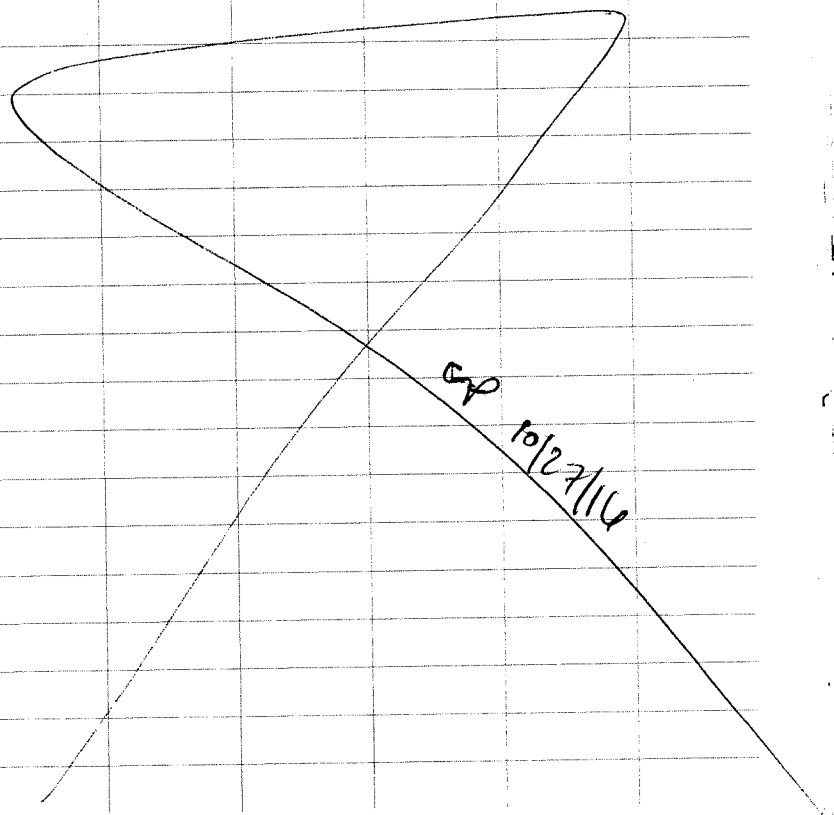
☆ = Indicates the interval that the soil sample was ~~Subm~~ collected + submitted to HEAL.

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 3CVs: 301 cm^3, 1.5 min purge at 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 Short off-site

MS

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 Vapor MS/FR

holes w/ 7/8" bit to 6" below slab

1145 J. Tracy, M. Spohn, F. Roecker enter Boiler room to mark 4x vapor pin locations

1200 J. Tracy, M. Spohn, F. Roecker enter Tender 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 10-½"
TD = 21" bgs

1315 Set-up to install SV-07-04
Slab thickness 13"
TD = 21" bgs

11/1/2016 Sub-Slab Soil Vapor MS/FR

1345 Concrete Coring Company on Site
F. Roecker, M. Spohn met CCC at Machine Shop

Phone call w/ E. Macallo
- if we run out of work, 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 dry holes, no core w/ water.
E Macallo is concerned about contamination 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

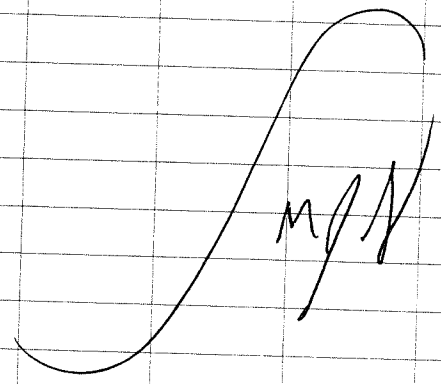
1730 G. River (COA) stops by Bakeshop to let us know the Southern Railyard Gates are Secure, including door on Paint house
- He asks us to Lock 1st Street (North) gate for [illegible] when we leave
- Plan to meet at Wheels museum tomorrow at 0800.

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

cont - - SV-03-02 located in 1st Large Room when walking South from offices at museum
, Located in SE Corner
Slab 7" thick
TD = 21" bgs
- Cover 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

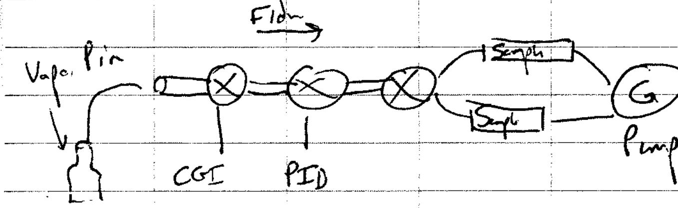
0955 Clean-up equipment in Wheels Museum
Will return tomorrow morning at 0800 to collect vapor samples
G. Rivera off-site, J. Troy off-site

1000 M. Sophy, F. Roecker to Blacksmith shop to collect soil vapor samples
· J. Troy calls to confirm sampling at Wheels Museum

1010 G. Rivera meets M. Sophy, F. Roecker at Blacksmith shop to open lock
G. Rivera offsite

1030 · Calibrate PID w/ 100ppm Isobutelyne Gas
· Calibrate CGI w/ O_2 18 ppm, LEL 2.5%, H_2S 25 ppm, CO 100 ppm

· Build Valving & Tubing for ~~[illegible]~~ soil Vapor Samples



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 reading 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

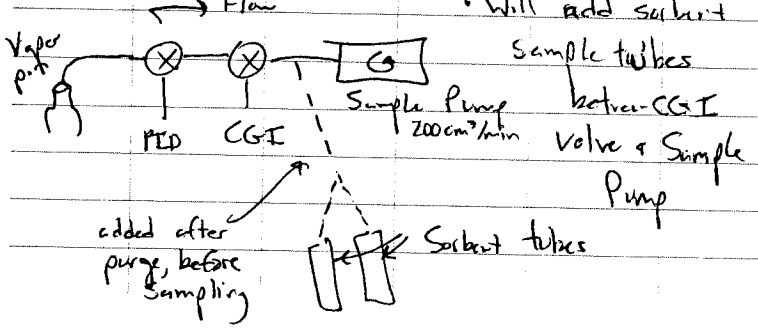
3CV's 346 cm³

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.

1010 Meet 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 burried)

1020 Set-up to Collect SV sample at SV-Ø8-07
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-Ø8-08
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

~~10~~
1115 Set-up to collect soil vapor sample at SV-Ø8-01
- 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, F. Roecker checking for Monitoring wells on South side of Railyard
- Located: MW-02, riser bent, PVC bent (see photos)
MW-01, possibly mislocated on map
Found well riser (same type as others) on East Side of Building (see photo)
MW-03
MW-04
MW-05

1230 Lunch in Machine Shop
1245 Phone call w/ E. Marallo

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.

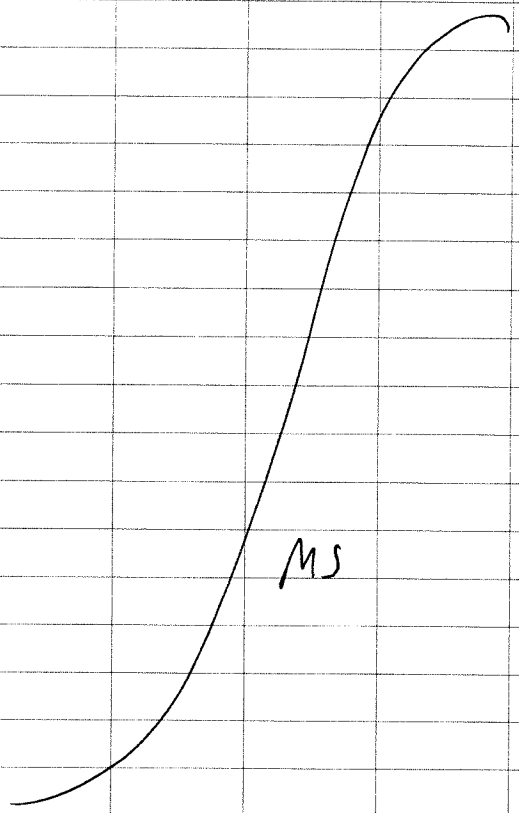
Summary:
- Located 8 of 9 MW's (MW-09 missing)
- Gauged fluid levels / total depth in 8 wells
- Sampled 8 wells for groundwater
  - 8260 (VOC's) - unfiltered
  - 504.1 (EDB) - unfiltered
- Purged wells 3x Casing Volume + confirmed Stabilization of Water Quality Parameters before sampling.

11/4/16 GW Sampling MS/FR

MJ

cont:

- All purged fluds spread on impermeable surface to evaporate



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PAGE:	1 OF 1
DATE / TIME:	11/3/16
PROJECT:	Aby Railyard
JOB NO. :	
REC / SAMP BY:	MS/FR

SOIL-VAPOR SAMPLING FORM

WELL/LOC. NO. :	WELL TYPE:	☐ Monitor	☐ Extraction	☑ Vapor Pin	☐ Other
SV-08-01	WELL MATERIAL:	☑ Stainless Steel	☐ Poly / Implant	☐ Teflon	☐ Other

WELL OR PRT PURGING & SAMPLING LOG

PURGE VOLUME
Casing/Tubing Inner Diameter:
☐ 1/4-inch ☐ 3/8-inch ☐ 1/2-inch ☐ 3/4-inch
☑ Other 5/8"
Total Length of Tubing/Casing: 21"
Number of Well Volumes to be Purged (# Vols): 3

PURGING METHOD
☐ Landtec
☐ Peristaltic pump
☒ Other - Type: Sampling Pump @ 0.2L/min
Well Depth: 21"

PURGE VOLUME CALCULATION: (Tubing Volume/ft x length) **X** (# Purge Volumes) = _____ CC or Liters
(Refer to Tubing / Hole Volume Table)

PURGE TIME
1121 START 1125 STOP 4min ELAPSED

PURGE RATE
Initial 0.2 L/pm Final 0.2 L/pm

ACTUAL PURGE VOLUME
0.8 Liters

FIELD PARAMETER MEASUREMENT

Time	Minutes	FLOW	Vacuum	CO (ppm)	LEL (%)	H_2S (ppm)	O_2 (ppm)	PID (ppm)			
00:00		L/min									
0100	1.0	0.2	—	0	0	0.0	15.7	—			
0130	1.5	0.2	—	0	0	0.0	15.6	—			
0200	2.0	0.2	—	0	0	0.0	15.5	—			
0230	2.5	0.2	—	—	—	—	—	1.5			
0300	3.0	0.2	—	—	—	—	—	1.3			
0400	4.0	0.2	—	—	—	—	—	1.5			

Observations/Note:
$[(21" \times (5/16")^2) + (12" \times (1/8")^2)] \times 3.14 \times 3 = 21.1 in^3 = 346mL$

1min 45sec purge at 0.2L/min

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-08-01		G0164999		11/3/16	1131	21"	1.0L				
SV-08-01		H0233606		11/3/16	1131	21"	1.0L				

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DATE / TIME:	11/2/16
PROJECT:	ABQ Railyard
JOB NO. :	
REC / SAMP BY:	FR/MS

SOIL-VAPOR SAMPLING FORM

WELL/LOC. NO. :	WELL TYPE:	☐ Monitor	☐ Extraction	☒ Vapor Pin	☐ Other
SV-08-02	WELL MATERIAL:	☒ Stainless Steel	☐ Poly / Implant	☐ Teflon	☐ Other

WELL OR PRT PURGING & SAMPLING LOG

PURGE VOLUME
Casing/Tubing Inner Diameter:
☐ 1/4-inch ☐ 3/8-inch ☐ 1/2-inch ☐ 3/4-inch
☒ Other 5/8
Total Length of Tubing/Casing: 21"
Number of Well Volumes to be Purged (# Vols): 3

PURGING METHOD
☐ Landtec
☐ Peristaltic pump
☒ Other - Type: CGI / PID

Well Depth: 21"

PURGE VOLUME CALCULATION: (Tubing Volume/ft x length) **X** (# Purge Volumes) = _____ CC or Liters
(Refer to Tubing / Hole Volume Table)

PURGE TIME
1439 START 1444 STOP 5 ELAPSED

PURGE RATE
Initial 0.2 L/pm Final 0.2 L/pm

ACTUAL PURGE VOLUME
1.0 Liters

FIELD PARAMETER MEASUREMENT

Time	Minutes	FLOW	Vacuum	CO	LEL	H_2S	O_2	PID			
00:00		L/min									
0:00	0.0			0	0	0.0	15.8	-			
1:00	1.0			0	0	0.0	15.8	-			
1:30	1.5			0	0	0.0	14.8	-			
2:00	2.0			0	0	0.0	14.5	-			
2:30	2.5			0	0	0.0	14.4	-			
~~3:00~~	~~3.0~~							☆			
~~3:30~~	~~3.5~~							☆			
~~4:0~~	~~4.0~~							☆			

MS

Observations/Note:
$\left[\left(21" \times (5/16)^2\right) + \left(12" \times (1/8")^2\right)\right] \times 3.14 \times 3 = 21.1\ in^3 = 346 mL$
☆ PID pump stalls out after ~5 seconds of pumping
346 cm^3 = 1 min 45 purge at 0.2 L/min flow rate

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-08-02	110139	11/2/16	1450	21"	1.0L				
SV-08-02	G0177907	11/2/16	1450	21"	1.0L				

* No PID reading, flow from vapor pin too low, caused PID pump to stall.

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DATE / TIME:	10/31/2016
PROJECT:	Abq Railyard
JOB NO. :	
REC / SAMP BY:	M Soltz / C Short

SOIL-VAPOR SAMPLING FORM

WELL/LOC. NO. :	WELL TYPE:	☐ Monitor	☐ Extraction	☑ Vapor Pin	☐ Other
SV-08-03	WELL MATERIAL:	☑ Stainless Steel	☐ Poly / Implant	☐ Teflon	☐ Other

WELL OR PRT PURGING & SAMPLING LOG

PURGE VOLUME
Casing/Tubing Inner Diameter:
☐ 1/4-inch ☐ 3/8-inch ☐ 1/2-inch ☐ 3/4-inch
☒ Other 5/8"
Total Length of Tubing/Casing: 18"
Number of Well Volumes to be Purged (# Vols): 3

PURGING METHOD
☐ Landtec
☐ Peristaltic pump
☑ Other - Type: PID/CGI
Well Depth: 18"

PURGE VOLUME CALCULATION: (Tubing Volume/ft x length) **X** (# Purge Volumes) = _____ CC or Liters
(Refer to Tubing / Hole Volume Table)

PURGE TIME
1645 START 1650 STOP 5 min ELAPSED

PURGE RATE
Initial 0.2 L/pm Final 0.2 L/pm

ACTUAL PURGE VOLUME
1.0 Liters

FIELD PARAMETER MEASUREMENT ← [ppm] →

Time	Minutes	FLOW	Vacuum	CO	LEL	H2S	O2	PID			
00:00		L/min									
0100	1.0	0.2	—	—	—	—	—	2.7			
0130	1.5	0.2	—	—	—	—	—	2.9			
0200	2.0	0.2	—	—	—	—	—	3.0			
0300	3.0	0.2	—	0	0	0.0	13.9	—			
~~0400~~ 0330	3.5	0.2	—	0	0	0.0	11.9	—			
0400	4.0	0.2	—	0	0	0.0	11.3	—			
0430	4.5	0.2	—	0	0	0.0	11.1	—			
0500	5.0	0.2	—	0	0	0.0	11.1	—			

Observations/Note:
$[18" \times (5/8")^2 + 12" \times (1/4")^2] \times 3.14 \times 3 =$
$[7.03 + 0.75] \times 3.14 \times 3 =$
$[1.76 + 0.19] \times 3.14 \times 3 = 18.37\ in^3 = 301\ mL$ or $301\ cm^3 = 1.5$ min purge for 3 CVs.

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-08-03		H0199622		10/31/16	1652	18"	1L				
SV-08-03		G0177440		10/31/16	1652	18"	1L				

200 mL/min × 5 min = 1L thru sorbent tube

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PROJECT:	Aby Railyard
JOB NO. :	
REC / SAMP BY:	M Soby / C Short

SOIL-VAPOR SAMPLING FORM

WELL/LOC. NO. :	WELL TYPE:	☐ Monitor	☐ Extraction	☒ Vapor Pin	☐ Other
~~SV-08-04~~ SV-08-04	WELL MATERIAL:	☒ Stainless Steel	☐ Poly / Implant	☐ Teflon	☐ Other

WELL OR PRT PURGING & SAMPLING LOG

PURGE VOLUME
Casing/Tubing Inner Diameter:
☐ 1/4-inch ☐ 3/8-inch ☐ 1/2-inch ☐ 3/4-inch
☒ Other 5/8"
Total Length of Tubing/Casing: 18"
Number of Well Volumes to be Purged (# Vols): 3

PURGING METHOD
☐ Landtec
☐ Peristaltic pump
☒ Other - Type: PID/CGI
Well Depth: 18"

PURGE VOLUME CALCULATION: (Tubing Volume/ft x length) **X** (# Purge Volumes) = ~~5.51~~ ~~0.090~~ in3 CC or (Liters)
(Refer to Tubing / Hole Volume Table)
0.090 x 3 = 0.270 L = ~~81~~ sec purge CS b See Calc Below

PURGE TIME
1609 START 1614 STOP 4.5 min ELAPSED

PURGE RATE
Initial 200 ~ L/pm Final 200 ~ L/pm

ACTUAL PURGE VOLUME
0.9 Liters

FIELD PARAMETER MEASUREMENT

Time	Minutes	FLOW	Vacuum	CO	LEL	H_2S	O_2	PID			
00:00		mL/min									
MS 1609 01:00	1.0	200		—	—	—	—	3.3			
01:30	1.5	200		—	—	—	—	3.2			
02:00	2.0	200		—	—	—	—	3.2			
0300	3.0	200		0	0	0.0	8.2	—			
0330	3.5	200		0	0	0.0	7.4	—			
0400	4.0	200		0	0	0.0	7.0	—			
0430	4.5	200		0	0	0.0	6.8	—			

Observations/Note:
18" x 5/8" + 12" x 1/4"
$\left[18 \times (5/16)^2 + 12 \times (1/8)^2\right] 3.14 \times 3 = 18.32\ in^3 = 300\ cm^3 = 1.5$ min
or 300 mL

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-08-04		H0199658		10/31/16	1614	18"	1L				
SV-08-04		H0199609		10/31/16	1614	18"	1L				

200L/min x 5 min = 1L through sorbent tubes.

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PROJECT:	Aby Railyard
JOB NO. :	
REC / SAMP BY:	FR/MS

SOIL-VAPOR SAMPLING FORM

WELL/LOC. NO. :	WELL TYPE:	☐ Monitor	☐ Extraction	☑ Vapor Pin	☐ Other
SV-05-05 FR 08	WELL MATERIAL:	☑ Stainless Steel	☐ Poly / Implant	☐ Teflon	☐ Other

WELL OR PRT PURGING & SAMPLING LOG

PURGE VOLUME
Casing/Tubing Inner Diameter:
☐ 1/4-inch ☐ 3/8-inch ☐ 1/2-inch ☐ 3/4-inch
☑ Other 5/8"
Total Length of Tubing/Casing: 21"
Number of Well Volumes to be Purged (# Vols): 3

PURGING METHOD
☐ Landtec
☐ Peristaltic pump
☑ Other - Type: PID/CCI

Well Depth: 21"

PURGE VOLUME CALCULATION: (Tubing Volume/ft x length) **X** (# Purge Volumes) = _____ CC or Liters
(Refer to Tubing / Hole Volume Table)

PURGE TIME
1346 START 1351 STOP 5 min ELAPSED

PURGE RATE
Initial 0.2 L/pm Final 0.2 L/pm

ACTUAL PURGE VOLUME
1.0 Liters

FIELD PARAMETER MEASUREMENT ← ppm →

Time	Minutes	FLOW	Vacuum	CO	LEL	H2S	O2	PID			
00:00		L/min									
0100	1.0	0.2	—	—	—	—	—	2.2			
0130	1.5	0.2	—	—	—	—	—	2.2			
0200	2.0	0.2	—	—	—	—	—	2.0			
0230	2.5	0.2	—	+0	+0	0.0	19.2	—			
0300	3.0	0.2	—	0	0	0.0	14.5	—			
0330	3.5	0.2	—	0	0	0.0	13.9	—			
0400	4.0	0.2	—	0	0	0.0	13.7	—			
~~0430~~ 0600	~~4.0~~	0.2	—	0	0	0.0	13.5	—			

Observations/Note:
$[(21" \times (5/16)^2) + (12" \times (1/8")^2)] \times 3.14 \times 3 = 21.1\ in^3 = 346mL$
346 cm³ = 1 min 45 sec purge at 0.2 L/min flow rate

SAMPLE COLLECTION

SAMPLE CONTAINER TYPE
☐ Tedlar Bag ☑ Sorption Tubes ☐ Summa Canister ☐ Septum Bottle

SAMPLES FR Sample Series: _____

Sample/Location ID		Contain ID		Date	Time	Depth	Volume			Comments	
SV-05-05		G0166889		11/2/16	1352	21"	1.0L				
SV-05-05		H0231858		MS 11/2/16	1352	21"	1.0L				
-08				11/2/16							
-08											

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PROJECT:	ABQ Railyards
JOB NO. :	
REC / SAMP BY:	FR/MS

SOIL-VAPOR SAMPLING FORM

WELL/LOC. NO. : FR SV-05-06 08	WELL TYPE:	☐ Monitor	☐ Extraction	☑ Vapor Pin	☐ Other
	WELL MATERIAL:	☑ Stainless Steel	☐ Poly / Implant	☐ Teflon	☐ Other

WELL OR PRT PURGING & SAMPLING LOG

PURGE VOLUME
Casing/Tubing Inner Diameter:
☐ 1/4-inch ☐ 3/8-inch ☐ 1/2-inch ☐ 3/4-inch
☑ Other 5/8"
Total Length of Tubing/Casing: 21"
Number of Well Volumes to be Purged (# Vols): 3

PURGING METHOD
☐ Landtec
☐ Peristaltic pump
☑ Other - Type: PID/CGI

Well Depth: 21"

PURGE VOLUME CALCULATION: (Tubing Volume/ft x length) **X** (# Purge Volumes) = _____ CC or Liters
(Refer to Tubing / Hole Volume Table)

PURGE TIME
1405 START 1418 STOP 1410 5 min ELAPSED

PURGE RATE
Initial 0.2 L/pm Final 0.2 L/pm

ACTUAL PURGE VOLUME
~~1.0~~ Liters

FIELD PARAMETER MEASUREMENT

Time	Minutes	FLOW	Vacuum	CO	LEL	H_2S	O_2	PID			
00:00		L/min		ppm →							
0100	1.0			–	–	–	–	2.2			
0130	1.5			–	–	–	–	2.0			
0200	2.0			–	–	–	–	2.0			
0230	2.5			0	0	0.0	~~2.0~~	–	20.1		
0300	3.0			0	0	0.0	12.8	–			
0330	3.5			0	0	0.0	11.6	–			
0400	4.0			0	0	0.0	11.2	–			
0500	5.0			0	0	0.0	11.0	–			

Observations/Note:
$[21" \times (5/16")^2] + [2" \times (1/8")^2] \times 3.14 \times 3 = 21.1 in^3 = 346 mL$
346 cm3 = 1 min 45 sec purge at 0.2 L/min flow rate

SAMPLE COLLECTION

SAMPLE CONTAINER TYPE
☐ Tedlar Bag ☒ Sorption Tubes ☐ Summa Canister ☐ Septum Bottle

SAMPLES FR Sample Series: _____

Sample/Location ID	Contain ID	Date	Time	Depth	Volume			Comments	
SV-05-06	H0232630	11/2/16	1415	21"	1.0L				
SV-05-06 -08	G0164508	11/2/16	1415	21"	1.0L				
-08									

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PROJECT:	Abq Railyard
JOB NO. :	
REC / SAMP BY:	MS/FR

SOIL-VAPOR SAMPLING FORM

WELL/LOC. NO. :	WELL TYPE:	☐ Monitor	☐ Extraction	☑ Vapor Pin	☐ Other
SV-08-07	WELL MATERIAL:	☑ Stainless Steel	☐ Poly / Implant	☐ Teflon	☐ Other

WELL OR PRT PURGING & SAMPLING LOG

PURGE VOLUME
Casing/Tubing Inner Diameter:
☐ 1/4-inch ☐ 3/8-inch ☐ 1/2-inch ☐ 3/4-inch
☑ Other 5/16"
Total Length of Tubing/Casing: 21"
Number of Well Volumes to be Purged (# Vols): 3

PURGING METHOD
☐ Landtec
☐ Peristaltic pump
☒ Other - Type: Sample Pump @ 0.2L/min
Well Depth: 21"

PURGE VOLUME CALCULATION: (Tubing Volume/ft x length) **X** (# Purge Volumes) = _____ CC or Liters
(Refer to Tubing / Hole Volume Table)

PURGE TIME
1031 START 1034 STOP 3 min ELAPSED

PURGE RATE
Initial 0.2 L/pm Final 0.2 L/pm

ACTUAL PURGE VOLUME
0.6 Liters

FIELD PARAMETER MEASUREMENT

Time	Minutes	FLOW	Vacuum	ppm CO	% LEL	ppm H_2S	ppm O_2	ppm PID			
00:00		L/min									
0100	1.0	0.2	—	0	0	0.0	8.5	1.0			
0130	1.5	0.2	—	0	0	0.0	8.4	0.9			
0200	2.0	0.2	—	0	0	0.0	8.1	0.9			
0230	2.5	0.2	—	0	0	0.0	8.0	0.9			
0300	3.0	0.2	—				7.8	0.9			

Observations/Note:
$[(21" \times (5/16")^2) + (12" \times (1/8")^2)] \times 3.14 \times 3 = 21.1 \text{ in}^3 = 346 \text{mL}$
1min 45sec purge at 0.2L/min

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-08-07		G0164568		11/3/16	1041	21"	1.0L				
SV-08-07		H0231896		11/3/16	1041	21"	1.0L				

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DATE / TIME:	11/3/16
PROJECT:	Aby Railyard
JOB NO. :	
REC / SAMP BY:	MS/ER

SOIL-VAPOR SAMPLING FORM

WELL/LOC. NO. :	WELL TYPE:	☐ Monitor	☐ Extraction	☑ Vapor Pin	☐ Other
SV-08-08	WELL MATERIAL:	☑ Stainless Steel	☐ Poly / Implant	☐ Teflon	☐ Other

WELL OR PRT PURGING & SAMPLING LOG

PURGE VOLUME
Casing/Tubing Inner Diameter:
☐ 1/4-inch ☐ 3/8-inch ☐ 1/2-inch ☐ 3/4-inch
☑ Other 5/16" OD
Total Length of Tubing/Casing: ~~21'~~ NS
Number of Well Volumes to be Purged (# Vols): 3

PURGING METHOD
☐ Landtec
☐ Peristaltic pump
☑ Other - Type: Sampling pump @ 0.2L/min
Well Depth: 21"

PURGE VOLUME CALCULATION: (Tubing Volume/ft x length) **X** (# Purge Volumes) = _____ CC or Liters
(Refer to Tubing / Hole Volume Table)

PURGE TIME
1055 START 1058 STOP 3min ELAPSED

PURGE RATE
Initial 0.2 L/pm Final 0.2 L/pm

ACTUAL PURGE VOLUME
0.6 Liters

FIELD PARAMETER MEASUREMENT

Time	Minutes	FLOW	Vacuum	CO (ppm)	LEL (%)	H_2S (ppm)	O_2 (ppm)	PID (ppm)			
00:00		L/min									
0100	1.0	0.2	—	0	0	0.0	4.3	0.7			
0130	1.5	0.2	—	0	0	0.0	4.0	0.6			
0200	2.0	0.2	—	0	0	0.0	3.8	0.7			
0230	2.5	0.2	—	0	0	0.0	3.7	0.7			
0300	3.0	0.2	—	0	0	0.0	3.6	0.7			

Observations/Note:
$[(21" \times (5/16")^2) + (12" \times (1/8")^2)] \times 3.14 \times 3 = 21.1 in^3 = 346 mL$

1min 45sec purge at 0.2L/min

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-08-08	H0234589	11/3/16	1105	21'	1.0L				
SV-08-08	1101002	11/3/16	1105	21"	1.0L				

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PAGE: 1 OF 1	
DATE / TIME: 11/2/2016	
PROJECT: Abq Railyard	
JOB NO. :	
REC / SAMP BY: MS / FR	

SOIL-VAPOR SAMPLING FORM

WELL/LOC. NO. :	WELL TYPE:	☐ Monitor	☐ Extraction	☑ Vapor Pin	☐ Other
SV-08-09	WELL MATERIAL:	☑ Stainless Steel	☐ Poly / Implant	☐ Teflon	☐ Other

WELL OR PRT PURGING & SAMPLING LOG

PURGE VOLUME
Casing/Tubing Inner Diameter:
☐ 1/4-inch ☐ 3/8-inch ☐ 1/2-inch ☐ 3/4-inch
☑ Other 5/8"
Total Length of Tubing/Casing: 21"
Number of Well Volumes to be Purged (# Vols): 3

PURGING METHOD
☐ Landtec
☐ Peristaltic pump
☑ Other - Type: ~~PED/CGI~~ FCR Sample pump @ 0.2L/min
Well Depth: 21"

PURGE VOLUME CALCULATION: (Tubing Volume/ft x length) **X** (# Purge Volumes) = ________ CC or Liters
(Refer to Tubing / Hole Volume Table)

PURGE TIME
1625 START 1629 STOP 4min ELAPSED

PURGE RATE
Initial 0.2 L/pm Final 0.2 L/pm

ACTUAL PURGE VOLUME
0.8 Liters

FIELD PARAMETER MEASUREMENT

Time	Minutes	FLOW	Vacuum	CO	LEL	H_2S	O_2	PID			
00:00		L/min									
0100	1.0	0.2	—	~~1.0~~	~~0~~	0.0	13.5	1.6			
0130	1.5	0.2	—	0	0	0.0	13.1	1.5			
0200	2.0	0.2	—	0	0	0.0	12.9	1.6			
0230	2.5	0.2	—	0	0	0.0	12.9	1.5			
0300	3.0	0.2	—	0	0	0.0	12.8	1.5			
MS ~~0330~~	~~3.5~~ MS										
0400	4.0						12.8	1.4			
MS ~~0500~~	~~5.0~~ MS										

Observations/Note:
$[(21" \times (5/16")^2) + (12" \times (1/8")^2] \times 3.14 \times 3 = 21.1 in^3 = 346 mL$ = 1 min 45 sec purge at rate of 0.2 L/min

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-08-09		H0234844	11/2/2016	1636	21"	1.02				
SV-08-09	MS	~~110880~~1	11/2/2016	1636	21"	1.02				
		1100861								

INTERA, Inc.
6000 Uptown Blvd, Ste. 220
Albuquerque, NM 87110
Phone: 505-246-1600
Fax: 505-246-2600

PAGE:	1 OF 1
DATE / TIME:	11/2/16
PROJECT:	ABQ Railyard
JOB NO. :	
REC / SAMP BY:	FR / MS

SOIL-VAPOR SAMPLING FORM

WELL/LOC. NO. :	WELL TYPE:	☐ Monitor	☐ Extraction	☒ Vapor Pin	☐ Other
SV-08-10	WELL MATERIAL:	☒ Stainless Steel	☐ Poly / Implant	☐ Teflon	☐ Other

WELL OR PRT PURGING & SAMPLING LOG

PURGE VOLUME
Casing/Tubing Inner Diameter:
☐ 1/4-inch ☐ 3/8-inch ☐ 1/2-inch ☐ 3/4-inch
☒ Other 5/8"
Total Length of Tubing/Casing: 21"
Number of Well Volumes to be Purged (# Vols): 3

PURGING METHOD
☐ Landtec
☐ Peristaltic pump
☒ Other - Type: Sample pump @ 0.2L/min

Well Depth: 21"

PURGE VOLUME CALCULATION: (Tubing Volume/ft x length) **X** (# Purge Volumes) = _____ CC or Liters
(Refer to Tubing / Hole Volume Table)

PURGE TIME
1646 START 1650 STOP 4 ELAPSED

PURGE RATE
Initial 0.2 L/pm Final 0.2 L/pm

ACTUAL PURGE VOLUME
MS ~~1.0~~ 0.8 Liters

FIELD PARAMETER MEASUREMENT

Time	Minutes	FLOW	Vacuum	CO	LEL	H2S	O2	PID			
00:00		L/min									
1:00				0	0	~~8.0~~ 0.0	14.1	4.0			
1:30				0	0	0.0	13.9	4.1			
2:00				0	0	0.0	13.8	4.2			
2:30				0	0	0.0	13.7	4.1			
~~3:00~~ 4:00				0	0	0.0	13.7	4.2			

Observations/Note:
MS
$[(21" \times (5/16")^2) + (12" \times (1/8")^2)] \times 3.14 \times 3 = 21.1 in^3 = 346 cm^3 = 346 mL$
= 1 min 45 sec purge at rate of 0.2L/min

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-08-10	MS	~~SG~~ 0177969	11/2/16	1656	21"	1.0L				
SV-08-10		1049357	11/2/16	1656	21"	1.0L				

APPENDIX B

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, St 220	Project Name: Abq Railyard	Analysis Turnaround Time
City/State/Zip: Albuquerque, NM 87110	Location: Albuquerque, NM ~~87110~~ ms	☑ Normal
Phone: 505-246-1600	Sampler Name(s): Matt Soph, 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-05-05	G0177980	INTERA-1	11/3/16	1437		11/3/16	1442		200	200	X				X
SV-05-05	G0165054	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	H01163	INTERA-1	11/3/16	1501		11/3/16	1506		200	200	X				X
SV-05-06	1100803	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			

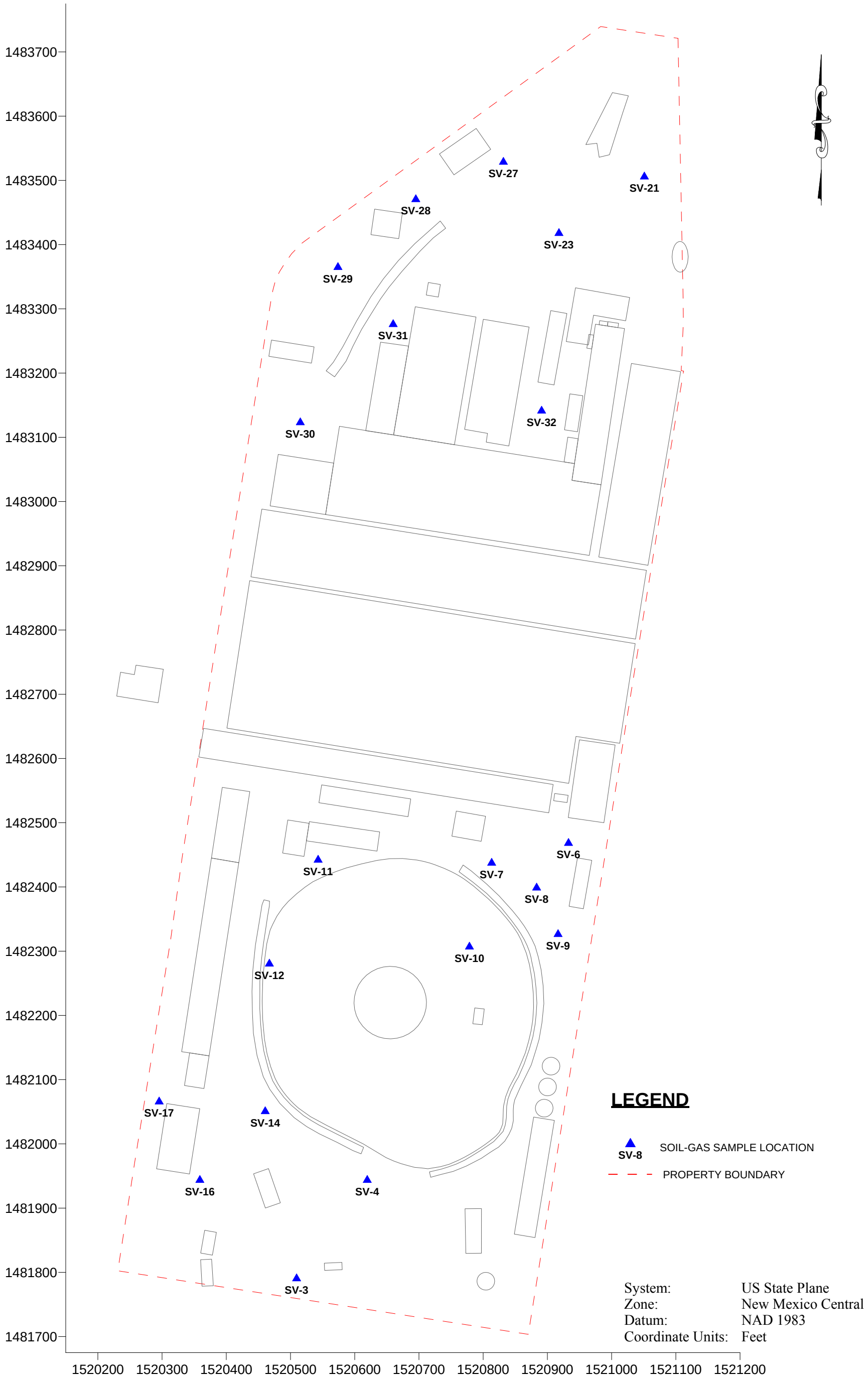
Pump(s) Calibration and Flow Rate Check:

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) [signature]	Date/Time: 11/7/2016 1137	Received by: (signature) Augusto Benavides	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:

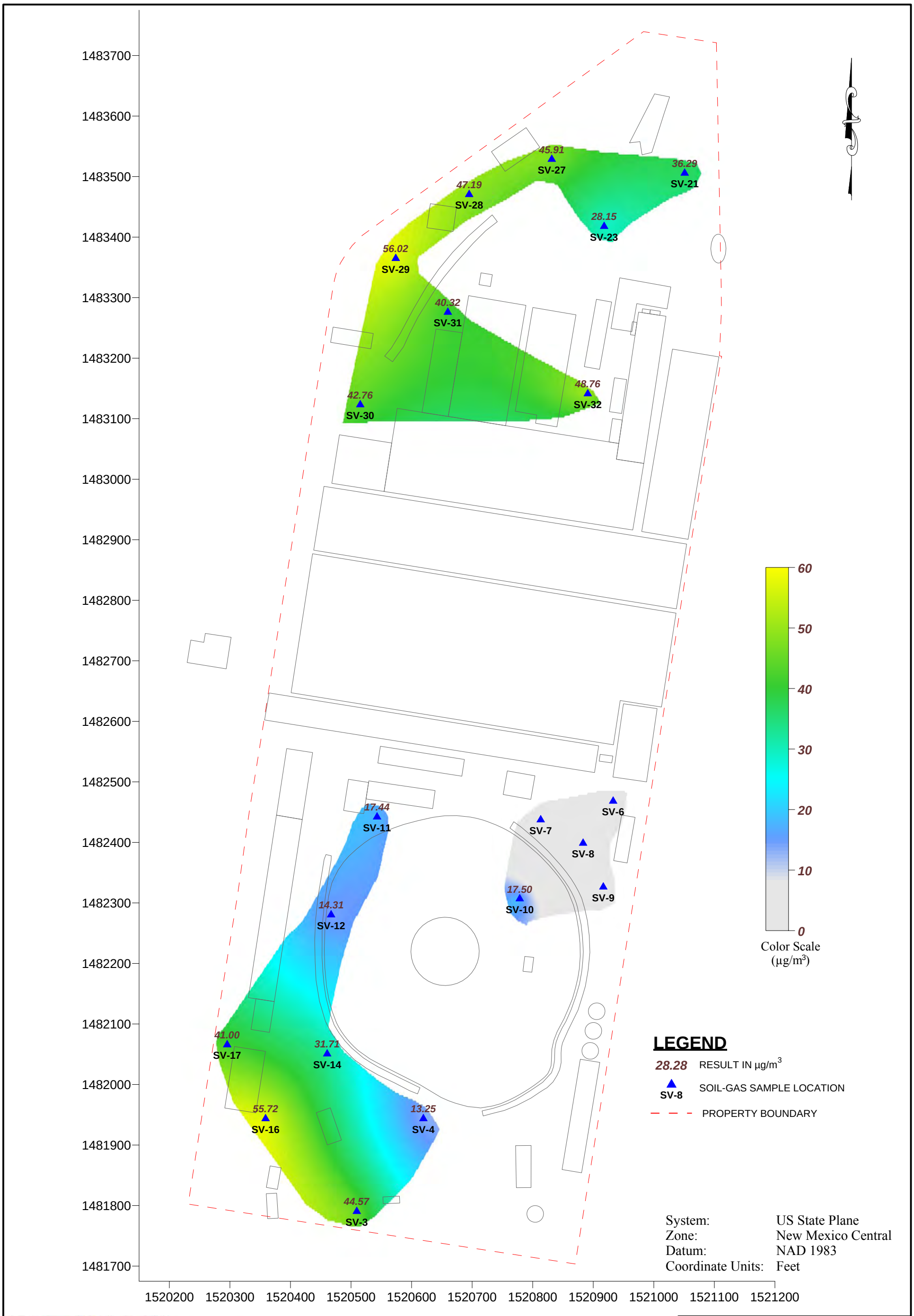
Lab Use Only	Courier Name	Shipment Condition	Sample Delivery Group ID	Custody Seal Intact	Custody Seal No.
	FedEx	good		Yes No (None)	



BEACON ENVIRONMENTAL SERVICES, INC.
2203A Commerce Road, Suite 1, Forest Hill, MD 21050 USA
www.Beacon-USA.com 1-410-838-8780
Beacon Project No. 3588, November 2016

Figure 1
Soil-Gas Survey
Soil-Vapor Sample Locations

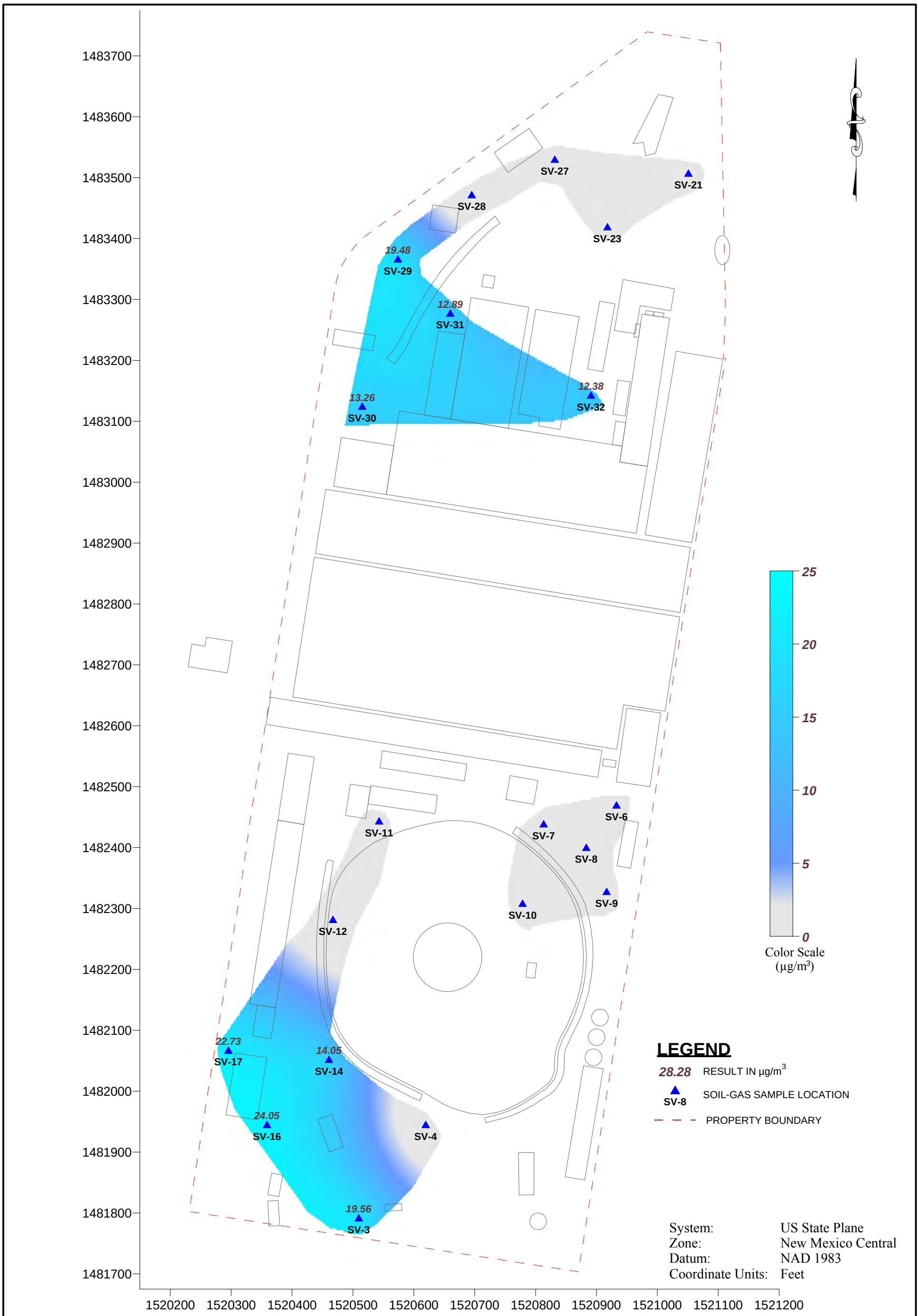
Albuquerque Railyards
Albuquerque, NM



BEACON ENVIRONMENTAL SERVICES, INC.
2203A Commerce Road, Suite 1, Forest Hill, MD 21050 USA
www.Beacon-USA.com 1-410-838-8780
Beacon Project No. 3588, November 2016

Figure 2
Soil-Gas Survey
Toluene

Albuquerque Railyards
Albuquerque, NM



BEACON ENVIRONMENTAL SERVICES, INC.
2203A Commerce Road, Suite 1, Forest Hill, MD 21050 USA
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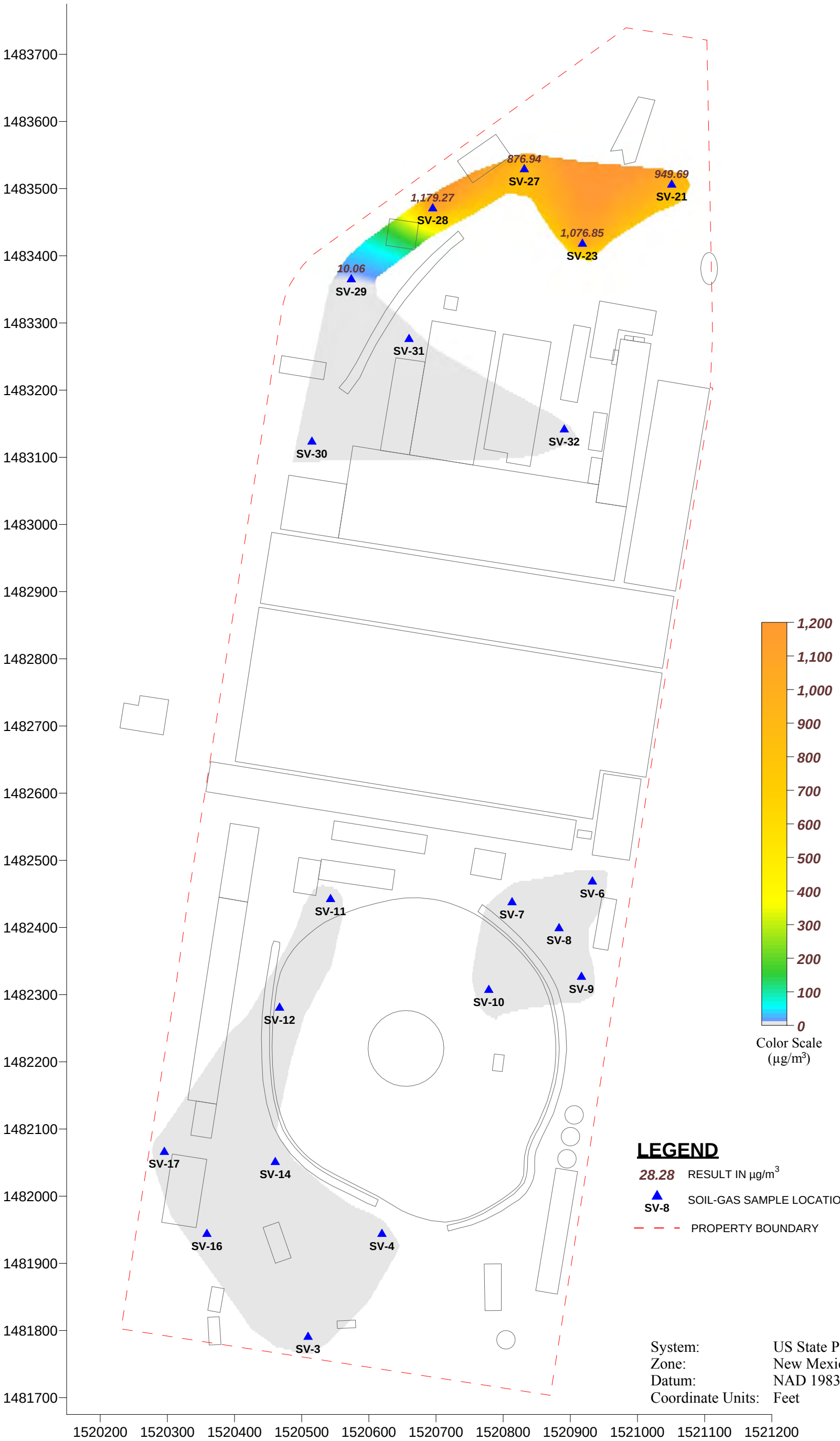
Beacon Project No. 3588, November 2016

Figure 3
Soil-Gas Survey
Naphthalene

Albuquerque Railyards
Albuquerque, NM



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2203A Commerce Road, Suite 1, Forest Hill, MD 21050 USA
www.Beacon-USA.com 1-410-838-8780
Beacon Project No. 3588, November 2016

Figure 4
Soil-Gas Survey
1,3-Dichlorobenzene

Albuquerque Railyards
Albuquerque, NM

APPENDIX C

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 D

Asbestos and Lead-Based Paint Report(s)

DC Environmental
Consulting and Training Services

ASBESTOS AND LEAD BASED PAINT SURVEY
City of Albuquerque
Railyard Tender Repair Parcel 8
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 9, 2016
Project No. 16-180

DC Environmental
Consulting and Training Services

November 9, 2016
Project No. 16-180

Mr. Joe Tracy
Intera Inc.
6000 Uptown Boulevard, NE
Suite 200
Albuquerque, NM 87110

Subject: Asbestos and Lead Based Paint inspection of the Tender Repair Parcel 8 – 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 Tender Repair. Asbestos-containing materials were identified at the Tender Repair.

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
Certified Industrial
Hygienist

Karen Dremann, BS
Senior Scientist

Distribution: (2) Addressee

TABLE OF CONTENTS

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Contents

EXECUTIVE SUMMARY

On October 31, 2016, DC Environmental performed an inspection of the Tender Repair 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 previous survey did not identify LBP or asbestos containing building materials. 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 Tender Repair.

Asbestos-containing building materials are those containing greater than one percent asbestos as determined by polarized light microscopy. Asbestos was detected in any of the building materials sampled.

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.

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 Tender Repair (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.

1. INTRODUCTION

In accordance with our proposal, DC Environmental has performed an investigation of the Tender Repair 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 a Certified Lead Assessor and Inspectors.
- 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 Tender Repair

The Tender Repair

The Tender Repair consists of a single building, roof and exterior. The Tender Repair 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 31, 2016 of the Tender Repair. 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 Twenty Five (25) 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, the following materials sampled **were** identified as asbestos-containing material.

The white crane gasket rope,

12” x 12” off-white/tan floor tile
Black roofing shingles with white gravel and black tar
Black boiler pipe flange gaskets

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 the appendix to this document.

5.1. Table 1: Asbestos Sample Analysis

Sample #	**Tender Repair** Analyst physical description of subsample	Asbestos Type/calibrated/Visual estimate percent
16-180-100	**CMU Interior North wall Tender Repair**	ND
16-180-101	**Window Putty Tender Repair**	ND
16-180-102	**Window Putty Tender Repair**	ND
16-180-103	**Window Putty Tender Repair**	ND
16-180-104	**Receptacle Box wiring Tender Repair**	ND
16-180-105	**White Floor Stripe Tender Repair**	ND
16-180-106	**Wood Block Floor Tender Repair**	ND
16-180-107	**Crane Gasket rope Tender Repair**	22% Chrysotile
16-180-108	**12x12 off white floor tile from office Tender**	2% Chrysotile
16-180-109	**12x12 off white floor tile from office Tender**	2% Chrysotile
16-180-110	**12x12 off white floor tile from office Tender**	2% Chrysotile
16-180-111	**2x4 White smooth ceiling tile Tender Repair**	ND
16-180-112	**2x4 White smooth ceiling tile Tender Repair**	ND
16-180-113	**2x4 White smooth ceiling tile Tender Repair**	ND
16-180-114	**Brown cork Pipe TSI Tender Repair**	ND
16-180-115	**Brown cork Pipe TSI Tender Repair**	ND
16-180-116	**Brown cork Pipe TSI Tender Repair**	ND
16-180-117	**White roofing material Tender Repair**	2% Chrysotile
16-180-118	**White roofing material Tender Repair**	2% Chrysotile
16-180-119	**White roofing material Tender Repair**	2% Chrysotile
16-180-120	**White mag block TSI Tender Repair**	ND
16-180-121	**White mag block TSI Tender Repair**	ND

16-180-122	**White mag block TSI Tender Repair**	ND
16-180-123	**West wall exterior wall mastic yellow Tender**	ND
16-180-124	**Boiler pipe Flange Gasket Tender Repair**	48% Chrysotile

ND – None Detected

5.2 Table 2: Lead Based Paint Laboratory Analysis

Sample #	**Tender Repair** Analyst physical description of subsample	Concentration % by Weight
16-180-1000	**Red Floor Paint from Tender Repair**	**0.22**
16-180-1001	**White Floor Paint from Tender Repair**	**0.91**
16-180-1002	**Black Paint from Wall in Tender Repair**	**1.1**
16-180-1003	**Black Paint from Column in Tender Repair**	**3.4**
16-180-1004	**Beige Paint from Wood Door in Tender Repair**	**0.17**
16-180-1005	**Black Concrete Wall Paint from Tender Repair**	**0.84**
16-180-1006	**Silver Paint from Metal wall panel in boiler room from Tender Repair**	**0.25**
16-180-1007	**Black Paint from concrete window sill Tender Repair**	**0.17**
16-180-1008	**White Paint from Window Glass**	**0.74**
16-180-1009	**Red wood trim exterior of boiler room**	**1.9**

Lead based paint is further defined if laboratory analysis determines the lead content to be one half (0.5 %) percent by weight or greater

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 no previously undocumented sources of asbestos-containing building materials. Asbestos-containing building materials **were** identified in the Tender Repair.

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 Tender Repair **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. 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 Tender Repair (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 Tender Repair. Lead-containing items **were** identified at the Tender Repair. Those material 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.

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.

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

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Materials Characterization - Bulk Asbestos Analysis

Laboratory Analysis Report - Polarized Light

DC Environmental
PO Box 9315
Albuquerque, NM 87119

Attn: David Charlesworth
Customer Project: DCE 16-180, Rail Yard Parcel 8 Tender Repair
Reference #: CAL16117603JE Date: 11/16/2016

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

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Overview of Project Sample Material Containing Asbestos

Customer Project: DCE 16-180, Rail Yard Parcel 8 Tender Repair **CA Labs Project #:** CAL16117603JE

Sample #	Layer #	Analysts Physical Description of Subsample	Asbestos type / calibrated visual estimate percent	List of Affected Building Material Types
16-180-107	*107-1*	***Crane Gasket Rope**/ white gasketing*	***22% Chrysotile***	***white gasketing***
16-180-108	*108-1*	***12x12 Off-White Floor Tile**/ tan floor tile*	***2% Chrysotile***	***tan floor tile***
16-180-109	*109-1*	***12x12 Off-White Floor Tile**/ tan floor tile*	***2% Chrysotile***	***black roofing shingle with white gravel and black tar***
16-180-110	*110-1*	***12x12 Off-White Floor Tile**/ tan floor tile*	***2% Chrysotile***	***black gasketing***
16-180-117	*117-1*	***White Roofing Material**/ black roofing shingle with white gravel and black tar*	***2% Chrysotile***	
16-180-118	*118-1*	***White Roofing Material**/ black roofing shingle with white gravel and black tar*	***2% Chrysotile***	
16-180-119	*119-1*	***White Roofing Material**/ black roofing shingle with white gravel and black tar*	***2% Chrysotile***	
16-180-124	*124-1*	***Boiler Pipe Flange Gasket**/ black gasketing*	***48% 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)

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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 16-180, Rail Yard Parcel 8 Tender Repair
Turnaround Time:
5 Days

CA Labs Project #:
CAL16117603JE

Date: 11/16/2016
Samples Received: 11/10/16 10:30am
Date Of Sampling: 10/27/2016
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
16-180-100		*100-1*	***CMU**/ gray cement / mortar*	*y*	***None Detected***		100% qu,ca
16-180-101		*101-1*	***Window Putty**/ gray caulking*	*y*	***None Detected***		100% qu,ca
16-180-102		*102-1*	***Window Putty**/ gray caulking*	*y*	***None Detected***		100% qu,ca
16-180-103		*103-1*	***Window Putty**/ gray caulking*	*y*	***None Detected***		100% qu,ca
16-180-104		*104-1*	***Receptacle Box Wiring**/ gray gasketing*	*y*	***None Detected***	62% ce	38% qu,bi,ca
16-180-105		*105-1*	***White Floor Stripe**/ tan flooring*	*y*	***None Detected***		100% qu,bi,ca
16-180-106		*106-1*	***Wood Block Floor**/ brown wooden fragments*	*y*	***None Detected***	100% ce	

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:

Julio Robles
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

CA Labs
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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 16-180, Rail Yard Parcel 8 Tender Repair
Turnaround Time:
5 Days

CA Labs Project #:
CAL16117603JE

Date: 11/16/2016
Samples Received: 11/10/16 10:30am
Date Of Sampling: 10/27/2016
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
16-180-107		*107-1*	***Crane Gasket Rope**/ white gasketing*	*y*	***22% Chrysotile***	30% ce	48% qu,bi,ca
16-180-108		*108-1*	***12x12 Off-White Floor Tile**/ tan floor tile*	*y*	***2% Chrysotile***		98% qu,ca
		108-2	*tan mastic with debris*	*n*	***None Detected***		100% gy,bi
16-180-109		*109-1*	***12x12 Off-White Floor Tile**/ tan floor tile*	*y*	***2% Chrysotile***		98% qu,ca
		109-2	*tan mastic with debris*	*n*	***None Detected***	2% ce	98% gy,bi
16-180-110		*110-1*	***12x12 Off-White Floor Tile**/ tan floor tile*	*y*	***2% Chrysotile***		98% qu,ca
		110-2	*tan mastic with debris*	*n*	***None Detected***	3% ce	97% gy,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:

Julio Robles
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 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 16-180, Rail Yard Parcel 8 Tender Repair
Turnaround Time:
5 Days

CA Labs Project #:
CAL16117603JE

Date: 11/16/2016
Samples Received: 11/10/16 10:30am
Date Of Sampling: 10/27/2016
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
16-180-111		*111-1*	***2x4 White Smooth Ceiling Tile**/ white surfacing*	*y*	***None Detected***		100% qu,bi
		111-2	*yellow fibrous ceiling tile*	*y*	***None Detected***	100% fg	
16-180-112		*112-1*	***2x4 White Smooth Ceiling Tile**/ white surfacing*	*y*	***None Detected***		100% qu,bi
		112-2	*yellow fibrous ceiling tile*	*y*	***None Detected***	100% fg	
16-180-113		*113-1*	***2x4 White Smooth Ceiling Tile**/ white surfacing*	*y*	***None Detected***		100% qu,bi
		113-2	*yellow fibrous ceiling tile*	*y*	***None Detected***	100% fg	
16-180-114		*114-1*	***Brown Cork Pipe TSI**/ black and brown corking*	*y*	***None Detected***		100% qu,bi,or

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:

Julio Robles
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

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 16-180, Rail Yard Parcel 8 Tender Repair
Turnaround Time:
5 Days

CA Labs Project #:
CAL16117603JE

Date: 11/16/2016
Samples Received: 11/10/16 10:30am
Date Of Sampling: 10/27/2016
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
16-180-115		*115-1*	***Brown Cork Pipe TSI****/ black and brown corking*	*y*	***None Detected***		100% qu,bi,or
16-180-116		*116-1*	***Brown Cork Pipe TSI****/ black and brown corking*	*y*	***None Detected***		100% qu,bi,or
16-180-117		*117-1*	***White Roofing Material****/ black roofing shingle with white gravel and black tar*	*n*	***2% Chrysotile***	10% ce	88% qu,bi
16-180-118		*118-1*	***White Roofing Material****/ black roofing shingle with white gravel and black tar*	*n*	***2% Chrysotile***	11% ce	87% qu,bi
16-180-119		*119-1*	***White Roofing Material****/ black roofing shingle with white gravel and black tar*	*n*	***2% Chrysotile***	12% ce	86% qu,bi
16-180-120		*120-1*	***White Mag Block TSI****/ white insulation*	*y*	***None Detected***	12% ce	88% qu,ca,ma
16-180-121		*121-1*	***White Mag Block TSI****/ white insulation*	*y*	***None Detected***	14% ce	86% qu,ca,ma

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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:

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Analyst

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Technical Manager
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Turnaround Time:
5 Days

CA Labs Project #:
CAL16117603JE

Date: 11/16/2016
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Date Of Sampling: 10/27/2016
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
16-180-122		*122-1*	***White Mag Block TSI**/ white insulation*	*y*	***None Detected***	13% ce	87% qu,ca,ma
16-180-123		*123-1*	***Exterior Wall Mastic Yellow**/ tan mastic*	*y*	***None Detected***		100% gy,bi
		123-2	*black foam*	*y*	***None Detected***		100% qu,or
16-180-124		*124-1*	***Boiler Pipe Flange Gasket**/ black gasketing*	*y*	***48% Chrysotile***		52% qu,bi,ca

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.*
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ma - matrix	qu - quartz	sy - synthetic	

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10. TEM analysis suggested

CA 16117603

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 8 Tender Repair

PO / Job#: DCE 16-180 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

❒ 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	
16-180-100	10/27	CMU Interior North wall Tender Repair	A P C				
16-180-101	10/27	Window Putty Tender Repair	A P C				
16-180-102	10/27	Window Putty Tender Repair	A P C				
16-180-103	10/27	Window Putty Tender Repair	A P C				
16-180-104	10/27	Receptacle Box wiring Tender Repair	A P C				
16-180-105	10/27	White Floor Stripe Tender Repair	A P C				
16-180-106	10/27	Wood Block Floor Tender Repair	A P C				
16-180-107	10/27	Crane Gasket rope Tender Repair	A P C				
16-180-108	10/27	12x12 off white floor tile from office Tender Repair	A P C				
16-180-109	10/27	12x12 off white floor tile from office Tender Repair	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:11/09/2016 5:00PM	Relinquished By: Date / Time:	Relinquished By: Date / Time:
Received By: Date / Time: 11-10-16 10:30AM Condition Acceptable? ❒ Yes ❒ No	Received By: Date / Time: Condition Acceptable? ❒ Yes ❒ No	Received By: Date / Time: Condition Acceptable? ❒ Yes ❒ No

CAL16117603

DC Environmental
Consulting and Training Services
"Promoting Safety in the Workplace"
DC Environmental
PO Box 9315
Albuquerque, NM 87119

PO / Job#: DCE 16-180 Date :10/27/2016

Site: City of Albuquerque (Intera)

Site Location: Rail Yard Parcel 8 Tender Repair

Comments:

Contact:
J. David Charlesworth

Phone: 505.869.8000
Fax: 505.869.9453

E-mail:
JDCharlesworthcih@gmail.com

Continuation Sheet for Sample Chain of Custody

Sample ID	Date	Sample Location / Description / Task	FOR AIR SAMPLES ONLY				Sample Area / Air Volume
			Type	Time On/Off	Avg. LPM	Total Time	
16-180-110	10/27	12x12 off white floor tile from office Tender Repair	A P C				
16-180-111	10/27	2x4 White smooth ceiling tile Tender Repair	A P C				
16-180-112	10/27	2x4 White smooth ceiling tile Tender Repair	A P C				
16-180-113	10/27	2x4 White smooth ceiling tile Tender Repair	A P C				
16-180-114	10/27	Brown cork Pipe TSI Tender Repair	A P C				
16-180-115	10/27	Brown cork Pipe TSI Tender Repair	A P C				
16-180-116	10/27	Brown cork Pipe TSI Tender Repair	A P C				
16-180-117	10/27	White roofing material Tender Repair	A P C				
16-180-118	10/27	White roofing material Tender Repair	A P C				
16-180-119	10/27	White roofing material Tender Repair	A P C				
16-180-120	10/27	White mag block TSI Tender Repair	A P C				
16-180-121	10/27	White mag block TSI Tender Repair	A P C				
16-180-122	10/27	White mag block TSI Tender Repair	A P C				
16-180-123	10/27	West wall exterior wall mastic yellow Tender Repair	A P C				
16-180-124	10/27	Boiler pipe Flange Gasket Tender Repair	A P C				

Sampled By: Steven Gutierrez

11-10-16 10:30AM

Appendix B
XRF Lead Measurements

Project # 16-180 Project Name Tender Repair Date 10/31/16
Address Rail Yards
Technician M. Nieman

	Time : 09:45		Units	1235	Results	Average
1	Film	Cal.			1.4	
2	Film	Cal.			1.6	
3	Film	Cal.			1.4	1.5
4		Cal.			-0.0	
5		Cal			-0.0	
6		Cal.			0.3	0.1
XRF Test Number	Location / Room	Component - Designation	Component Number	Color	Substrate	Result / Reading
7	Interior	A Wall		Black	Concrete	0.3
8	Interior	B Wall		Black	Concrete	0.1
9	Interior	B Wall		Black	CMU	-0.1
10	Interior	B Wall		White	CMU	-0.0
11	Interior	C Wall		Black	Concrete	0.2
12	Interior	D Wall		Black	Concrete	0.4
13	Interior	D Wall		Gray	Concrete	-0.0
14	Interior	A Wall Column	A-1	Black	Metal	1.0
15	Interior	A Wall Column	A-2	Silver	Metal	1.9
16	Interior	Window	A-3	Silver	Metal	1.0
17	Interior	Electrical Box A Wall		Green	Metal	-0.1
18	Interior	A Wall Parts Shelf		Green	Metal	-0.2
19	Interior	Door	A-1	Black	Metal	0.2
20	Interior	Door Frame	A-1	Black	Metal	0.4
21	Interior	B Wall Rack		Gray	Metal	-0.1
22	Interior	Door B Wall		Silver	Metal	>9.9
23	Interior	Garage Door Frame	B-1	Black	Metal	-0.1
24	Interior	Door	B-2	White	Metal	-0.1
25	Interior	Floor Stripe		White	Concrete	2.1
26	Interior	C Wall Wash Sink		Silver	Metal	-0.1
27	Interior	Rolling Door	C-1	Black	Wood	0.1
28	Interior	Small Door in Rolling Door		White	Wood	1.0
29	Interior Office	A Wall		White	Wood	-0.2
30	Interior Office	Office Window	A-1	Gray	Metal	-0.0
31	Interior Office	Window Sill	B-2	Gray	Metal	-0.0
32	Interior Office	Duct Work		Gray	Metal	0.1
33	Interior Office	Door Frame	D-1	Gray	Wood	0.1

34	Interior Office	Crane Carriage		Silver	Metal	-0.1
35	Interior Office	Cane Wheel Housing		Silver	Metal	-0.0
36	Interior Office	A-Wall beam		Silver	Metal	4.4
37	Interior Office	Crane Ladder Frame		Silver	Metal	-0.1
38	Interior Office	Crane Catwalk Railing		Silver	Metal	-0.2
39	Interior Office	Crane Catwalk Decking		Silver	Wood	0.0
40	Exterior	C-Wall		Off-White	Concrete	-0.0
41	Exterior	C-Wall Column		Off-White	Steel	1.0
42	Exterior	Bollard		Off-White	Steel	-0.1
43	Exterior	Window Frame	A-6	Red	Steel	0.0
44	Exterior	B-Wall Column		Gray	Concrete	-0.2
45	Exterior	B-Wall		Gray	CMU	-0.0
46	Exterior	Window Sill	B-1	Gray	Concrete	-0.4
47	Exterior	A-Wall		Beige	Concrete	-0.3
48	Boiler Room Interior Shop	Door Frame	A-1	Black	Steel	1.0
49	Boiler Room Interior Shop	A-Wall		Gray	Concrete	-0.1
50	Boiler Room Interior Shop	Window Sill	D-1	Gray	Metal	1.8
51	Boiler Room Interior Shop	Window Frame	D-1	Black	Metal	0.5
52	Boiler Room Interior Shop	Door	A-1	Black	Metal	1.0
53	Boiler Room Interior Shop	Boiler Piping		Silver	Metal	-0.0
54	Boiler Room Interior Shop	Vertical Tank		Silver	Metal	-0.1
55	Boiler Room Interior Shop	Duct Work		Gray	Metal	>9.9
56	Boiler Room Interior Shop	Belt Guard		Silver	Metal	-0.0
57	Boiler Room Interior Shop	Motor Stand		Green	Concrete	-0.0
58	Boiler Room Interior Shop	Service Door		Black	Metal	0.1
59	Exterior Boiler Room	A-Wall		Off-White	Steel	-0.0

60	Exterior Boiler Room	A-Wall		Red	Wood	0.4
61	Exterior Boiler Room	Door	A-1	Beige	Metal	-0.0
62	Exterior Boiler Room	Toilet Partitions		Silver	Metal	-0.1
63	Exterior Boiler Room	Window Frames	A-1	Green	Metal	02.
	Time: 1125				Results	Average
64	Film	Cal.			1.3	
65	Film	Cal.			1.0	
66	Film	Cal.			1.0	1.1
67		Cal.			0.1	
68		Cal.			0.4	
69		Cal.			0.2	0.2

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	Office	B	Window	Ctr	Lft casing	QM	Wood	Brown	Interior	Innovar, 2011
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 Amtrack Office	Break Rm	B	Wall	U Lft		QM	Plaster	White	Interior	Innovar, 2011
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 Amtrack Office	Hallway	D	Wall	L Ctr		QM	Plaster	White	Interior	Innovar, 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	WmnsRm	A	Wall	L Ctr		QM	Plaster	White	Interior	Innovar, 2011
32	38	0.3	mg/cm2		9	Railyards Amtrack Office	WmnsRm	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
39	45	6.6	mg/cm2	Yes	15	Railyards Amtrack Office	Upstairs	A	Door	Ctr	U Ctr	QM	Wood	White	Interior	Innovar, 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
48	60	6.3	mg/cm2	Yes	16	Railyards Amtrack Office	Museum	A	Floor			QM	Cement	Yellow	Interior	Innovar, 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
87	3	0	mg/cm2			Bldg South of Firehouse	Number Only	A	Door Cnt	Ctr	Lft casing	QM	Cement	White	Interior	Innovar, 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	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-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 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: C16-0814
Received: 11-14-16
Analyzed: 11-18-16
Reported: 11-18-16

Project: Rail Yard Parcel 8 Tender Repair; DCE 16-180

ANALYSIS METHOD: EPA SW846 7000B

CLIENT ID	CEI LAB ID	PPM (µg/g)	CONCENTRATION % BY WEIGHT
16-180-1000	CA58045	220	**0.022**
16-180-1001	CA58046	9100	**0.91**
16-180-1002	CA58047	11000	**1.1**
16-180-1003	CA58048	34000	**3.4**
16-180-1004	CA58049	1700	**0.17**
16-180-1005	CA58050	8400	**0.84**
16-180-1006	CA58051	2500	**0.25**
16-180-1007	CA58052	1700	**0.17**
16-180-1008	CA58053	7400	**0.74**
16-180-1009	CA58054	19000	**1.9**

CEI Labs
107 New Edition Court, Cary, NC 27511
Tel: 919-481-1413 Fax: 919-481-1442

Project: Rail Yard Parcel 8 Tender Repair; DCE 16-180

Lab Code: C16-0814

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

C16-0814 (10)

CAS8045-CAS8054

DC Environmental
Consulting and Training Services

"Promoting Safety in the Workplace"

DC Environmental
PO Box 9315
Albuquerque, NM 87119

PO / Job#: DCE 16-180 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

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)

Site Location: Rail Yard Parcel 8 Tender Repair

❒ Metals Analysis: Method:
Matrix:
Analytes:

Comments: `Paint chips to be analyzed for Lead Based Paint

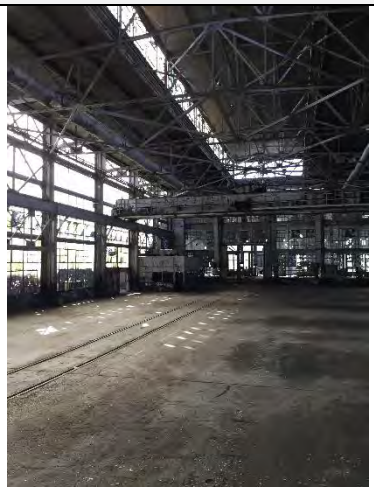
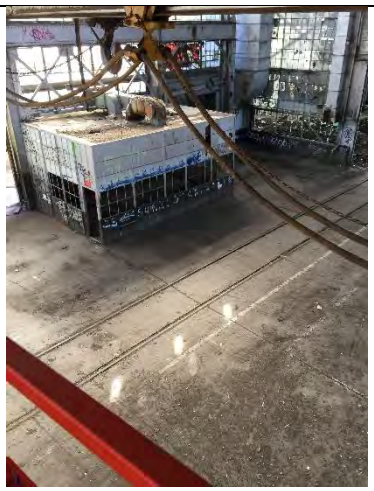
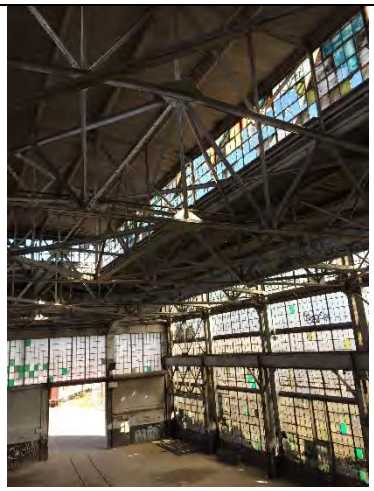
Sample ID	Date	Sample Location / Description / Task	FOR AIR SAMPLES ONLY				Sample Area / Air Volume
			Type	Time On/Off	Avg. LPM	Total Time	
16-180-1000	10/28	Red Floor Paint from Tender Repair	A P C				
16-180-1001	10/28	White Floor Paint from Tender Repair	A P C				
16-180-1002	10/28	Black Paint from Wall in Tender Repair	A P C				
16-1180-1003	10/28	Black Paint from Column in Tender Repair	A P C				
16-180-1004	10/28	Beige Paint from Wood Door in Tender Repair	A P C				
16-1180-1005	10/28	Black Concrete Wall Paint from Tender Repair	A P C				
16-180-1006	10/28	Silver Paint from Metal wall panel in boiler room from Tender Repair	A P C				
16-180-1007	10/28	Black Paint from concrete window sill Tender Repair	A P C				
16-180-1008	10/28	White Paint from Window Glass	A P C				
16-180-1009	10/28	Red wood trim exterior of boiler room	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 Interior of Tender Repair**	 **Figure 2 Interior of Tender Repair**
 **Figure 3 Elevated view of Interior of Tender Repair**	 **Figure 4 Crane catwalk inside Tender Repair**
 **Figure 5 Interior ceiling of Tender Repair**	 **Figure 6 Elevated View of Interior of Tender Repair**

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

DC Environmental
Consulting and Training Services

ASBESTOS AND LEAD BASED PAINT SURVEY
City of Albuquerque
Railyard Flue Shop Parcel 8
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 9, 2016
Project No. 16-178

DC Environmental
Consulting and Training Services

November 9, 2016
Project No. 16-178

Mr. Joe Tracy
Intera Inc.
6000 Uptown Boulevard, NE
Suite 200
Albuquerque, NM 87110

Subject: Asbestos and Lead Based Paint inspection of the Flue Shop Parcel 8 – 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 Flue Shop. Asbestos-containing materials were identified at the Flue Shop.

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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Appendices

EXECUTIVE SUMMARY

On October 26, 2016, DC Environmental performed an inspection of the Flue Shop 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 previous survey did not have asbestos containing building materials or lead based paint results.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 Flue Shop.

Asbestos-containing building materials are those containing greater than one percent asbestos as determined by polarized light microscopy. Asbestos was detected in any of the building materials sampled.

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.

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 Flue Shop (see Appendix B XRF Lead Measurements and Appendix D. Lead Based Paint 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 Flue Shop 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 a Certified Lead Assessor and Inspectors.
- 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 Flue Blacksmith Shop.

The Flue Shop

The Flue Shop consists of a single building, roof and exterior. The Flue hop 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 Flue Shop. 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 twenty two (22) 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, **three** of the materials sampled were identified as asbestos-containing material.

- **Tan sealant, window putty**
- **Black mastic used as building seam sealer**
- **Tan surfaced black and brown cork insulation on piping**

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 the appendix to this document.

5.1. Table 1: Asbestos Sample Analysis

Sample #	**Flue Shop** Analyst physical description of subsample	Asbestos Type/calibrated/Visual estimate percent
16-178-100	• **Brown cork TSI from pipe in Flue Shop**	**ND**
16-178-101	• **Brown cork TSI from pipe in Flue Shop**	**ND**
16-178-102	• **Brown cork TSI from pipe in Flue Shop**	**ND**
16-178-103	• **Brown cork TSI from pipe in Flue Shop**	**2% Chrysotile**
16-178-104	• **Concrete Expansion Joint Flue Shop**	**ND**
16-178-105	• **Concrete Expansion Joint Flue Shop**	**ND**
16-178-106	• **Concrete Expansion Joint Flue Shop**	**ND**
16-178-107	• **Building seam mastic Flue Shop**	**2% Chrysotile**
16-178-108	• **Building seam mastic Flue Shop**	**2% Chrysotile**
16-178-109	• **Building seam mastic Flue Shop**	**2% Chrysotile**
16-178-110	• **Roofing Material Flue Shop**	**ND**
16-178-111	• **Roofing Material Flue Shop**	**ND**
16-178-112	• **Roofing Material Flue Shop**	**ND**
16-178-113	• **Window putty Flue Shop**	**2% Chrysotile**
16-178-114	• **Window putty Flue Shop**	**2% Chrysotile**
16-178-115	• **Window putty Flue Shop**	**2% Chrysotile**
16-178-116	• **Red Roofing Material Flue Shop New addition**	**ND**

16-178-117	• **Red Roofing Material Flue Shop New addition**	**ND**
16-178-118	• **Red Roofing Material Flue Shop New addition**	**ND**
16-178-119	• **Flue shop floor paint stripe**	**ND**
16-178-120	• **Flue shop floor paint stripe**	**ND**
16-178-121	• **Flue shop floor paint stripe**	**ND**

ND – None Detected

5.2 Table 2 Lead Based Paint Chip Analysis

Sample #	**Flue Shop** Analyst physical description of subsample	Concentration % by Weight
16-178-1000	**Gray Paint from Window sill in Flue Shop**	**0.13**
16-178-1001	**White Stripe from floor in Flue Shop**	**0.71**

Lead based paint is further defined if laboratory analysis determines the lead content to be one half (0.5 %) percent by weight or greater.

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 three sources of asbestos-containing building materials. Asbestos-containing building materials were identified in the Flue Shop.

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 Flue Shop 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. 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 Flue Shop (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 Flue Shop. Lead-containing items **were** identified at the Flue Shop. Those material are listed in Appendix B, XRF Lead Measurements and Appendix D. Lead Based Paint 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.

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 floor tiles are significantly damaged and are subject to the natural elements.

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 16-178, Rail Yard Parcel 8 Flue Shop
Reference #: CAL16117606CB Date: 11/16/2016

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

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Overview of Project Sample Material Containing Asbestos

Customer Project: DCE 16-178, Rail Yard Parcel 8 Flue Shop **CA Labs Project #:** CAL16117606CB

Sample #	Layer #	Analysts Physical Description of Subsample	Asbestos type / calibrated visual estimate percent	List of Affected Building Material Types
16-178-103	*103-1*	***Brown Cork TSI from Pipe**/ tan surfaced black and brown insulation*	***2% Chrysotile***	***tan surfaced black and brown insulation*** ***black mastic*** ***tan sealant***
16-178-107	*107-1*	***Building Seam Mastic**/ black mastic*	***2% Chrysotile***	
16-178-108	*108-1*	***Building Seam Mastic**/ black mastic*	***2% Chrysotile***	
16-178-109	*109-1*	***Building Seam Mastic**/ black mastic*	***2% Chrysotile***	
16-178-113	*113-1*	***Window Putty**/ tan sealant*	***2% Chrysotile***	
16-178-114	*114-1*	***Window Putty**/ tan sealant*	***2% Chrysotile***	
16-178-115	*115-1*	***Window Putty**/ tan sealant*	***2% Chrysotile***	

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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 16-178, Rail Yard Parcel
8 Flue Shop
Turnaround Time:
5 Days

CA Labs Project #:
CAL16117606CB

Date: 11/16/2016
Samples Received: 11/10/16 10:30am
Date Of Sampling: 10/26/16
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
16-178-100		*100-1*	***Brown Cork TSI from Pipe**/ blue surfaced black and brown insulation*	*n*	***None Detected***		100% qu,mi,bi,ot
16-178-101		*101-1*	***Brown Cork TSI from Pipe**/ blue surfaced black and brown insulation*	*n*	***None Detected***		100% qu,mi,bi,ot
16-178-102		*102-1*	***Brown Cork TSI from Pipe**/ blue surfaced black and brown insulation*	*n*	***None Detected***		100% qu,mi,bi,ot
16-178-103		*103-1*	***Brown Cork TSI from Pipe**/ tan surfaced black and brown insulation*	*n*	***2% Chrysotile***		98% qu,mi,bi,ot
16-178-104		*104-1*	***Concrete Expansion Joint**/ brown concrete*	*y*	***None Detected***		100% qu,bi,ca,ma
16-178-105		*105-1*	***Concrete Expansion Joint**/ brown concrete*	*y*	***None Detected***		100% qu,bi,ca,ma
16-178-106		*106-1*	***Concrete Expansion Joint**/ brown concrete*	*y*	***None Detected***		100% qu,bi,ca,ma

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

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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 Characterization

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Phone # 505-869-8000
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DCE 16-178, Rail Yard Parcel 8 Flue Shop
Turnaround Time:
5 Days

CA Labs Project #:
CAL16117606CB

Date: 11/16/2016
Samples Received: 11/10/16 10:30am
Date Of Sampling: 10/26/16
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
16-178-107		*107-1*	***Building Seam Mastic**/ black mastic*	*y*	***2% Chrysotile***		98% qu,bi
16-178-108		*108-1*	***Building Seam Mastic**/ black mastic*	*y*	***2% Chrysotile***		98% qu,bi
16-178-109		*109-1*	***Building Seam Mastic**/ black mastic*	*y*	***2% Chrysotile***		98% qu,bi
16-178-110		*110-1*	***Roofing Material**/ black roofing material*	*y*	***None Detected***	4% ce	96% qu,bi,ma
16-178-111		*111-1*	***Roofing Material**/ black roofing material*	*y*	***None Detected***	4% ce	96% qu,bi,ma
16-178-112		*112-1*	***Roofing Material**/ black roofing material*	*y*	***None Detected***	4% ce	96% qu,bi,ma
16-178-113		*113-1*	***Window Putty**/ tan sealant*	*y*	***2% Chrysotile***		98% qu,ca

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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:

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Analyst

QAC
Leslie Crisp, P.G.

Technical Manager
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9. < 1% Result point counted positive
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Polarized Light Asbestiform Materials Characterization

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Phone # 505-869-8000
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DCE 16-178, Rail Yard Parcel 8 Flue Shop
Turnaround Time:
5 Days

CA Labs Project #:
CAL16117606CB

Date: 11/16/2016
Samples Received: 11/10/16 10:30am
Date Of Sampling: 10/26/16
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
16-178-114		*114-1*	***Window Putty**/ tan sealant*	*y*	***2% Chrysotile***		98% qu,ca
16-178-115		*115-1*	***Window Putty**/ tan sealant*	*y*	***2% Chrysotile***		98% qu,ca
16-178-116		*116-1*	***Red Roofing Material**/ black roofing shingle with brown gravel*	*y*	***None Detected***	6% ce	94% qu,bi
		116-2	*black felt*	*y*	***None Detected***	30% ce	70% qu,bi,ma
16-178-117		*117-1*	***Red Roofing Material**/ black roofing shingle with brown gravel*	*y*	***None Detected***	6% ce	94% qu,bi
		117-2	*black felt*	*y*	***None Detected***	30% ce	70% qu,bi,ma
16-178-118		*118-1*	***Red Roofing Material**/ black roofing shingle with brown gravel*	*y*	***None Detected***	6% ce	94% qu,bi

Dallas NVLAP Lab Code 200349-0 TEM/PLM TCEQ# T104704513-15-3 TDH 30-0235

AIHA LAP, LLC Laboratory #102929

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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:

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10. TEM analysis suggested

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Polarized Light Asbestiform Materials Characterization

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DC Environmental
PO Box 9315
Albuquerque, NM 87119

Phone # 505-869-8000
Fax # 505-869-9453

Customer Project:
DCE 16-178, Rail Yard Parcel 8 Flue Shop
Turnaround Time:
5 Days

CA Labs Project #:
CAL16117606CB

Date: 11/16/2016
Samples Received: 11/10/16 10:30am
Date Of Sampling: 10/26/16
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
		118-2	*black felt*	*y*	***None Detected***	30% ce	70% qu,bi,ma
16-178-119		*119-1*	***Floor Paint Stripe**/ tan paint debris*	*n*	***None Detected***		100% qu,bi,ca,ma
16-178-120		*120-1*	***Floor Paint Stripe**/ tan paint debris*	*n*	***None Detected***		100% qu,bi,ca,ma
16-178-121		*121-1*	***Floor Paint Stripe**/ tan paint debris*	*n*	***None Detected***		100% qu,bi,ca,ma

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.*
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or - organic	pe - perlite	ta - talc	pa - palygorskite (clay)
ma - matrix	qu - quartz	sy - synthetic	

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10. TEM analysis suggested

CAL611 7606

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 8 Flue Shop

PO / Job#: DCE 16-178 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	
16-178-100	10/26	Brown cork TSI from pipe in Flue Shop	A P C				
16-178-101	10/26	Brown cork TSI from pipe in Flue Shop	A P C				
16-178-102	10/26	Brown cork TSI from pipe in Flue Shop	A P C				
16-178-103	10/26	Brown cork TSI from pipe in Flue Shop	A P C				
16-178-104	10/26	Concrete Expansion Joint Flue Shop	A P C				
16-178-105	10/26	Concrete Expansion Joint Flue Shop	A P C				
16-178-106	10/26	Concrete Expansion Joint Flue Shop	A P C				
16-178-107	10/26	Building seam mastic Flue Shop	A P C				
16-178-108	10/26	Building seam mastic Flue Shop	A P C				
16-178-109	10/26	Building seam mastic Flue Shop	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: 11/09/2016 5:00PM	Relinquished By: Date / Time:	Relinquished By: Date / Time:
Received By: Date / Time: 11-10-16 10:30am Condition Acceptable? ❒ Yes ❒ No	Received By: Date / Time: Condition Acceptable? ❒ Yes ❒ No	Received By: Date / Time: Condition Acceptable? ❒ Yes ❒ No

CAL1611760

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

PO / Job#:DCE 16-178 Date : 10/26/2016

Site: City of Albuquerque (Intera)

Site Location: Rail Yard Parcel 8 Flue Shop

Comments:

Continuation Sheet for Sample Chain of Custody

Sample ID	Date	Sample Location / Description / Task	FOR AIR SAMPLES ONLY				Sample Area / Air Volume
			Type	Time On/Off	Avg. LPM	Total Time	
16-178-110	10/26	Roofing Material Flue Shop	A P C				
16-178-111	10/26	Roofing Material Flue Shop	A P C				
16-178-112	10/26	Roofing Material Flue Shop	A P C				
16-178-113	10/26	Window putty Flue Shop	A P C				
16-178-114	10/26	Window putty Flue Shop	A P C				
16-178-115	10/26	Window putty Flue Shop	A P C				
16-178-116	10/26	Red Roofing Material Flue Shop New addition	A P C				
16-178-117	10/26	Red Roofing Material Flue Shop New addition	A P C				
16-178-118	10/26	Red Roofing Material Flue Shop New addition	A P C				
16-178-119	10/26	Flue shop floor paint stripe	A P C				
16-178-120	10/26	Flue shop floor paint stripe	A P C				
16-178-121	10/26	Flue shop floor paint stripe	A P C				
			A P C				
			A P C				
			A P C				

Sampled By: Steven Gutierrez

11-10-16 10:30AM

Appendix B
XRF Lead Measurements

Project # 16-178 Project Name Railyard parcel #8, Flue Shop Date 10/26/16
Address City of Albuquerque Railyards
Technician M. Nieman and S. Gutierrez

	Time : 1448				Results	Average
1		Cal.			1.1	
2		Cal.			1.1	
3		Cal.			1.1	1.1
4		Cal.			-0.2	
5		Cal			0.0	
6		Cal.			-0.1	-0.1
XRF Test Number	Location / Room	Component - Designation	Component Number	Color	Substrate	Result / Reading
7	Interior	A-Wall		Off-White	Concrete	-0.0
8		B-Wall		Red	Concrete	-0.0
9		C-Wall		Silver	Concrete	01.
10		D-Wall		Silver	Concrete	01.
11		Window Mullions	D-1	Silver	Steel	0.2
12		Door Fame	D-1	Silver	Metal	0.0
13		Door	D-1	Silver	Metal	-0.0
14		A-Wall Shelf		White	Metal	-0.1
15		A-Wall Electrical Cabinet		Grey	Metal	-0.1
16		A-Wall Southwest Addition Joist		Red	Metal	-0.1
17		A-Wall Southwest Addition Metal Wall		Silver	Metal	0.2
18		Southwest Addition B-Wall Door		Grey	Metal	-01.
19		A-Wall Door Frame	A-1	Grey	Metal	-0.1
20		Floor		White	Concrete	>9.9
21		Floor		Red	Concrete	0.3
22		Door	D-1	Beige	Wood	1.7
23		Door Frame	B-1	Black	Metal	1.0
24		Door Stop	B-1	Black	Metal	1.0
25	Exterior	C-Wall		Beige	Concrete	-0.1
26		Door	C-1	Beige	Metal	-0.1
27		Window Frame	C-4	Green	Metal	0.2
28		C-Wall Stand Pipe		Beige	Metal	-0.1

29		Urinal		Silver	metal	0.1
30		Ladder Cage		Red	Metal	-0.1
31		A-Wall		Beige	Concrete	-0.1
32		Window Sill	A-7	Beige	CMU	-0.1
33		Exhaust Fan	A-1	Beige	Metal	0.1
34		B-Wall		Red	CMU	-0.2
35	Roof	Drip edge		Rust	Metal	0.2
36		AC Unit		Silver	Metal	-0.1
37		Window Farme		Red	Metal	-0.0
	Time 1540				**Results**	**Average**
38	Post	Cal.			1.0	
39	Post	Cal.			1.0	
40	Post	Cal.			1.1	1.1
41	Post	Cal.			-0.1	
42	Post	Cal.			-0.2	
43	Post	Cal.			0.0	-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	Office	B	Window	Ctr	Lft casing	QM	Wood	Brown	Interior	Innovar, 2011
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 Amtrack Office	Break Rm	B	Wall	U Lft		QM	Plaster	White	Interior	Innovar, 2011
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 Amtrack Office	Hallway	D	Wall	L Ctr		QM	Plaster	White	Interior	Innovar, 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	WmnsRm	A	Wall	L Ctr		QM	Plaster	White	Interior	Innovar, 2011
32	38	0.3	mg/cm2		9	Railyards Amtrack Office	WmnsRm	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
39	45	6.6	mg/cm2	Yes	15	Railyards Amtrack Office	Upstairs	A	Door	Ctr	U Ctr	QM	Wood	White	Interior	Innovar, 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
48	60	6.3	mg/cm2	Yes	16	Railyards Amtrack Office	Museum	A	Floor			QM	Cement	Yellow	Interior	Innovar, 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
87	3	0	mg/cm2			Bldg South of Firehouse	Number Only	A	Door Cnt	Ctr	Lft casing	QM	Cement	White	Interior	Innovar, 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	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-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 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: C16-0820
Received: 11-14-16
Analyzed: 11-18-16
Reported: 11-18-16

Project: Rail Yard Parcel 8 Flue Shop; DCE 16-178

ANALYSIS METHOD: EPA SW846 7000B

CLIENT ID	CEI LAB ID	PPM (µg/g)	CONCENTRATION % BY WEIGHT
16-178-1000	CA58074	1300	**0.13**
16-178-1001	CA58075	7100	**0.71**

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

C16-0820 (2)
CAS8074 - CAS8075

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 8 Flue Shop

PO / Job#: DCE 16-178 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

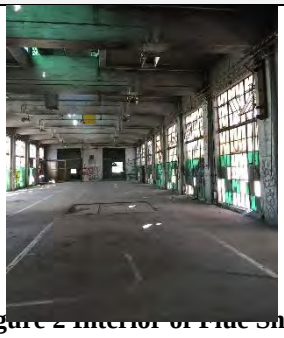
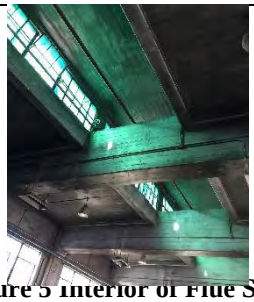
Sample ID	Date	Sample Location / Description / Task	FOR AIR SAMPLES ONLY				Sample Area / Air Volume
			Type	Time On/Off	Avg. LPM	Total Time	
16-178-1000	10/26	Gray Paint from Window sill in Flue Shop	A P C				
16-178-1001	10/26	White Stripe from floor in Flue Shop	A P C				
			A P C				
			A P C				
			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 Exterior of Flue Shop**	 **Figure 2 Interior of Flue Shop**
 **Figure 3 Interior of Flue Shop**	 **Figure 4 Interior of Flue Shop**
 **Figure 5 Interior of Flue Shop**	 **Figure 6 Exterior of Flue Shop**

Appendix F
Certifications

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

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

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

DC Environmental
Consulting and Training Services

ASBESTOS AND LEAD BASED PAINT SURVEY
City of Albuquerque
Railyard Boiler Shop Parcel 8
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 9, 2016
Project No. 16-179

DC Environmental
Consulting and Training Services

November 9, 2016
Project No. 16-179

Mr. Joe Tracy
Intera Inc.
6000 Uptown Boulevard, NE
Suite 200
Albuquerque, NM 87110

Subject: Asbestos and Lead Based Paint inspection of the Boiler Shop Parcel 8 – 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 Boiler Shop. Asbestos-containing materials were identified at the Boiler Shop.

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
Certified Industrial
Hygienist

Karen Dremann, BS
Senior Scientist

Distribution: (2) Addressee

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EXECUTIVE SUMMARY

On November 1, 2016, DC Environmental performed an inspection of the Boiler Shop 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). Previous surveys identified LBP on the steel columns and did not identify asbestos containing materials. 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 Boiler Shop.

Asbestos-containing building materials are those containing greater than one percent asbestos as determined by polarized light microscopy. Asbestos **was** detected in some of the building materials sampled.

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.

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 Boiler Shop (see Appendix B XRF Lead Measurements and Appendix C Asbestos and Lead Data). 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 Boiler Shop 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 a Certified Lead Assessor and Inspectors.
- 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 Boiler Shop

The Boiler Shop

The Boiler Shop consists of a single building, roof and exterior. The Boiler Shop 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 November 1, 2016 of the Boiler Shop. 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 Fifteen (15) 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, **two** of the materials sampled were identified as asbestos-containing material.

Gray Insulation on the exterior pipe insulation
Tan window putty sealant

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 the appendix to this document.

5.1. Table 1: Asbestos Sample Analysis

Sample #	**Boiler Shop** Analyst physical description of subsample	Asbestos Type/calibrated/Visual estimate percent
16-179-100	**Window Putty Boiler Shop**	2% Chrysotile
16-179-101	**Window Putty Boiler Shop**	2% Chrysotile
16-179-102	**Window Putty Boiler Shop**	2% Chrysotile
16-179-103	**Plaster from mezzanine boiler in boiler shop**	ND
16-179-104	**Plaster from mezzanine boiler in boiler shop**	ND
16-179-105	**Plaster from mezzanine boiler in boiler shop**	ND
16-179-106	**Exterior pipe lagging from Boiler Shop**	2% Chrysotile
16-179-107	**Exterior pipe lagging from Boiler Shop**	2% Chrysotile
16-179-108	**Exterior pipe lagging from Boiler Shop**	2% Chrysotile
16-179-109	**Felt paper underneath wood brick floor in Boiler**	ND
16-179-110	**Felt paper underneath wood brick floor in Boiler**	ND
16-179-111	**Felt paper underneath wood brick floor in Boiler**	ND
16-179-112	**White mineral rolled roofing Boiler Shop**	ND
16-179-113	**White mineral rolled roofing Boiler Shop**	ND
16-179-114	**White mineral rolled roofing Boiler Shop**	ND

ND – None Detected

5.2 Table 2 Lead Based Paint Chip Analysis

Sample #	**Boiler Shop** Analyst physical description of subsample	Concentration % by Weight
16-179-1000	**Red and White floor stripe from Boiler Shop**	0.51
16-179-1001	**Silver Paint from Column in Boiler Shop**	1.6
16-179-1002	**Silver Paint from Wall in Boiler Shop**	0.24
16-179-1003	**White Paint from Wall Boiler Shop**	0.092
16-166-1004	**Black wall from Concrete wall in Boiler Shop**	6.6
16-166-1005	**Red Paint from Column in Boiler Shop**	0.49

Lead based paint is further defined if laboratory analysis determines the lead content to be one half (0.5 %) percent by weight or greater.

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 no previously undocumented sources of asbestos-containing building materials. Asbestos-containing building materials were identified in the Boiler Shop.

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 Store 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 C Asbestos and Lead Data. 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 Boiler Shop (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:

- 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 Boiler Shop. Lead-containing items **were** identified at the Boiler Shop. Those materials are listed in Appendix B, XRF Lead Measurements and Appendix C. Asbestos and Lead Data. 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.

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
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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

Materials Characterization - Bulk Asbestos Analysis

Laboratory Analysis Report - Polarized Light

DC Environmental
PO Box 9315
Albuquerque, NM 87119

Attn: David Charlesworth
Customer Project: DCE 16-179, City Of Albuquerque (Intera), Rail Yard
Reference #: CAL16117604CR Date: 11/16/2016

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

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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 16-179, City Of Albuquerque (Intera), Rail Yard **CA Labs Project #:** CAL16117604CR

Sample #	Layer #	Analysts Physical Description of Subsample	Asbestos type / calibrated visual estimate percent	List of Affected Building Material Types
16-179-100	*16-179-100-1*	***Window Putty Boiler Shop**/ tan sealant*	***2% Chrysotile***	***tan sealant*** ***gray insulation***
16-179-101	*16-179-101-1*	***Window Putty Boiler Shop**/ tan sealant*	***2% Chrysotile***	
16-179-102	*16-179-102-1*	***Window Putty Boiler Shop**/ tan sealant*	***2% Chrysotile***	
16-179-106	*16-179-106-1*	***Exterior Pipe Lagging From Boiler Shop**/ gray insulation*	***65% Chrysotile***	
16-179-107	*16-179-107-1*	***Exterior Pipe Lagging From Boiler Shop**/ gray insulation*	***65% Chrysotile***	
16-179-108	*16-179-108-1*	***Exterior Pipe Lagging From Boiler Shop**/ gray insulation*	***65% 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)

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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 16-179, City Of Albuquerque (Intera), Rail Yard Parcel 8 Boiler Shop
Turnaround Time:
5 Days

CA Labs Project #:
CAL16117604CR

Date: 11/16/2016
Samples Received: 11/10/16 10:30 AM
Date Of Sampling: 11/01/16
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
16-179-100		*16-179-100-1*	***Window Putty Boiler Shop**/ tan sealant*	*y*	***2% Chrysotile***		98% qu,ca
16-179-101		*16-179-101-1*	***Window Putty Boiler Shop**/ tan sealant*	*y*	***2% Chrysotile***		98% qu,ca
16-179-102		*16-179-102-1*	***Window Putty Boiler Shop**/ tan sealant*	*y*	***2% Chrysotile***		98% qu,ca
16-179-103		*16-179-103-1*	***Plaster From Mezzanine Boiler In Boiler Shop**/ silver surfaced gray plaster*	*n*	***None Detected***		100% qu,bi,ca
16-179-104		*16-179-104-1*	***Plaster From Mezzanine Boiler In Boiler Shop**/ silver surfaced gray plaster*	*n*	***None Detected***		100% qu,bi,ca
16-179-105		*16-179-105-1*	***Plaster From Mezzanine Boiler In Boiler Shop**/ silver surfaced gray plaster*	*n*	***None Detected***		100% qu,bi,ca
16-179-106		*16-179-106-1*	***Exterior Pipe Lagging From Boiler Shop**/ gray insulation*	*y*	***65% Chrysotile***		35% qu,ma

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
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)

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

CA Labs
Dedicated to Quality

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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 16-179, City Of Albuquerque (Intera), Rail Yard Parcel 8 Boiler Shop
Turnaround Time:
5 Days

CA Labs Project #:
CAL16117604CR

Date: 11/16/2016
Samples Received: 11/10/16 10:30 AM
Date Of Sampling: 11/01/16
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
16-179-107		*16-179-107-1*	***Exterior Pipe Lagging From Boiler Shop**/ gray insulation*	*y*	***65% Chrysotile***		35% qu,ma
16-179-108		*16-179-108-1*	***Exterior Pipe Lagging From Boiler Shop**/ gray insulation*	*y*	***65% Chrysotile***		35% qu,ma
16-179-109		*16-179-109-1*	***Felt Paper Underneath Wood Brick Floor In Boiler Shop**/ black felt*	*y*	***None Detected***	30% ce	70% qu,ma,bi
16-179-110		*16-179-110-1*	***Felt Paper Underneath Wood Brick Floor In Boiler Shop**/ black felt*	*y*	***None Detected***	30% ce	70% qu,ma,bi
16-179-111		*16-179-111-1*	***Felt Paper Underneath Wood Brick Floor In Boiler Shop**/ black felt*	*y*	***None Detected***	30% ce	70% qu,ma,bi
16-179-112		*16-179-112-1*	***White Mineral Rolled Roofing Boiler Shop**/ black shingle with gray gravel*	*y*	***None Detected***	4% ce	96% qu,ma,bi
16-179-113		*16-179-113-1*	***White Mineral Rolled Roofing Boiler Shop**/ black shingle with gray gravel*	*y*	***None Detected***	4% ce	96% qu,ma,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
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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 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 16-179, City Of Albuquerque (Intera), Rail Yard Parcel 8 Boiler Shop
Turnaround Time:
5 Days

CA Labs Project #:
CAL16117604CR

Date: 11/16/2016
Samples Received: 11/10/16 10:30 AM
Date Of Sampling: 11/01/16
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
16-179-114		*16-179-114-1*	***White Mineral Rolled Roofing Boiler Shop**/ black shingle with gray gravel*	*y*	***None Detected***	4% ce	96% qu,ma,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

CAL16117604

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 8 Boiler Shop

PO / Job#: DCE 16-179 Date: 11/01/2016

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	
16-179-100	11/01	Window Putty Boiler Shop	A P C				
16-179-101	11/01	Window Putty Boiler Shop	A P C				
16-179-102	11/01	Window Putty Boiler Shop	A P C				
16-179-103	11/01	Plaster from mezzanine boiler in boiler shop	A P C				
16-179-104	11/01	Plaster from mezzanine boiler in boiler shop	A P C				
16-179-105	11/01	Plaster from mezzanine boiler in boiler shop	A A C				
16-179-106	11/01	Exterior pipe lagging from Boiler Shop	A P C				
16-179-107	1101	Exterior pipe lagging from Boiler Shop	A P C				
16-179-108	11/01	Exterior pipe lagging from Boiler Shop	A P C				
16-179-109	11/01	Felt paper underneath wood brick floor in Boiler Shop	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: 11/09/2016 5:00PM	Relinquished By: Date / Time:	Relinquished By: Date / Time:
Received By: Date / Time: 11-10-16 10:30AM Condition Acceptable? ❒ Yes ❒ No	Received By: Date / Time: Condition Acceptable? ❒ Yes ❒ No	Received By: Date / Time: Condition Acceptable? ❒ Yes ❒ No

CAC16117604

DC Environmental
Consulting and Training Services

"Promoting Safety in the Workplace"

DC Environmental
PO Box 9315
Albuquerque, NM 87119

PO / Job#: DCE 16-179 Date :11/01/2016

Site: City of Albuquerque (Intera)

Site Location: Rail Yard Parcel 8 Boiler Shop

Comments:

Contact:
J. David Charlesworth

Phone: 505.869.8000
Fax: 505.869.9453

E-mail:
JDCharlesworthcih@gmail.com

Continuation Sheet for Sample Chain of Custody

Sample ID	Date	Sample Location / Description / Task	FOR AIR SAMPLES ONLY				Sample Area / Air Volume
			Type	Time On/Off	Avg. LPM	Total Time	
16-179-110	11/01	Felt paper underneath wood brick floor in Boiler Shop	A P C				
16-179-111	11/01	Felt paper underneath wood brick floor in Boiler Shop	A P C				
16-179-112	11/01	White mineral rolled roofing Boiler Shop	A P C				
16-179-113	11/01	White mineral rolled roofing Boiler Shop	A P C				
16-179-114	11/01	White mineral rolled roofing Boiler Shop	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				
			A P C				

Sampled By: Steven Gutierrez

11-10-16 10:30 AM

Appendix B
XRF Lead Measurements

Project #: 16-179A Project Name: Parcel 18 Boiler Shop Date: 10-31-2016
Address: City of Albuquerque Railyard
Technician: M. Nieman and S. Gutierrez

	Time : 13:30				Results	Average
1	Film	Cal.			1.0	
2	Film	Cal.			1.0	
3	Film	Cal.			1.0	1.0
4		Cal.			-0.0	
5		Cal			0.0	
6		Cal.			-0.0	-0.0
XRF Test Number	Location / Room	Component - Designation	Component Number	Color	Substrate	Result / Reading
7	Interior	Center Column		Silver	Metal	2.2
8	Interior	Mezzanine Walkway Railing		Silver	Metal	1.0
9	Interior	Stair Stringer		Silver	Metal	1.0
10	Interior	Stair Tread		Silver	Wood	1.0
11	Interior	Beam		Silver	Metal	2.7
12	Interior	Crane Support Beam		Silver	Metal	1.0
13	Interior	Crane Carriage		Silver	Metal	-0.0
14	Interior	Crane Walkway		Silver	Metal	-0.1
15	Interior	Boiler Room Floor		Silver	Metal	-0.2
16	Interior	Boiler Shim Metal		Silver	Metal	0.4
17	Interior	Duct Work		Silver	Metal	0.1
18	Interior	I Beam		Silver	Metal	0.0
19	Interior	Belt Shroud		Silver	Metal	0.1
20	Interior	C Wall		Silver	Plaster	1.7
	Time : 14:02				Results	Average
21	Film	Cal.			1.3	
22	Film	Cal.			1.3	
23	Film	Cal.			1.4	1.3
24		Cal.			0.2	
25		Cal			-0.0	
26		Cal.			0.1	0.1

Project #: 16-179B Project Name: Boiler Shop Parcel 8 Date: 11-1-2016
Address: City of Albuquerque Railyard
Technician: M. Nieman and S. Gutierrez

	Time : 09:25				Results	Average
1		Cal.			1.0	
2		Cal.			1.0	
3		Cal.			1.0	1.0
4		Cal.			0.0	
5		Cal			0.0	
6		Cal.			-0.3	-0.1
XRF Test Number	Location / Room	Component - Designation	Component Number	Color	Substrate	Result / Reading
7	Interior	A Wall		Silver	Concrete	0.2
8	Interior	B Wall		Silver	Concrete	0.4
9	Interior	B Wall		Gray	CMU	-0.2
10	Interior	C Wall		Gray	Concrete	0.3
11	Interior	D Wall		Gray	Concrete	2.7
12	Interior	D Wall		Gray	CMU	-0.2
13	Interior	Folding Door	D-5	Silver	Metal	-0.1
14	Interior	Folding Door Frame	D-5	Silver	Metal	2.2
15	Interior	Column	D-5	Silver	Metal	2.3
16	Interior	High Pressure Pipe D Wall		Red	Metal	0.0
17	Interior	Electrical Cabinet D Wall		Gray	Metal	-0.5
18	Interior	Parts Shelf D Wall		Silver	Metal	-0.1
19	Interior	Column Base D Wall	D-4	Silver	Metal	0.4
20	Interior	Column Strip D Wall	D-5	Red	Metal	1.0
21	Interior	Window Paint	A-1	Gray	Glass	-0.2
22	Interior	Duct Work	A-1	Gray	Metal	1.0
23	Interior	Transformer Cabinet	A-1	Gray	Metal	-0.1
24	Interior	Transformer Cage Safety Bollard		Yellow	Metal	-0.1
25	Interior	Beam Cross Brace	B-1	Green	Metal	1.0
26	Interior	Column	B-2	Green	Metal	1.7
27	Interior	Window Frame	B-7	Green	Metal	1.0
28	Interior	Stretcher Cabinet	B-1	Gray	Wood	-0.2
29	Interior	Center Column		Silver	Metal	0.1
30	Interior	Center Divider Wall		Gray	Metal	-0.2

31	Tool Room 1	A Wall		Silver	Concrete	3.1
32	Tool Room 1	B Wall		Black	Concrete	2.4
33	Tool Room 1	C Wall		Black	Concrete	2.4
34	Tool Room 1	D Wall		Black	Concrete	1.7
35	Tool Room 1	Door Frame	A-1	Silver	Metal	1.0
36	Tool Room 1	Door Threshold	A-1	Silver	Metal	-0.4
37	Tool Room 1	Window Frame	A-2	Silver	Metal	0.2
38	Tool Room 1	Parts Cabinet		Green	Metal	-0.1
39	Tool Room 2	A Wall		Bare	Concrete	-0.2
40	Tool Room 2	B Wall		Silver	Metal	0.2
41	Tool Room 2	Door Frame	B-1	Silver	Metal	1.0
42	Tool Room 2	Column	C-1	Silver	Metal	1.0
43	Tool Room 2	Counter Top		Gray	Metal	-0.1
44	Tool Room 2	Floor Stripe		White	Wood/Brick	0.0
45	Tool Room 2	Floor Stripe		Red	Wood/Brick	>9.9
46	Service Pit	Service Pit	D-18	Red	Concrete	-0.2
47	Service Pit	A Wall		Silver	Concrete	-0.2
48	Service Pit	Train Rail		Silver	Metal	0.2
49	Service Pit	Stair Riser		Silver	Metal	-0.0
50	Service Pit	Stair Strip		Silver	Metal	-0.1
51	Exterior	B Wall		Beige	Concrete	0.1
52	Exterior	Window Frame	B-12	Gray	Metal	1.0
53	Exterior	Window Glass Putty	B-12	Beige	Glass	0.4
54	Exterior	Folding Door Frame	B-12	Beige	Metal	-0.1
55	Exterior	Down Spout	B-11	Beige	Metal	0.3
56	Exterior	B Wall		Gray	CMU	-0.0
57	Exterior	C Wall		Gray	CMU	-0.3
58	Exterior	Window Sill	C-1	Gray	Concrete	-0.2
59	Exterior	Pipe Support		Gray	Metal	0.1
60	Exterior	Window Frame	C-1	Gray	Metal	-0.1
61	Exterior	Door Frame	C-2	Gray	Metal	0.0
62	Exterior	C Wall Footing		Beige	Concrete	-0.2
63	Exterior	D Wall		Gray	Concrete	-0.2
64	Exterior	D Wall		Gray	CMU	-0.3
65	Exterior	Urinal Partition		Gray	Metal	0.1
66	Exterior	Door Frame	D-2	Black	Metal	1.0
67	Exterior	Roll-up Door	D-3	Gray	Metal	-0.1
68	Exterior	A Wall		Black	Concrete	-0.1
69	Exterior	A Wall		White	Concrete	-0.1
70	Exterior	Roll-up Door Frame	A-1	Gray	Metal	-0.1
71	Exterior	Window Frame	A-1	Red	Metal	0.1
	Time : 10:45				Results	Average

72		Cal.			1.0	
73		Cal.			1.0	
74		Cal.			1.0	1.0
75		Cal.			-0.1	
76		Cal			-0.0	
77		Cal.			-0.3	-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	Office	B	Window	Ctr	Lft casing	QM	Wood	Brown	Interior	Innovar, 2011
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 Amtrack Office	Break Rm	B	Wall	U Lft		QM	Plaster	White	Interior	Innovar, 2011
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 Amtrack Office	Hallway	D	Wall	L Ctr		QM	Plaster	White	Interior	Innovar, 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	WmnsRm	A	Wall	L Ctr		QM	Plaster	White	Interior	Innovar, 2011
32	38	0.3	mg/cm2		9	Railyards Amtrack Office	WmnsRm	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
39	45	6.6	mg/cm2	Yes	15	Railyards Amtrack Office	Upstairs	A	Door	Ctr	U Ctr	QM	Wood	White	Interior	Innovar, 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
48	60	6.3	mg/cm2	Yes	16	Railyards Amtrack Office	Museum	A	Floor			QM	Cement	Yellow	Interior	Innovar, 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
87	3	0	mg/cm2			Bldg South of Firehouse	Number Only	A	Door Cnt	Ctr	Lft casing	QM	Cement	White	Interior	Innovar, 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	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-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 Laboratory Analysis Results

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: C16-0817
Received: 11-14-16
Analyzed: 11-18-16
Reported: 11-18-16

Project: Rail Yard Parcel 8 Boiler Shop; DCE 16-179

ANALYSIS METHOD: EPA SW846 7000B

CLIENT ID	CEI LAB ID	PPM (µg/g)	CONCENTRATION % BY WEIGHT
16-179-1000	CA58063	5100	**0.51**
16-179-1001	CA58064	16000	**1.6**
16-179-1002	CA58065	2400	**0.24**
16-179-1003	CA58066	920	**0.092**
16-179-1004	CA58067	66000	**6.6**
16-179-1005	CA58068	4900	**0.49**

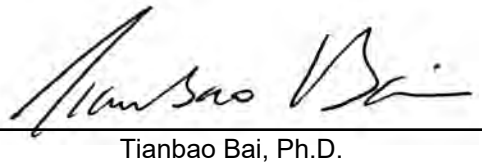
CEI Labs
107 New Edition Court, Cary, NC 27511
Tel: 919-481-1413 Fax: 919-481-1442

Project: Rail Yard Parcel 8 Boiler Shop; DCE 16-179

Lab Code: C16-0817

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

CA6-0817 (a)
CA58063-CA58068

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 8 Boiler Shop

PO / Job#: DCE 16-179 Date: 11/01/2016

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	
16-179-1000	11/01	Red and White floor stripe from Boiler Shop	A P C				
16-179-1001	11/01	Silver Paint from Column in Boiler Shop	A P C				
16-179-1002	11/01	Silver Paint from Wall in Boiler Shop	A P C				
16-179-1003	11/01	White Paint from Wall Boiler Shop	A P C				
16-179-1004	11/01	Black wall from Concrete wall in Boiler Shop	A P C				
16-179-1005	11/01	Red Paint from Column in Boiler Shop	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

Figure 1 Interior of Boiler Shop

Figure 2 Interior of Boiler Shop

Figure 3 Interior of Boiler Shop

Figure 4 Interior of Boiler Shop

Figure 5 Interior of Boiler Shop

Figure 6 Interior of Boiler Shop

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