VOLUNTARY REMEDIATION COMPLETION REPORT FOR THE CITY OF ALBUQUERQUE RAIL YARDS NORTH

VRP Site No. 53161007

Albuquerque, Bernalillo County, New Mexico

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EXECUTIVE SUMMARY

This Voluntary Remediation Completion Report (VRCR) summarizes the current environmental site conditions as assessed for the City of Albuquerque (COA) Rail Yards North (Site) located in Albuquerque, New Mexico. This VRCR (New Mexico Environment Department [NMED] Voluntary Remediation Program [VRP] Site No. 53161007) has been prepared in support of Site redevelopment activities and documents the investigation and remediation work that has been completed to date within the COA Rail Yards North portion of the Site under the *New Mexico Environmental Department Voluntary Remediation Program Final Work Plan* (INTERA, 2019). The COA has also prepared and submitted a revised Final VRP Work Plan for the COA Rail Yards South, dated July 28, 2020 (INTERA, 2020b), and approved by the NMED VRP on August 13, 2020.

Situated between 2nd Street and Commercial Street in downtown Albuquerque, New Mexico, the Site consists of approximately 27 acres located within the former Atchison, Topeka and Santa Fe (ATSF)/Burlington Northern Santa Fe (BNSF) Central Works Equipment (CWE) 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 metals contamination. Contamination is present in both the Site vadose zone (Site soils and soil vapor) and in the saturated zone (Site groundwater) and includes metals adsorbed to soil particles, organic vapors, and organic and inorganic solutes dissolved in groundwater. 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.

The COA believes that the environmental characterization work has been completed within the COA Rail Yards North and that a Conditional Certificate of Completion (CCOC) is requested from the VRP at this time. Any future remediation work will be limited to isolated excavations of soil for the installation of subsurface utilities and the abatement of asbestos and LBP from the remaining buildings with the COA Rail Yards North portion of the Site. Any future soil excavation(s) within the COA Rail Yards North will be conducted in accordance with the Soil Management Plan (SMP), dated July 16, 2020, and approved by the NMED VRP on August 13, 2020.

Per the Voluntary Remediation Agreement (VRA) signed by VRP on June 5, 2019, the COA may request a Certificate of Completion (COC) be issued for a specific portion of the Site, provided that the COC only pertain to that specific portion of the Site and that the COA include a legal description for that area. The legal description for the COA Rail Yards North is included in **Appendix A.**

The COA understands that the COA Rail Yards South portion of the Site requires additional environmental characterization work before a request for a COC can be made.

The intent of this VRCR is to present enough information to NMED VRP regarding the current environmental status of the Site so that NMED VRP may grant the COA a CCOC for the COA Rail Yards North portion of the Site. As of September 8, 2020, the following activities, as proposed in the approved VRP Work Plan for the Site were completed by the COA or their appointed subcontractors:

- Removal and disposal of lead-contaminated soil (approximately 900 cubic yards) from two excavation areas within the COA Rail Yards North portion of the Site;
- The abatement of asbestos and LBP at three buildings within the COA Rail Yards North portion of the Site: the Sheet Metal House, the North Washroom Building, and the north end of the Flue Shop. These buildings were demolished, and the construction and demolition debris removed from the Site;
- Excavation in an attempt to locate monitoring well MW-09 (This monitoring well was not found and assumed to have been destroyed);
- A soil vapor sampling event in July 2018, in which 14 soil vapor samples were collected and submitted for laboratory analysis; and,
- A ground water sampling event in which all Site monitoring wells (MW-02 through MW-08 and MW-10 and MW-11) were sampled in April 2020.

A review of the soil vapor sample analytical results from the soil vapor samples collected from the COA Rail Yards North area indicate the following:

- All soil vapor results were below NMED-established Vapor Intrusion Screening Levels (VISLs), with the exception of a soil vapor sample collected from a sub-slab location at the north end of the Blacksmith Shop. Trichloroethene (TCE) was identified at a concentration of 360 micrograms per cubic meter (µg/m^3) in soil vapor sample RYSV0703. The NMED residential VISL for TCE is 69.5 µg/m^3 and the NMED Industrial VISL for TCE is 328 µg/m^3. The Blacksmith Shop is currently used as an open-air market during the Spring and Summer months and the propensity for soil vapor to enter through the concrete slab and concentrate in the building during its current use is believed to be minimal. It should be noted that TCE was not identified at the Site in any of the soil vapor monitoring points within the COA Rail Yards North during the initial round of sampling in 2016.

A review of the fluid level gauging data and the analytical results associated with the groundwater samples collected from Site monitoring wells in April 2020 identified the following:

- Light non-aqueous phase liquid (LNAPL) was not observed at any of the monitoring wells at the Site.
- Monitoring well RAILMW01 is damaged, requires repair if possible, and was not gauged or sampled.
- The potentiometric surface elevations (PSE) ranged from 4928.00 feet (ft) above mean sea level (amsl) at monitoring well RAILMW06 to 4931.80 ft amsl at monitoring well RAILMW02.
- Compared to the previous Site groundwater monitoring event conducted in 2018, groundwater levels appear to have increased across the Site. Water level increases ranged from 1.22 ft at monitoring well RAILMW02 to 4.36 ft at monitoring well RAILMW07 with an average overall increase of 2.18 ft.
- The general direction of groundwater flow is to the east-southeast, and the magnitude of the hydraulic gradient is 0.0224 ft/ft.
- Analytical testing indicated concentrations of regulated dissolved-phase volatile organic compounds (VOCs) above the laboratory reporting detection limit (RL) in two of the nine groundwater samples collected. Total naphthalenes were detected above the New Mexico Water Quality Control Commission (NMWQCC) Standard of 30 micrograms per liter (µg/L) in groundwater at monitoring well RAILMW03 (174 micrograms per liter [µg/L]). Total naphthalenes was also detected above the RL in monitoring well RAILMW11 (2.5 µg/L) but at a concentration below the corresponding NMWQCC Standard. Benzene was detected above the RL in RAILMW03 (1.0 µg/L) but at a concentration below its NMWQCC Standard.
- Ethylene dibromide (EDB) (a.k.a. 1,2-dibromoethane) was not detected above the laboratory reporting limit of 0.010 µg/L in any Site monitoring wells.
- Total petroleum hydrocarbons (TPH) gasoline range organics (TPH-GRO), diesel-range organics (TPH-DRO), and motor oil range-organics (TPH-MRO) concentrations were not detected in Site monitoring wells above their respective laboratory RLs with the exception of monitoring wells RAILMW03 and RAILMW11. TPH-GRO was detected at concentrations of 0.20 milligrams per liter (mg/L) in monitoring well RAILMW03 and 0.11 mg/L in monitoring well RAILMW11. Currently, there are no TPH-GRO/DRO/MRO NMWQCC Standards.

- Iron was detected in monitoring wells RAILMW02 (0.18 mg/L), RAILMW04 (0.090 mg/L), and RAILMW11 (0.087 mg/L) but below its NMWQCC Standard of 1.0 mg/L. Iron was detected in monitoring well RAILMW03 (3.7 mg/L) above its NMWQCC Standard.
- Manganese was detected in all nine monitoring wells and above its NMWQCC Standard of 0.2 mg/L in monitoring wells RAILMW02 (0.31 mg/L), RAILMW03 (0.39 mg/L), RAILMW05 (0.47 mg/L), RAILMW06 (0.59 mg/L), and RAILMW07 (0.72 mg/L).

Based on these observations, it appears that Site contamination is minimal. Though minimal the COA still recommends exercising caution when completing Site redevelopment activities due to the potential presence of relict soil contamination, potentially impacted soil vapor, and continued monitoring of groundwater quality at the Site.

To ensure proper handling and disposition of impacted soils is executed during Site redevelopment, the Site SMP will be implemented. Additionally, soil vapor and groundwater monitoring will continue at the Site on an annual basis. Any building renovation or demolition work will continue to follow the NMED VRP approved Work Plans for the COA Rail Yards North and South (INTERA 2019, INTERA 2020b).

Site soil vapor issues will be mitigated using vapor intrusion liner(s) below any new buildings if warranted. Vapor venting systems may need to be installed around existing structures depending on sample results and future redevelopment scenarios. Any potential subsurface parking garages will be further vented by air exchange rates typically used by below-grade parking structures (INTERA, 2019). Existing concrete slabs will be coated with a material that is designed to mitigate vapor intrusion risk.

Based on the COA's current understanding of both the environmental conditions at the Site and the COA's commitment to continue to implement institutional controls and continue with long-term monitoring of both groundwater and soil vapor, the COA requests that a CCOC be issued for the COA Rail Yards North portion of the Site.

Activities to be Completed in the Next 12 Months

A soil vapor monitoring event will be conducted at both the COA Rail Yards North and South areas as outlined in the NMED VRP Final Work Plans (INTERA, 2019, INTERA, 2020b). Drilling and monitoring well installation will begin at five off-Site locations, as outlined in the COA Rail Yards North and South NMED VRP Final Work Plans during the fourth quarter of 2020 (INTERA, 2019, INTERA, 2020b).

To continue monitoring groundwater quality at the Site, the COA will implement the groundwater monitoring program for the Site over the course of at least a two (2)-year period following the installation of the additional monitoring wells. The COA shall perform annual groundwater sampling events in 2021 and 2022. If this timeframe proves to be inadequate in terms of characterization of the groundwater plume, the COA may extend the long-term monitoring period if directed by the VRP.

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ACRONYMS AND ABBREVIATIONS

°C	degrees Celsius
°F	degrees Fahrenheit
µg/L	micrograms per liter
µs/cm	microSiemens per centimeter
µg/m^3	micrograms per cubic meter
ACBM	asbestos containing building material
amsl	above mean sea level
ATSF	Atchison, Topeka, and Santa Fe
BNSF	Burlington Northern Santa Fe
BTEX	benzene, toluene, ethylbenzene, and total xylenes
btoc	below top of casing
CCOC	Conditional Certificate of Completion
COA	City of Albuquerque
COC	Certificate of Completion
COPC	contaminant of potential concern
CSM	Conceptual Site Model
CWE	Central Works Equipment
CY	cubic yards
DRO	diesel range organics
DTW	depth to water
EDB	1,2-dibromoethane/ethylene dibromide
EHD	Environmental Health Department
EPA	U.S. Environmental Protection Agency
ft	feet *or* foot
HEAL	Hall Environmental Analysis Laboratory
INTERA	INTERA Incorporated
LNAPL	light, non-aqueous phase liquid
LBP	lead-based paint
mg/L	milligrams per liter
NMAC	New Mexico Administrative Code
NMED	New Mexico Environment Department
NM-GS	New Mexico Groundwater Standard

ACRONYMS AND ABBREVIATIONS (Continued)

NMWQCC	New Mexico Water Quality Control Commission
PAH	polycyclic aromatic hydrocarbon
PPE	personal protective equipment
ppm	parts per million
PSE	potentiometric surface elevation
RL	reporting limit
S&A	Sampling and Analysis
Site	City of Albuquerque Rail Yards North
SMP	Soil Management Plan
SSHASP	Site-Specific Health and Safety Plan
SSL	Soil Screening Level
SVOC	semi-volatile organic compound
TCE	trichloroethene
TPH	total petroleum hydrocarbons
TPH-DRO	total petroleum hydrocarbons diesel range organics
TPH-GRO	total petroleum hydrocarbons gasoline range organics
TPH-MRO	total petroleum hydrocarbons motor oil range organics
TSCA	Toxic Substances Control Act
UST	underground storage tank
VISL	Vapor Intrusion Screening Level
VOC	volatile organic compound
VRA	Voluntary Remediation Agreement
VRP	Voluntary Remediation Program
VRCR	Voluntary Remediation Completion Report

1.0 INTRODUCTION

INTERA Incorporated (INTERA) was retained by the City of Albuquerque (COA) Environmental Health Department (EHD) on February 10, 2020, to execute New Mexico Environment Department (NMED) Voluntary Remediation Program (VRP) activities, including the drafting of this Voluntary Remediation Completion Report (VRCR) for the COA Rail Yards North, situated between 2nd Street and Commercial Street in Albuquerque, New Mexico (Site). The location of the Site is illustrated on **Figure 1.**

The COA contracted with INTERA to perform the VRP work documented herein under COA Services Contract No. 202000724. The COA and INTERA have conducted the VRP activities in accordance with *New Mexico Environment Department, Voluntary Remediation Program Final Work Plan*; *City of Albuquerque Rail Yards, Albuquerque, Bernalillo County, New Mexico*, dated June 28, 2019 (INTERA, 2019); *Soil Management Plan, City of Albuquerque Rail Yards, Albuquerque, Bernalillo County, New Mexico*, dated July 16, 2020 (INTERA, 2020a); and *New Mexico Environment Department, Voluntary Remediation Program Final Work Plan*; *City of Albuquerque Rail Yards - South, Albuquerque, Bernalillo County, New Mexico*, dated July 28, 2020 (INTERA, 2020b).

1.1 General Project Background

The Site operated as a railroad Central Works Equipment (CWE) facility from the 1880s to the early 1990s. Activities conducted at the facility included servicing locomotives (blacksmithing, welding, and painting) within the Machine Shop, Boiler Shop, Roundhouse, and other areas; and general servicing and maintenance activities of the facility. The Site also was a central location for the Atchison, Topeka, and Santa Fe (ATSF) and Burlington Northern Santa Fe (BNSF) railways to perform required servicing activities in support of other smaller railyards located nearby.

The various types of chemicals used and stored at the Site included solvents and lye used for parts cleaning, paint, heavy oils, diesel fuel and other lubricants, and packaged herbicides (INTERA, 2015; INTERA, 2017). In the 1960s, the roundhouse was closed and subsequently demolished. In 1991, all underground storage tanks [USTs] were removed, and the Site was vacated of further industrial/commercial use. Since that time, the Site has largely been unused, except by the film industry. The COA purchased the Site in 2007 from the Old Locomotive Shops, LLC, through Renaissance Development Company, Inc., and renovated the Blacksmith Shop and Storehouse buildings as interim use/multi-purpose structures in 2013.

As a result of previous operations, the Site sustained environmental impacts from both petroleum hydrocarbon and metals contamination. Contamination is present in both the Site vadose zone

(Site soils and soil vapor) and in the saturated zone (Site groundwater) and includes metals adsorbed to soil particles, organic vapors, and organic and inorganic solutes dissolved in groundwater. In addition, both asbestos-containing building material (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 activity.

The Site, also referred to as the Albuquerque Locomotive Shops and the former ATSF/BNSF CWE facility, is located approximately 1 mile south of the center of downtown Albuquerque in Bernalillo County, New Mexico (**Figure 1**).

The COA believes that the environmental characterization work has been completed within the COA Rail Yards North and that a Conditional Certificate of Completion (CCOC) is requested from the VRP at this time. Any future remediation work will be limited to isolated excavations of soil for the installation of subsurface utilities and the abatement of asbestos and LBP from the remaining buildings with the COA Rail Yards North portion of the Site. Any future soil excavation(s) within the COA Rail Yards North will be conducted in accordance with the Soil Management Plan (SMP), dated July 16, 2020 (INTERA, 2020a), and approved by the NMED VRP on August 13, 2020.

Per the Voluntary Remediation Agreement (VRA) signed by VRP on June 5, 2019, the COA may request a Certificate of Completion (COC) be issued for a specific portion of the Site, provided that the COC only pertain to that specific portion of the Site and that the COA include a legal description for that area. The legal description for the COA Rail Yards North is included in **Appendix A.**

The COA understands that the COA Rail Yards South portion of the Site requires additional environmental characterization work before a request for a COC can be made. The intent of this VRCR is to present sufficient information to NMED VRP regarding the current environmental status of the Site so that NMED VRP may grant the COA a CCOC for the COA Rail Yards North portion of the Site.

1.2 Site History

Investigations into the nature and extent of petroleum hydrocarbon and metal contamination at the Site have been ongoing since 1988 and have primarily focused on the extent of the soil contamination and the dissolved-phase groundwater plume (INTERA, 2015; INTERA, 2017). NMED conducted a limited site investigation at the Site in 1988. Characterization activities completed during this investigation included the sampling and analysis (S&A) of surface soils and the installation of two off-site monitoring wells.

Results of this investigation indicated the presence of polynuclear aromatic hydrocarbons (PAHs) and metal in soils and trace toluene in groundwater (DBS&A, 1996). These results initiated a series of additional characterization efforts and some remedial action for one or more portions of the Site; however, remedial actions were limited to small excavation areas. A summary of investigation activities completed for the Site since 1988 is provided in **Table 1.** A summary of remedial actions completed for the Site since 1988 is provided in **Table 2.**

1.3 Contaminants of Potential Concern

The following constituents are identified as Site soil contaminants of potential concern (COPCs) (INTERA, 2015; INTERA, 2017):

- Metals: antimony, arsenic, chromium, iron, lead, manganese, and thallium;
- PAHs: benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, dibenzo(a,h)anthracene, and indeno(1,2,3-cd)pyrene; and,
- total petroleum hydrocarbons (TPH) diesel range organics (TPH-DRO) and motor oil range organics (TPH-MRO).

The following constituents are identified as Site groundwater COPCs (INTERA, 2015; INTERA, 2017):

- PAHs including benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, dibenzo(a,h)anthracene, and indeno(1,2,3-cd)pyrene;
- Volatile organic compounds (VOCs) including benzene, toluene, ethyl benzene, and total xylenes (BTEX), total naphthalenes, and 1,2-dibromoethane (EDB);
- TPH-DRO and TPH-MRO; and,
- Metals: barium, benzene, chromium, copper, iron, lead, manganese, and zinc.

The following constituents are identified as Site soil vapor COPCs (COA, 2018):

- VOCs including trichloroethene (TCE).

These COPCs were derived from evaluating historical Site analytical data with the applicable New Mexico state regulatory standards, including NMED soil screening levels (SSLs) (NMED, 2019) and the New Mexico Water Quality Control Commission (NMWQCC) Human Health Standards defined in New Mexico Administrative Code (NMAC) 20.6.2.3.3103 (New Mexico Ground Water Standards [NM-GS]) (NMED, 2018). Petroleum contamination was present in both the finer-grained and coarser-grained soil units.

Other Site COPCs established for Site redevelopment activities include:

- ACBM and LBP in Site buildings and structures.

1.4 Conceptual Site Model

The foundation for a conceptual site model (CSM) is based on known and reasonably ascertainable information regarding current Site conditions, known and potential contaminant sources and distribution, potential release mechanisms, contaminant exposure pathways and migration routes, and potential receptors (EPA, 1996). Information of this type, specific to the Site, are summarized as follows:

- **Current Site Conditions** – summarized in Sections 1.1, 1.2 and 1.3.
- **Potential Nature of Contamination** – TPH, VOCs, PAHs, and dissolved metals (iron, manganese).
- **Potential Contaminant Source(s)** – Former repair and servicing of locomotives at the Site.
- **Extent of Contamination** – Both surface and subsurface soils, soil vapor, and ground water beneath the Site have been impacted. Remediation efforts have resolved much of the soil contamination and the ground water contamination is limited to the COA Rail Yards South area of the Site. Relict soil contamination may exist that will be handled under the Site SMP (INTERA, 2020a).
- **Migration Pathways** – leaching; particulate suspension in air and/or storm water/surface water, soil vapor migration into Site buildings.
- **Fate and Transport of Contaminated Media** – Dermal contact, ingestion, and inhalation for both soil and ground water pathways.

2.0 SUMMARY OF SITE SAMPLING AND ANALYSIS ACTIVITIES

VRP sampling and analysis field activities were conducted from June 29, 2019, through April 22, 2020. The Site-Specific Health and Safety Plan (SSHASP) was reviewed in detail by COA and INTERA field staff, followed during all Site activities, and used as a guide for the daily health and safety meetings. Work was performed in Occupational Safety and Health Administration Level D personal protective equipment (PPE). Copies of the field notes and field forms are included in **Appendix B.**

2.1 Soil Characterization and Disposal During Construction

The Sheet Metal House and the North Wash Room buildings were demolished in February and March 2019. Following the demolition of the two buildings, the COA decided to redevelop the Site by constructing a parking lot and a courtyard where the buildings were located (between the Flue Shop Building and Tender Repair Shop Building). Prior to redevelopment, the City decided to excavate two known soil contamination areas, identified as the former sand blasting area and the former batter storage area.

The COA conducted soil excavation activities from the second week of May until the end of July 2019. Approximately 900 cubic yards (CY) of lead-impacted soil was removed from the Site. The excavation work followed the methods outlined in Sections 5.5 and 6.1 of the Final VRP Work Plan (INTERA, 2019). The excavation work is also documented by the COA in the *Voluntary Remediation Program Status Report*, dated July 2019 (COA, 2019).

No further excavation activities for the Site are planned at this time, with the exception of a utility corridor excavation as outlined in the Site SMP (INTERA, 2020a). Any future redevelopment activities that require soil excavation work will follow the Site SMP. To ensure proper handling and disposition of impacted soils is executed during Site redevelopment, the Site SMP will be implemented.

2.2 Groundwater Investigation and Annual Groundwater Monitoring

On April 22 and 23, 2020, fluid levels at monitoring wells RAILMW02, RAILMW03, RAILMW04, RAILMW05, RAILMW06, RAILMW07, RAILMW08, RAILMW10, and RAILMW11 (**Figure 2**) were measured using a properly decontaminated oil/water interface probe.

Monitoring well RAILMW01 was found leaning over with its concrete pad partially in the air. There was a dirt blockage at approximately 6 feet (ft) below top of casing (btoc) and a total blockage at approximately 16 ft btoc; thus, neither a water level measurement nor a groundwater

sample were possible to collect. Monitoring well RAILMW01 will be repaired as outlined in the Final VRP Work Plan for the COA Rail Yards South (INTERA, 2020b).

Prior to measuring fluid levels, the monitoring well caps were removed from all monitoring wells in order to relieve any pressure caused by a fluctuating water table. Fluid level measurements are documented in **Table 3.** A potentiometric surface elevation (PSE) map is provided in **Figure 3.**

Groundwater samples were collected from the following nine Site monitoring wells: RAILMW02, RAILMW03, RAILMW04, RAILMW05, RAILMW06, RAILMW07, RAILMW08, RAILMW10, and RAILMW11 on April 22 through April 24, 2020. At each monitoring well, a groundwater sample was collected once three well casing volumes were removed from the respective monitoring well using a dedicated bailer and water quality parameters (temperature, specific conductivity, and pH) stabilized for three consecutive readings. A record of all water quality parameters recorded during purging and sampling of each well is documented in the field forms presented in **Appendix B.**

Petroleum hydrocarbon odors were noted in monitoring wells RAILMW02, RAILMW04, and RAILMW11 during groundwater sampling activities. The groundwater purge water at monitoring well RAILMW11 exhibited a light sheen. It is important to note that monitoring wells RAILMW02, RAILMW04, and RAILMW11 are located within the COA Rail Yards South.

After collection, the samples were labeled and immediately packed in an ice-chilled cooler for transport to Hall Environmental Analysis Laboratory (HEAL) for the following analysis:

- VOCs via United States Environmental Protection Agency (EPA) Method 8260B;
- EDB (1,2-dibromoethene) via EPA Method 504.1;
- TPH-DRO/MRO via EPA 8015B;
- Dissolved Metals (barium, chromium, copper, iron, lead, manganese, and zinc) via EPA Method 6010C/200.7/6020/200.8; and,
- PAHs via EPA Method 8310.

Proper chain-of-custody procedures were adhered to during sample collection, transportation, and delivery to HEAL. A copy of the groundwater laboratory analytical report is included in **Appendix C.**

All gauging equipment was decontaminated by washing with a Liquinox® solution and double rinsing with de-ionized water between gauging and groundwater sampling activities at each

monitoring well. Purge water produced during groundwater sampling activities was applied to an impermeable (asphalt and/or concrete) surface and allowed to evaporate.

Consistent with documented historical sampling events, light, non-aqueous phase liquid (LNAPL) of measurable thickness (greater than 0.01 ft) was not observed in the monitoring wells. Recorded depth to water (DTW) measurements ranged from 17.50 ft btoc at monitoring well RAILMW02 to 25.72 ft btoc at monitoring well RAILMW06 (**Table 3**). The PSE ranged from 4928.00 ft above mean sea level (amsl) at monitoring well RAILMW06 to 4931.80 ft amsl at monitoring well RAILMW02 (**Table 3**). The monitoring wells were resurveyed in May 2020.

Compared to the previous Site groundwater monitoring event conducted in 2018, groundwater levels appear to have increased across the Site. Water level increases ranged from 1.22 ft at monitoring well RAILMW02 to 4.36 ft at monitoring well RAILMW07 with an average overall increase of 2.18 ft. The observed increase in Site water levels are consistent with historical trends observed for the area since the 1990's (**Table 3**).

The screened intervals for every monitoring well, with the exception of RAILMW04, is submerged. As mentioned above, groundwater levels have historically been increasing since the COA switched from using groundwater as main source of drinking water to surface water. Any new monitoring well proposed to be installed as part of this Site wide monitoring program will take this water table increase into consideration.

The estimated groundwater flow direction is to the east-southeast, and the estimated magnitude of the calculated hydraulic gradient is approximately 0.0224 ft/ft (**Figure 3**).

Groundwater quality parameters were measured and recorded during monitoring well purging until the water quality parameters stabilized. Stabilized temperatures ranged from 18.1 degrees Celsius (°C) or 64.6 degrees Fahrenheit (°F) (monitoring well RAILMW02) to 19.8°C or 67.6°F (at monitoring well RAILMW06). Stabilized specific conductivity values ranged from 561 microSiemens per centimeter (µS/cm) (monitoring well RAILMW04) to 1,215 µS/cm (monitoring well RAILMW06). Stabilized pH values ranged from 6.69 (monitoring wells RAILMW04 and RAILMW07) to 7.21 (monitoring well RAILMW08). Groundwater quality parameter values are provided in the groundwater sampling forms presented in **Appendix B;** stabilized groundwater quality parameters are summarized in **Table 4.**

A summary of the laboratory analytical results for groundwater is provided in **Table 5** and on **Figure 4.** A copy of the groundwater sample laboratory analytical report is included in **Appendix C.**

Analytical testing indicated concentrations of regulated dissolved-phase VOCs above the laboratory reporting limit (RL) in two of the nine groundwater samples collected. Total naphthalenes were detected above the NMWQCC Standard of 30 micrograms per liter (µg/L) in groundwater at monitoring well RAILMW03 (174 µg/L). Total naphthalenes was also detected above the RL in monitoring well RAILMW11 (2.5 µg/L) but at a concentration below the corresponding NMWQCC Standard. Benzene was detected above the RL in RAILMW03 (1.0 µg/L) but at a concentration below its respective NMWQCC Standard.

Dissolved metals were detected in all nine monitoring wells.

- Copper was detected in monitoring well RAILMW06 (0.0011 milligrams per liter [mg/L]) but at a concentration below its NMWCC Standard of 1.0 mg/L.
- Lead was detected in monitoring well RAILMW11 (0.00053 mg/L) but at a concentration below its NMWQCC Standard of 0.015 mg/L.
- Barium was detected in all nine monitoring wells but at concentrations below its NMWQCC Standard of 2 mg/L.
- Iron was detected in monitoring wells RAILMW02 (0.18 mg/L), RAILMW04 (0.090 mg/L), and RAILMW11 (0.087 mg/L) but below its NMWQCC Standard of 1.0 mg/L.
- Iron was detected in monitoring well RAILMW03 (3.7 mg/L) above its NMWQCC Standard of 1.0 mg/L.
- Manganese was detected in all nine monitoring wells and above its NMWQCC Standard of 0.2 mg/L in monitoring wells RAILMW02 (0.31 mg/L), RAILMW03 (0.39 mg/L), RAILMW05 (0.47 mg/L), RAILMW06 (0.59 mg/L), and RAILMW07 (0.72 mg/L).
- Zinc was detected in all nine monitoring wells but below its NMWQCC Standard of 10.0 mg/L.

EDB was not detected above the laboratory reporting limit of 0.010 µg/L in any Site monitoring wells. Additionally, TPH gasoline range organics (TPH-GRO), TPH-DRO, and TPH-MRO concentrations were not detected in Site monitoring wells above their respective laboratory RLs with the exception of monitoring wells RAILMW03 and RAILMW11. TPH-GRO was detected with concentrations of 0.20 mg/L and 0.11 mg/L, respectively, and currently there is no NMWQCC Standard for this constituent.

The COA will continue to conduct long-term groundwater monitoring at the Site on an annual basis as outlined in the approved NMED VRP Final Work Plan (INTERA, 2019).

2.3 Subsurface Soil Gas Characterization

Active soil vapor characterization S&A activities were last performed at the Site in 2018 to help delineate the lateral and vertical extent of vapor-phase contamination in the vadose zone. 14 soil vapor samples were collected and submitted for laboratory analysis. In particular, sub-slab soil vapor samples were collected in the vapor points from historic buildings located within the COA Rail Yards - North. Previous sampling results did not indicate soil vapor concerns, but additional sampling was conducted to confirm that the soil vapor levels remain below NMED Vapor Intrusion Screening Level (VISLs) (INTERA, 2019).

A review of the soil vapor sample analytical results from the soil vapor samples collected from the COA Rail Yards North area indicated that all soil vapor results were below NMED VISLs with the exception of a soil vapor sample collected from a sub-slab location at the north end of the Blacksmith Shop. TCE was identified at a concentration of 360 micrograms per cubic meter ($\mu g/m^3$) in soil vapor sample RYSV0703. The NMED residential VISL for TCE is 69.5 $\mu g/m^3$ and the NMED Industrial VISL for TCE is 328 $\mu g/m^3$. The Blacksmith Shop is currently used as an open-air market during the Spring and Summer months and the propensity for soil vapor to enter through the concrete slab and concentrate in the building during its current use is believed to be minimal. It should be noted that TCE was not identified at the Site in any of the soil vapor monitoring points within the COA Rail Yards North during the initial round of sampling in 2016.

A summary of the laboratory analytical results for soil vapor is provided in **Table 6** and on **Figure 5.** A copy of the soil vapor sample laboratory analytical report is included in **Appendix D.**

Site soil vapor will continue to be sampled for as outlined in the approved NMED VRP Final Work Plan for the COA Rail Yards North and South as part of the long-term monitoring program (INTERA, 2019; INTERA, 2020b).

Site soil vapor issues will be mitigated using vapor intrusion liner(s) below any new buildings if warranted. Vapor venting systems may need to be installed around existing structures depending on sample results and future redevelopment scenarios. Any potential subsurface parking garages will be further vented by air exchange rates typically used by below-grade parking structures (INTERA, 2019). Existing concrete slabs will be coated with a material that is designed to mitigate vapor intrusion risk.

2.4 ACBM and LBP Survey of Site Buildings and Structures Prior to Construction

The COA conducted asbestos abatement and LBP at three buildings within the COA Rail Yards North portion of the Site: the Sheet Metal House, the North Washroom Building, and the north end of the Flue Shop. These buildings were also demolished, and the construction debris

removed from the Site. The asbestos and LBP abatement of these buildings and the solid waste disposal issues were previously discussed in the last VRP Status Report (COA, 2019).

Any future building renovation or demolition work will continue to follow the NMED VRP approved Work Plans for those remaining buildings at the Site. The COA will develop removal specification documents for each building renovation as redevelopment plans are finalized. The abatement plans, as well as final removal and disposal documentation, will be sent to NMED VRP as part of NMED VRP Status Report(s).

2.5 Project Health and Safety, Quality Assurance, and Investigation-Derived Waste

The INTERA-prepared SSHASP was strictly followed during all Site activities. All field activities were conducted using modified Level D PPE, including hard hat, safety glasses, and steel-toed boots. Nitrile gloves were used to handle all soil and groundwater samples. A safety meeting was conducted prior to the initiation of work, and chemical and physical hazards of the work were reviewed and discussed.

Quality assurance practices, which were strictly adhered to, included decontaminating the fluid gauging equipment with a Liquinox® solution and double-rinsing with de-ionized water between sampling activities at each monitoring well and soil vapor monitoring point.

3.0 COMPLETED VRP REMEDIATION ACTIVITIES

The completed VRP remediation activities (soil removal and building demolition) were conducted at the Site in 2019. These activities are documented in the COA VRP Periodic Status Report submitted to the NMED VRP in July 2019 (COA, 2019).

4.0 HOW COMPLETED VRP ACTIVITIES MEET THE PERFORMANCE STANDARD

The contaminants to be covered under the Voluntary Remediation Agreement (VRA) are described as follows:

- **Soil:** VOCs, SVOCs, TPH DRO, TPH MRO, EDB, PAHs, and Metals
- **Groundwater:** VOCs, SVOCs, TPH DRO, TPH MRO, EDB, PAHs, and Metals
- **Soil Vapor:** VOCs
- **Structures:** ACBM and LBP remediated waste

VRP activities undertaken pursuant to this agreement shall achieve the following standards or risk-based levels:

- Standards for groundwater as set forth in Section 20.6.2.3103 NMAC of the Ground and Surface Water regulations (NMED, 2018).
- *New Mexico Environment Department Risk Assessment Guidance for Site Investigations and Remediation* (NMED, 2019).
- National Emissions Standards for Hazardous Air Pollutants as set forth in Title 40 CFR, Part 61 Subpart M (EPA, 1994).
- Toxic Substances Control Act (TSCA, 1992), Title IV, P.L. 102-550.
- Solid Waste Management General Requirements as set forth in 20.9.2 NMAC (NMED, 2007).

The NMED *Risk Assessment Guidance for Investigations and Remediation*, Volume 1, February 2019, Rev. 2 (June 19, 2019) allows for the Alternative Evaluation for Lead in soils using the IEUBK Model in Section 2.3.3. The IEUBK Model relates measured lead concentrations in environmental media with an estimated blood-lead level for assessing risks to residential receptors. NMED VRP approved the site-specific soil lead residential level of 550 parts per million (ppm) for the COA Rail Yards based on the results from the bioavailability sampling and modeling (NMED, 2020). The COA IEUBK Modeling work and conclusion is outlined in the NMED VRP Status Report submitted by the COA in July 2019 (COA, 2019).

Performance requirements for projects participating in the VRP program are described NMAC 20.6.3.10 (NMED, 2001). The VRP Performance Standard involves attainment of four specific activity requirements: (1) identify the problem; (2) quantify the risk; (3) verify the need for remedial action; and (4) identify the remedy. Details regarding how the completed Site

assessments provide enough information to support conclusions regarding these activity requirements are discussed further in Section 4.1 through Section 4.4 below.

4.1 VRP Performance Standard Objective 1

VRP Performance Standard Objective 1 can be defined as identification of "*the source, nature and extent, migration pathways, and environmental fate and transport of contaminants in all environmental media present at the site (i.e., soil, groundwater, surface water, sediment, and/or air).*"

Results of recent characterization S&A efforts performed for Site soil, soil vapor, and groundwater was used to establish the current CSM for the Site. The current CSM for the Site is summarized in Section 1.4.

4.2 VRP Performance Standard Objective 2

VRP Performance Standard Objective 2 can be defined as quantification of "*the risk of harm posed by the site to human health, safety, and the environment*."

The relative degree of risk posed by soil, soil vapor, and ground water in the immediate vicinity of the Site will be determined by directly comparing Site concentrations to applicable standards. Applicable standards used for this comparison include:

- Standards for Ground Water as defined in NMAC Title 20.6.2.3103 of the Ground and Surface Water Regulations (NMED, 2018);
- SSLs and VISLs as defined by the NMED *Risk Assessment Guidance for Site Investigations and Remediation* (NMED, 2019);
- National Emissions Standards for Hazardous Air Pollutants as set forth in Title 40 CFR, Part 61 Subpart M (EPA, 1994);
- TSCA, Title IV, P.L. 102-550;
- Solid Waste Management General Requirements as set forth in 20.9.2 NMAC (NMED, 2007); and
- Lead concentration in soil (if identified) will be compared to the NMED-approved Site-specific screening level (550 ppm) for residential land use (COA, 2019; NMED, 2020).

4.3 VRP Performance Standard Objective 3

VRP Performance Standard Objective 3 can be defined as verification for "*the need to conduct remedial actions at the site to safeguard against such risks.*"

Analysis of Site soil data collected between 1990 and 2014 indicate that remedial efforts (excavation and removal of soil) previously performed at the Site have effectively reduced overall exposure risk to current and future land users; therefore, the COA does not anticipate the need for additional remedial activities for Site soil at this time. Excavated soil will be evaluated as outlined in the Site SMP (INTERA, 2020a).

The COA understands that soil vapor at the Site may be impacted by either VOCs and/or semi-volatile organic compounds (SVOCs). Soil vapor is included as part of the long-term monitoring activities at the Site.

Analysis of Site groundwater data collected between 1990 and 2020 suggest the presence of limited impact to groundwater beneath the Site. Based on these results, the COA does not anticipate the need for active remedial activities for Site groundwater at this time. Continued long-term monitoring activities for the Site shall establish the need for any additional remedial actions at the Site in the future, as outlined in the NMED VRP Final Work Plan for the COA Rail Yards South (INTERA, 2020b).

4.4 VRP Performance Standard Objective 4

VRP Performance Standard Objective 4 can be defined as identification of *"the remedial action selection and design, if appropriate."*

Because of the limited impact to Site soil and groundwater, the COA considers further remedial action for the Site not appropriate at this time.

Soil vapor concerns will be mitigated by the installation of vapor intrusion barriers for any new buildings, potential venting systems should the COA feel they are warranted, and coating existing floors with products that are designed to be effective in preventing vapor intrusion into indoor air. The need for a vapor intrusion barrier during a COA-designated "Interim Use" will be evaluated as outlined in the NMED-approved VRP Work Plans for the Site (INTERA, 2020a; INTERA, 2020b). All proposed Interim Uses shall be evaluated to clearly identify what the Interim Uses are, the anticipated duration of operation(s), the associated Site area of impact, and the required protection measures that will be put in place in order for the Interim Uses to be conducted safely.

5.0 SUMMARY AND RECOMMENDATIONS

The intent of this VRCR is to present sufficient information to NMED VRP regarding the current environmental status of the Site so that NMED VRP may grant the COA a CCOC for the COA Rail Yards North portion of the Site. As of September 2020, the following activities, as proposed in the approved VRP Work Plan for the Site were completed by the COA or their appointed subcontractors:

- Removal and disposal of lead-contaminated soil (approximately 900 CY) from two excavation areas within the COA Rail Yards North portion of the Site;
- The abatement of asbestos and LBP at three buildings within the COA Rail Yards North portion of the Site: the Sheet Metal House, the North Washroom Building, and the north end of the Flue Shop. These buildings were also demolished, and the construction debris removed from the Site;
- Excavation completed in an attempt to locate monitoring well MW-09 (This monitoring well was not found and assumed to have been destroyed.);
- Soil vapor sampling event in July 2018, in which 14 soil vapor samples were collected and submitted for laboratory analysis; and,
- A groundwater sampling event in which all Site monitoring wells (MW-02 through MW-08 and MW-10 and MW-11) were sampled in April 2020.

A review of the soil vapor sample analytical results from the soil vapor samples collected from the COA Rail Yards North area indicate the following:

- All soil vapor results were below NMED established VISLs with the exception of a soil vapor sample collected from a sub-slab location at the north end of the Blacksmith Shop. TCE was identified at a concentration of 360 µg/m^3 in soil vapor sample RYSV0703. The NMED residential VISL for TCE is 69.5 µg/m^3 and the NMED Industrial VISL for TCE is 328 µg/m^3. The Blacksmith Shop is currently used as an open-air market during the spring and summer months and the propensity for soil vapor to enter through the concrete slab and concentrate in the building during its current use is believed to be minimal. It should be noted that TCE was not identified at the Site in any of the soil vapor monitoring points within the COA Rail Yards North during the initial round of sampling in 2016.

A review of the fluid level gauging data and the analytical results associated with the groundwater samples collected from Site monitoring wells in April 2020 identified the following:

- LNAPL was not observed at any of the monitoring wells at the Site.

- Monitoring well RAILMW01 is damaged, requires repair if possible, and was not gauged or sampled.
- The Site PSE ranged from 4928.00 ft amsl at monitoring well RAILMW06 to 4931.80 ft amsl at monitoring well RAILMW02.
- Compared to the previous Site groundwater monitoring event conducted in 2018, groundwater levels appear to have increased across the Site. Water level increases ranged from 1.22 ft at monitoring well RAILMW02 to 4.36 ft at monitoring well RAILMW07 with an average overall increase of 2.18 ft.
- The general direction of groundwater flow is to the east-southeast, and the magnitude of the hydraulic gradient is 0.0224 ft/ft.
- Analytical testing indicated concentrations of regulated dissolved-phase VOCs above the laboratory RL in two of the nine groundwater samples collected. Total naphthalenes were detected above the NMWQCC Standard of 30 µg/L in groundwater at monitoring well RAILMW03 (174 µg/L). Total naphthalenes was also detected above the RL in monitoring well RAILMW11 (2.5 µg/L) but at a concentration below the corresponding NMWQCC Standard. Benzene was detected above the RL in RAILMW03 (1.0 µg/L) but at a concentration below its NMWQCC Standard.
- EDB (a.k.a. 1,2-dibromoethane) was not detected above the laboratory reporting limit of 0.010 µg/L in any Site monitoring wells.
- TPH-GRO, TPH-DRO, and TPH-MRO concentrations were not detected in Site monitoring wells above their respective laboratory reporting limits with the exception of monitoring wells RAILMW03 and RAILMW11. TPH-GRO was detected at concentrations of 0.20 mg/L in monitoring well RAILMW03 and 0.11 mg/L in monitoring well RAILMW11. Currently, there are no TPH-GRO/DRO/MRO NMWQCC Standards.
- Iron was detected in monitoring wells RAILMW02 (0.18 mg/L), RAILMW04 (0.090 mg/L), and RAILMW11 (0.087 mg/L) but below its NMWQCC Standard of 1.0 mg/L. Iron was detected in monitoring well RAILMW03 (3.7 mg/L) above its NMWQCC Standard of 1.0 mg/L.
- Manganese was detected in all nine monitoring wells and above its NMWQCC Standard of 0.2 mg/L in monitoring wells RAILMW02 (0.31mg/L), RAILMW03 (0.39 mg/L), RAILMW05 (0.47 mg/L), RAILMW06 (0.59 mg/L), and RAILMW07 (0.72 mg/L).

Based on these observations, it appears that Site contamination is minimal. Though minimal, the COA still recommends exercising caution when completing Site redevelopment activities and continued monitoring of groundwater quality at the Site due to the potential presence of relict

soil contamination and potentially impacted soil vapor. The COA will continue Site work as outlined in the SMP and the NMED VRP Final Work Plans developed for the COA Rail Yards North and South (INTERA, 2019; INTERA, 2020a; INTERA, 2020b).

6.0 REFERENCES

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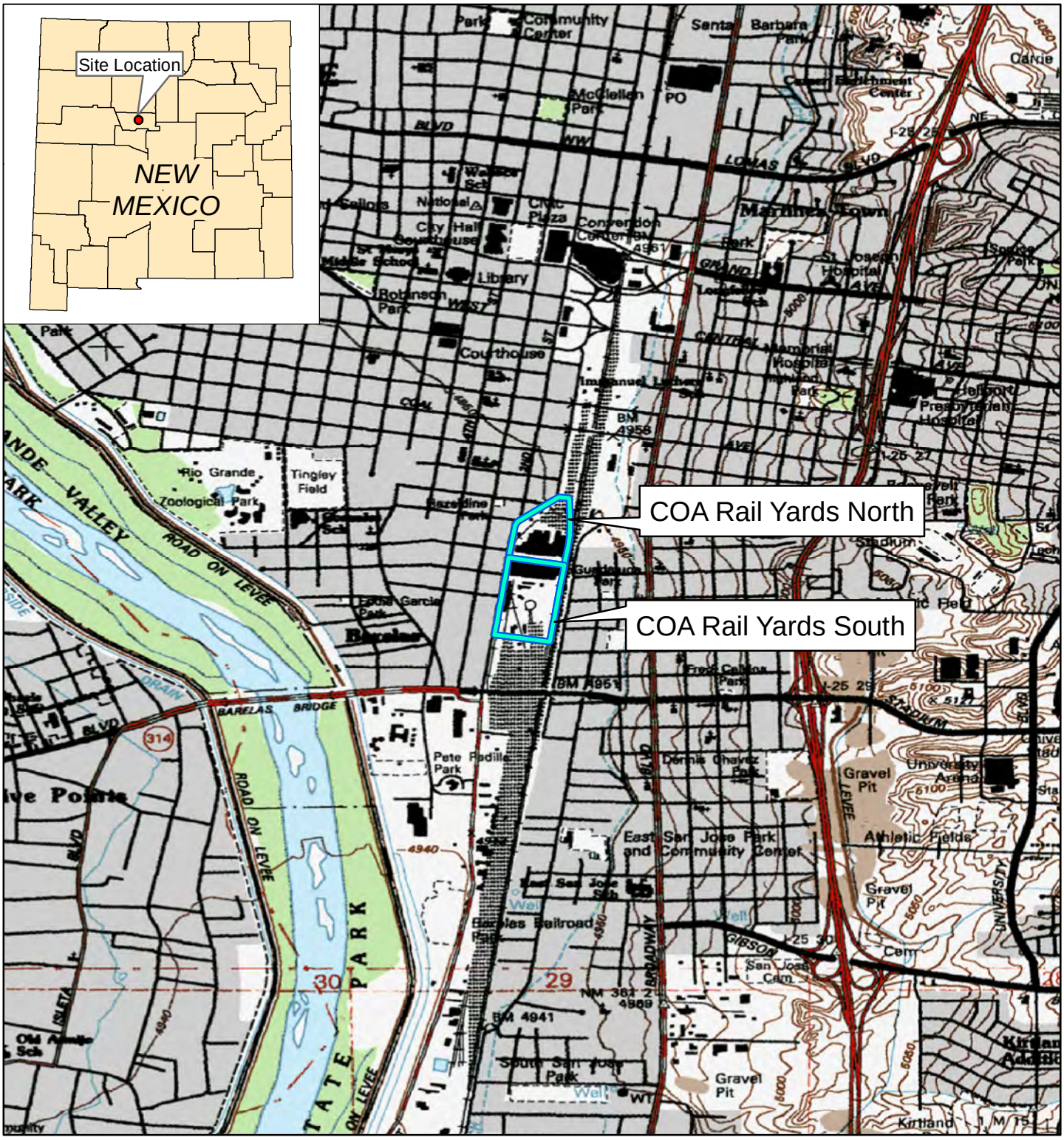
Toxic Substances Control Act (TSCA). 1992. Title IV, P.L. 102-550. Residential Lead Based Paint Hazard Reduction Act. October 28.

FIGURES



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

Figure 1
Site Location
Completion Report
Albuquerque Rail Yards,
Albuquerque, New Mexico

S:\ABQ\COALB.C008.RYVP\Graphics\MapDocs\2020_CR\01_CR_SiteLocation.mxd 5/28/2020

Source(s): Aerial – BERNCO GIS website, dated 2018.

Figure 2
Site Plan
Completion Report
Albuquerque Rail Yards,
Albuquerque, New Mexico

Document Path: S:\ABQ\COALB.C008.RYVP\Graphics\MapDocs\2020_CR\02_CR_sitePlan.mxd 5/29/2020

Source(s): Aerial – BERNCO GIS website, dated 2018.

Figure 3
Potentiometric Surface Elevation Map
April 22 & 23, 2020
Completion Report
Albuquerque Rail Yards,
Albuquerque, New Mexico

Document Path: S:\ABQ\COALB.C008.RYVP\Graphics\MapDocs\2020_CR\03_CR_PotMap_v1.mxd 6/5/2020

Active Monitoring Well

Destroyed/Damaged Monitoring Well

Site Feature

Property Boundary

Demolished

N

160 80 0 160

Feet

B= Benzene
EDB = 1,2-dibromoethane
Σ Naph = Naphthalene + 1,Methylnaphthalene + 2, Methylnaphthalene

Well ID
Analyte: Results in µg/L (micrograms per liter),
Red/Bold/Italic indicates value or laboratory reporting limit in excess of the NMWQCC Standards.

INTERA

Source(s): Aerial – BERNCO GIS website, dated 2018.

Figure 4
Distribution of Dissolved-Phase Contaminants, April 23 & 24, 2020
Completion Report
Albuquerque Rail Yards,
Albuquerque, New Mexico

Document Path: S:\ABQ\COALB.C008.RYVP\Graphics\MapDocs\2020_CR\04_CR_Results.mxd 5/29/2020

Legend

- TCE Exceedance
- TCE Detection
- TCE Non-Detect
- Parcel Boundary

N

120 60 0 120

Feet

Figure 5
Residential VISL Exceedances
Trichloroethene
VRP Completion Report,
Albuquerque Rail Yards North, Albuquerque,
Bernalillo County, New Mexico

INTERA

Note: VISL: Vapor Intrusion Screening Levels (NMED, 2019)

FILE: S:\ABQ\COA On-Call 2014\Task_17_Railyard_VRP\Graphics\GIS\MapDocs\2020_SV\05_SV_TCE.mxd 9/8/2020

TABLES

TABLE 1

Characterization and Investigation Activities

Voluntary Remediation Completion Report for the COA Rail Yards North, Albuquerque, Bernalillo County, New Mexico

Date	Consultant	Location	Investigation Activity
December 1995	DBS&A	CWE Shops	Phase II Environmental Site Assessment – soil and groundwater sampling
June 1996	DBS&A	ATSF Railway Company CWE Facility	Water well inventory, soil sampling, groundwater sampling, and aquifer test
July 1996	DBS&A	ATSF Railway Company CWE Facility	Quarterly groundwater monitoring – Stage I Abatement Plan
September 1996	DBS&A	ATSF Railway Company CWE Facility	Plugging and abandonment of on-site water supply wells
December 1996	DBS&A	ATSF Railway Company CWE Facility	Quarterly groundwater monitoring – Stage I Abatement Plan
March 1997	DBS&A	Former ATSF Railway Company CWE Facility	Quarterly groundwater monitoring – Stage I Abatement Plan
January 2000	DBS&A	Former ATSF Railway Company CWE Facility	Groundwater monitoring event
May 2000	Dames & Moore Inc.	Former ATSF Railway Company CWE Facility	Limited Site Investigation – collected soil and groundwater samples, installed wells
September 2000	ERM	CWE Shop Area, Transformer Vandalism Site	Investigated transformer oil leak from 13 vandalized electrical transformers
October 2005	Terracon	Albuquerque Locomotive Shops Area B, Area C, and Tract A	Site characterization and remediation excavation activities
June 2010	HAI	Albuquerque Locomotive Shops Area A	Phase II Environmental Site Assessment – collected soil and groundwater samples
January 2011	Innovar	Albuquerque Locomotive Shops Area B, Area C, and Tract A	Phase II Environmental Site Assessment – focused on nine areas of concern
July 2012	INTERA	Albuquerque Locomotive Shops Area B, Area C, and Tract A	Soil and groundwater sample collection to aid in the delineation of metal and petroleum hydrocarbon contamination
September 2015	INTERA	Conceptual Site Model, COA Rail Yards	Consolidate all previous Site data
February 2017	INTERA	Parcel 1 Additional Characterization Report	Soil, Soil Vapor, ACBM, LBP, and groundwater sampling
February 2017	INTERA	Parcel 2 Additional Characterization Report	Soil, Soil Vapor, ACBM, LBP, and groundwater sampling
February 2017	INTERA	Parcel 3 Additional Characterization Report	Soil Vapor, ACBM, and LBP sampling
February 2017	INTERA	Parcel 4 Additional Characterization Report	Soil, Soil Vapor, ACBM, LBP, and groundwater sampling
February 2017	INTERA	Parcel 5 Additional Characterization Report	Soil Vapor, ACBM and LBP sampling
February 2017	INTERA	Parcel 7 Additional Characterization Report	Soil Vapor, ACBM, and LBP sampling
February 2017	INTERA	Parcel 8 Additional Characterization Report	Soil Vapor, ACBM, and LBP sampling
February 2017	INTERA	Parcel 9 Additional Characterization Report	Soil, Soil Vapor, ACBM, and LBP sampling

TABLE 1

Characterization and Investigation Activities

Voluntary Remediation Completion Report for the COA Rail Yards North, Albuquerque, Bernalillo County, New Mexico

Date	Consultant	Location	Investigation Activity
February 2017	INTERA	Parcel 10 Additional Characterization Report	Soil, Soil Vapor, ACBM, LBP, and groundwater sampling
February 2017	INTERA	Additional Groundwater Characterization Report	Groundwater sampling
2018	COA Environmental Health Dept.	COA Rail Yards North and South	Groundwater and soil vapor sampling
May 2019	COA Environmental Health Dept.	COA Rail Yards North	Additional Soil Investigation and Impacted Soil Removal
April 2020	INTERA	COA Rail Yards North and South	Groundwater sampling

Notes:

ACBM = asbestos-containing building material

ATSF = Atchison, Topeka, and Santa Fe

COA = City of Albuquerque

CWE = Central Works Equipment

DBS&A = Daniel B. Stephens &Associates, Inc.

ERM = Environmental Resources Management, Inc.

LBP = lead-based paint

HAI = Huang & Associates, Inc.

TABLE 2
Cumulative Site Excavation Activities
Voluntary Remediation Completion Report for the COA Rail Yards North, Albuquerque, Bernalillo County, New Mexico

Date	Consultant	Location	Soil Removal Quantity (cubic yards)	Action Driver
2005	Terracon	Roundhouse excavation area	40	Lead
2005	Terracon	Former oil cellar/AST excavation area (reported to be backfilled with same soil, [HAI, 2010])	330	Petroleum
2005	Terracon	Former battery storage excavation area	280	Lead
2005	Terracon	Former sand blasting excavation area	140	Lead
2019	COA EHD	Former battery storage excavation area and former sand blasting excavation area	900	Lead

Notes:
AST= above-ground storage tank
COA EHD = City of Albuquerque Environmental Health Department
HAI = Huang & Associates, Inc.

Reference:
Huang & Associates Inc., June 2010. Final Phase II Environmental Site Assessment Report, Targeted Brownfields Assessment, Albuquerque Locomotive Shops (AREA A), Albuquerque, Bernalillo County, New Mexico. Prepared for the U.S. Army Corps of Engineers, Albuquerque District. Available at City of Albuquerque.

TABLE 3
Fluid Level Measurements and Well Construction Details
Voluntary Remediation Completion Report for the COA Rail Yards North, Albuquerque, Bernalillo County, New Mexico

Well ID	Date	Diameter (inches)	Screen Interval (ft bgs)	Top of Casing Elevation (ft amsl)[1]	Depth to Water (ft btoc)	Total Depth (ft btoc)	Water Column Height (ft)	Potentiometric Surface Elevation (ft amsl)[2]	Comments
RAILMW01* (MW-01)	4/14/1996	2	23.0-43.0	4653.31	30.59	-	-	4622.72	
	7/29/1996		23.0-43.0	4653.31	31.44	-	-	4621.87	
	11/1/1996		23.0-43.0	4653.31	31.04	-	-	4622.27	
	2/6/1997		23.0-43.0	4653.31	30.77	-	-	4622.54	
	6/11/1998		23.0-43.0	4653.31	29.98	-	-	4623.33	
	9/15/1998		23.0-43.0	4653.31	30.81	-	-	4622.50	
	12/21/1998		23.0-43.0	4653.31	30.60	-	-	4622.71	
	4/29/1999		23.0-43.0	4653.31	30.82	-	-	4622.49	
	12/2/1999		23.0-43.0	4653.31	31.04	-	-	4622.27	
	9/1/2010		23.0-43.0	4653.31	26.74	44.15	17.41	4626.57	
	3/1/2012		23.0-43.0	4653.31	26.41	44.12	17.71	4626.90	
	11/4/2016		23.0-43.0	100	22.65	44.16	21.51	77.35	
	7/20/2018		23.0-43.0	100	21.87	44.16	22.29	78.13	
	4/23/2020		23.0-43.0	4952.01	-	-	-	-	Well blocked; not sampled.
RAILMW02* (MW-02)	4/14/1996	2	23.0-43.0	4652.98	29.60	-	-	4623.38	
	7/29/1996		23.0-43.0	4652.98	30.39	-	-	4622.59	
	11/1/1996		23.0-43.0	4652.98	30.04	-	-	4622.94	
	2/6/1997		23.0-43.0	4652.98	29.82	-	-	4623.16	
	6/11/1998		23.0-43.0	4652.98	29.95	-	-	4623.03	
	9/15/1998		23.0-43.0	4652.98	29.82	-	-	4623.16	
	12/21/1998		23.0-43.0	4652.98	29.65	-	-	4623.33	
	4/29/1999		23.0-43.0	4652.98	29.86	-	-	4623.12	
	12/2/1999		23.0-43.0	4652.98	30.09	-	-	4622.89	
	10/31/2005		23.0-43.0	4652.98	29.40	-	-	4623.58	
	11/4/2016		23.0-43.0	97.26	19.10	41.34	22.24	78.16	New J-plug installed.
	7/20/2018		23.0-43.0	97.26	18.72	41.34	22.62	78.54	
	4/23/2020		23.0-43.0	4949.30	17.50	41.34	23.84	4931.80	
RAILMW03* (MW-03)	4/14/1996	2	22.2-42.2	4653.66	32.48	-	-	4621.18	
	7/29/1996		22.2-42.2	4653.66	34.26	-	-	4619.40	
	11/1/1996		22.2-42.2	4653.66	33.84	-	-	4619.82	
	2/6/1997		22.2-42.2	4653.66	33.39	-	-	4620.27	
	6/11/1998		22.2-42.2	4653.66	32.54	-	-	4621.12	
	9/15/1998		22.2-42.2	4653.66	33.59	-	-	4620.07	
	12/21/1998		22.2-42.2	4653.66	33.28	-	-	4620.38	
	4/29/1999		22.2-42.2	4653.66	33.49	-	-	4620.17	
	12/2/1999		22.2-42.2	4653.66	33.76	-	-	4619.90	
	9/3/2010		22.2-42.2	4653.66	29.04	44.75	15.71	4624.62	
	3/1/2012		22.2-42.2	4653.66	28.41	44.78	16.37	4625.25	
	11/4/2016		22.2-42.2	100.29	24.33	44.75	20.42	75.96	
	7/20/2018		22.2-42.2	100.29	23.35	44.75	21.40	76.94	
	4/23/2020		22.2-42.2	4952.34	22.01	44.75	22.74	4930.33	

TABLE 3
Fluid Level Measurements and Well Construction Details
Voluntary Remediation Completion Report for the COA Rail Yards North, Albuquerque, Bernalillo County, New Mexico

Well ID	Date	Diameter (inches)	Screen Interval (ft bgs)	Top of Casing Elevation (ft amsl)[1]	Depth to Water (ft btoc)	Total Depth (ft btoc)	Water Column Height (ft)	Potentiometric Surface Elevation (ft amsl)[2]	Comments
RAILMW04* (MW-04)	4/14/1996	2	21.95-41.95	4654.52	34.40	-	-	4620.12	
	7/29/1996		21.95-41.95	4654.52	35.36	-	-	4619.16	
	11/1/1996		21.95-41.95	4654.52	35.02	-	-	4619.50	
	2/6/1997		21.95-41.95	4654.52	34.51	-	-	4620.01	
	6/11/1998		21.95-41.95	4654.52	33.72	-	-	4620.80	
	9/15/1998		21.95-41.95	4654.52	34.77	-	-	4619.75	
	12/21/1998		21.95-41.95	4654.52	34.50	-	-	4620.02	
	4/29/1999		21.95-41.95	4654.52	34.70	-	-	4619.82	
	12/2/1999		21.95-41.95	4654.52	35.01	-	-	4619.51	
	9/4/2010		21.95-41.95	4654.52	30.32	44.46	14.14	4624.20	
	11/4/2016		21.95-41.95	101.12	25.37	44.48	19.11	75.75	
	4/23/2020		21.95-41.95	4953.21	22.92	44.48	21.56	4930.29	
RAILMW05* (MW-05)	4/14/1996	2	24.7-44.7	4655.39	36.17	-	-	4619.22	
	7/29/1996		24.7-44.7	4655.39	36.65	-	-	4618.74	
	11/1/1996		24.7-44.7	4655.39	36.34	-	-	4619.05	
	2/6/1997		24.7-44.7	4655.39	35.81	-	-	4619.58	
	6/11/1998		24.7-44.7	4655.39	35.02	-	-	4620.37	
	9/15/1998		24.7-44.7	4655.39	36.04	-	-	4619.35	
	12/21/1998		24.7-44.7	4655.39	35.78	-	-	4619.61	
	4/29/1999		24.7-44.7	4655.39	35.97	-	-	4619.42	
	12/2/1999		24.7-44.7	4655.39	36.33	-	-	4619.06	
	9/4/2010		24.7-44.7	4655.39	31.61	46.17	14.56	4623.78	
	11/4/2016		24.7-44.7	101.99	26.52	46.16	19.64	75.47	New J-plug installed.
	7/20/2018		24.7-44.7	101.99	25.39	46.16	20.77	76.60	
	4/23/2020		24.7-44.7	4954.07	24.00	46.16	22.16	4930.07	
RAILMW06* (MW-06)	4/14/1996	2	27.1-47.1	4653.11	37.79	-	-	4615.32	
	7/29/1996		27.1-47.1	4653.11	38.76	-	-	4614.35	
	11/1/1996		27.1-47.1	4653.11	38.52	-	-	4614.59	
	2/6/1997		27.1-47.1	4653.11	37.93	-	-	4615.18	
	6/11/1998		27.1-47.1	4653.11	37.40	-	-	4615.71	
	9/15/1998		27.1-47.1	4653.11	38.19	-	-	4614.92	
	12/21/1998		27.1-47.1	4653.11	37.92	-	-	4615.19	
	4/29/1999		27.1-47.1	4653.11	38.10	-	-	4615.01	
	12/2/1999		27.1-47.1	4653.11	38.55	-	-	4614.56	
	10/31/2005		27.1-47.1	4653.11	37.60	-	-	4615.51	
	2/10/2010		27.1-47.1	4955.86	35.86	-	-	4920.00	
	11/4/2016		27.1-47.1	103.73	29.44	49.28	19.84	74.29	
	7/5/2018		27.1-47.1	103.73	27.15	49.28	22.13	76.58	
	4/23/2020		27.1-47.1	4953.72	25.72	49.28	23.56	4928.00	

TABLE 3
Fluid Level Measurements and Well Construction Details
Voluntary Remediation Completion Report for the COA Rail Yards North, Albuquerque, Bernalillo County, New Mexico

Well ID	Date	Diameter (inches)	Screen Interval (ft bgs)	Top of Casing Elevation (ft amsl)[1]	Depth to Water (ft btoc)	Total Depth (ft btoc)	Water Column Height (ft)	Potentiometric Surface Elevation (ft amsl)[2]	Comments
RAILMW07* (MW-07)	4/14/1996	2	22.7-42.7	4651.94	35.25	-	-	4616.69	
	7/29/1996		22.7-42.7	4651.94	36.09	-	-	4615.85	
	11/1/1996		22.7-42.7	4651.94	35.88	-	-	4616.06	
	2/6/1997		22.7-42.7	4651.94	35.40	-	-	4616.54	
	6/11/1998		22.7-42.7	4651.94	34.66	-	-	4617.28	
	9/15/1998		22.7-42.7	4651.94	35.57	-	-	4616.37	
	12/21/1998		22.7-42.7	4651.94	35.37	-	-	4616.57	
	4/29/1999		22.7-42.7	4651.94	35.54	-	-	4616.40	
	12/2/1999		22.7-42.7	4651.94	35.90	-	-	4616.04	
	9/4/2010		22.7-42.7	4651.94	31.60	44.78	13.18	4620.34	
	11/4/2016		22.7-42.7	102.65	26.74	44.85	18.11	75.91	
	7/5/2018		22.7-42.7	102.65	25.60	44.85	19.25	77.05	
	4/22/2020		22.7-42.7	4951.83	21.24	44.85	23.61	4930.59	
RAILMW08* (MW-08)	4/14/1996	4	24.5-44.5	4651.68	34.64	-	-	4617.04	
	7/29/1996		24.5-44.5	4651.68	35.48	-	-	4616.20	
	11/1/1996		24.5-44.5	4651.68	35.27	-	-	4616.41	
	2/6/1997		24.5-44.5	4651.68	34.80	-	-	4616.88	
	6/11/1998		24.5-44.5	4651.68	34.07	-	-	4617.61	
	9/15/1998		24.5-44.5	4651.68	34.97	-	-	4616.71	
	12/21/1998		24.5-44.5	4651.68	34.78	-	-	4616.90	
	4/29/1999		24.5-44.5	4651.68	34.95	-	-	4616.73	
	12/2/1999		24.5-44.5	4651.68	35.31	-	-	4616.37	
	2/11/2010		24.5-44.5	4954.38	31.98	-	-	4922.40	
	11/4/2016		24.5-44.5	102.30	26.16	46.11	19.95	76.14	
	7/5/2018		24.5-44.5	102.30	24.96	46.11	21.15	77.34	
	4/22/2020		24.5-44.5	4951.97	21.16	46.11	24.95	4930.81	
RAILMW09* (MW-09)	2/10/2010	-	33.0-43.0	4953.43	32.52	-	-	4920.91	
	11/4/2016		Well not located.						
	7/5/2018		Well not located.						
	4/22/2020		Well not located.						
RAILMW10* (MW-10)	7/5/2018	2	31.2-41.2	-	23.04	38.38	15.34	-	
	4/23/2020		31.2-41.2	4951.82	21.60	38.38	16.78	4930.22	
RAILMW11* (MW-11)	4/23/2020	2	-	4949.92	18.85	39.85	21.00	4931.07	

Notes:

*= Well name changed by client; (previous name)

- = data not available, present, or not applicable

[1] = Top of casing elevation resurveyed in December 2016 using MW-01 as base station, elevtation set at 100 ft

[2] = Value calculated from: Potentiometric Surface Elevation = (Top of Casing Elevation - Depth to Water)

amsl = above mean sea level

bgs = below ground surface

btoc = below top of casing

TABLE 4
Groundwater Quality Parameters
Voluntary Remediation Completion Report for the COA Rail Yards North, Albuquerque, Bernalillo County, New Mexico

Well ID	Date	Temperature		Specific Conductivity (µS/cm)	pH
		°C	°F		
RAILMW01	11/4/2016	18.7	65.66	996.0	7.42
RAILMW01	7/26/2018	22	71.6	824	7.49
RAILMW01	4/23/2020	Well damaged; no sample collected.			
RAILMW02	11/4/2016	18.5	65.3	667.2	7.74
RAILMW02	7/25/2018	20.06	68.1	699	7.30
RAILMW02	4/23/2020	18.1	64.6	744	7.03
RAILMW03	11/4/2016	19.0	66.2	671.2	7.31
RAILMW03	7/26/2018	20.7	69.3	651	7.51
RAILMW03	4/23/2020	19.7	67.5	753	6.72
RAILMW04	11/4/2016	18.7	65.7	929.8	7.18
RAILMW04	7/24/2018	19.7	67.5	651	7.25
RAILMW04	4/23/2020	19.4	66.9	561	6.69
RAILMW05	11/4/2016	18.6	65.5	819.5	7.05
RAILMW05	7/24/2018	20.1	68.2	651	*7.25*
RAILMW05	4/23/2020	19.0	66.2	856	6.88
RAILMW06	11/4/2016	17.9	64.2	803.2	7.28
RAILMW06	7/24/2018	20.5	68.9	903	7.04
RAILMW06	4/24/2020	19.8	67.6	1,215	7.01
RAILMW07	11/4/2016	18.6	65.5	829.2	7.18
RAILMW07	7/25/2018	21.5	70.7	784	7.54
RAILMW07	4/23/2020	18.8	65.8	875	6.69
RAILMW08	11/4/2016	18.8	65.8	951.9	7.17
RAILMW08	7/20/2018	20.2	68.4	720	7.09
RAILMW08	4/22/2020	18.8	65.8	1,073	7.21
RAILMW09	11/4/2016	Not located; no sample collected.			
RAILMW09	7/20/2018	Not located; no sample collected.			
RAILMW09	4/22/2020	Not located; no sample collected.			
RAILMW10	7/24/2018	20.3	68.5	876.0	7.04
RAILMW10	4/23/2020	19.2	66.6	907	6.69
RAILMW11	4/23/2020	19.3	66.7	699	7.04

Notes:

°C = degrees Celsius

°F = degrees Fahrenheit

µS/cm = microSiemens per centimeter

TABLE 5
Laboratory Analytical Results - Groundwater
Voluntary Remediation Completion Report for the COA Rail Yards North, Albuquerque, Bernalillo County, New Mexico

Sample ID	Date	Organics (µg/L)						
		Benzene[1]	Toluene[1]	Ethylbenzene[1]	Total Xylenes[1]	EDB[2]	Total Naphthalenes[3, 4]	Total Naphthalenes[1, 4]
NMWQCC Standard		**5**	**1000**	**700**	**620**	**0.05**	**30**	**30**
RAILMW01 (MW-1)	6/11/1998	**20**	-	-	-	-	-	-
	9/15/1998	**14**	-	-	-	-	-	-
	12/21/1998	<1	-	-	-	-	-	-
	4/29/1999	<1	-	-	-	-	-	-
	10/22/2005	<1	-	-	-	-	0.24	-
	9/1/2010	2.5	0.52 J	0.59 J	<0.54	-	26	-
	3/2/2012	0.24	<1	<1	<2	<1	-	2
	11/4/2016	<1.0	<1.0	<1.0	<1.5	<0.010	-	**56**
	7/26/2018	<1.0	<1.0	<1.0	<1.5	**<1.0**	-	**272**
	4/23/2020	Well damaged; not sampled						
RAILMW02 (MW-2)	7/29/1996	<5	<5	<5	<5	<5	0.24	-
	11/1/1996	<5	<5	<5	<5	<5	<2.5	-
	2/6/1997	<5	<5	<5	<5	<5	<2.5	-
	6/11/1998	1.8	-	-	-	-	-	-
	9/15/1998	<1	-	-	-	-	-	-
	12/21/1998	<1	-	-	-	-	-	-
	4/29/1999	1.1	-	-	-	-	-	-
	12/2/1999	<1	<1	<1	<1	<1	<2.5	-
	11/4/2016	<1.0	<1.0	<1.0	<1.5	<0.010	-	<4.0
	7/25/2018	<1.0	<1.0	<1.0	<1.5	**<1.0**	-	<10
	4/23/2020	<1.0	<1.0	<1.0	<1.5	<0.0093	<9.0	<10
RAILMW03 (MW-3)	7/29/1996	5.2	<5	<5	<5	<5	<2.5	-
	11/1/1996	**13**	<5	<5	<5	<5	11	-
	2/6/1997	**34**	<5	<5	<5	<5	18	-
	6/11/1998	**150**	-	-	-	-	-	-
	9/15/1998	**41**	-	-	-	-	-	-
	12/21/1998	**17**	-	-	-	-	-	-
	4/29/1999	**29**	-	-	-	-	-	-
	12/2/1999	**18**	<1	<1	<1	<1	<2.5	-
	10/22/2005	**13**	-	-	-	-	**43**	-
	9/3/2010	**55.8**	0.25	0.39	0.73	-	**124**	-
	3/2/2012	**34**	0.27	0.27	0.46	<1	-	**250**
	11/4/2016	8.8	<1.0	<1.0	<1.5	<0.010	-	**220**
	7/26/2018	1.6	<1.0	<1.0	<1.5	**<1.0**	-	**185**
	4/23/2020	1.0	<1.0	<1.0	<1.5	<0.0095	**75**	**174**

TABLE 5
Laboratory Analytical Results - Groundwater
Voluntary Remediation Completion Report for the COA Rail Yards North, Albuquerque, Bernalillo County, New Mexico

Sample ID	Date	Organics (µg/L)						
		Benzene[1]	Toluene[1]	Ethylbenzene[1]	Total Xylenes[1]	EDB[2]	Total Naphthalenes[3, 4]	Total Naphthalenes[1, 4]
NMWQCC Standard		**5**	**1000**	**700**	**620**	**0.05**	**30**	**30**
RAILMW04 (MW-4)	7/29/1996	<5	<5	<5	<5	<5	<2.5	-
	11/1/1996	<5	<5	<5	<5	<5	<2.5	-
	2/6/1997	<5	<5	<5	<5	<5	<2.5	-
	6/11/1998	<1	-	-	-	-	-	-
	9/15/1998	<1	-	-	-	-	-	-
	12/21/1998	<1	-	-	-	-	-	-
	4/29/1999	<1	-	-	-	-	-	-
	12/2/1999	<1	<1	<1	<1	<1	<2.5	-
	10/22/2005	<1	-	-	-	-	0.29	-
	9/4/2010	<0.21	1.1	<0.2	<0.54	-	-	0.56
	11/4/2016	<1.0	<1.0	<1.0	<1.5	<0.010	-	8.8
	7/24/2018	<1.0	<1.0	<1.0	<1.5	**<1.0**	-	<10
	4/23/2020	<1.0	<1.0	<1.0	<1.5	<0.0094	<9.0	<10
RAILMW05 (MW-5)	7/29/1996	<1.0	<1.0	<1.0	<5	<5	<2.5	-
	11/1/1996	<1.0	<1.0	<1.0	<5	<5	<2.5	-
	2/6/1997	<1.0	<1.0	<1.0	<5	<5	<2.5	-
	6/11/1998	<1.0	<1.0	<1.0	-	-	-	-
	12/2/1999	<1.0	<1.0	<1.0	<1	<1	<2.5	-
	10/22/2005	<1.0	<1.0	<1.0	-	-	<0.1	-
	9/4/2010	<1.0	<1.0	<1.0	<0.54	-	<0.97	-
	11/4/2016	<1.0	<1.0	<1.0	<1.5	<0.010	-	<4.0
	7/24/2018	<1.0	<1.0	<1.0	<1.5	**<1.0**	-	<10
	4/23/2020	1.0	<1.0	<1.0	<1.5	<0.0093	<9.0	<10
RAILMW06 (MW-6)	7/29/1996	<1.0	<1.0	<1.0	<5	<5	<2.5	<4.0
	11/1/1996	<1.0	<1.0	<1.0	<5	<5	<2.5	<4.0
	2/6/1997	<1.0	<1.0	<1.0	<5	<5	<2.5	<4.0
	6/11/1998	<1.0	<1.0	<1.0	-	-	-	<4.0
	9/15/1998	<1.0	<1.0	<1.0	-	-	-	<4.0
	12/21/1998	<1.0	<1.0	<1.0	-	-	-	<4.0
	4/29/1999	<1.0	<1.0	<1.0	-	-	-	<4.0
	12/2/1999	<1.0	<1.0	<1.0	<1	<1	<2.5	<4.0
	10/16/2005	<1.0	<1.0	<1.0	<1.5	-	0.30	<4.0
	2/10/2010	<1.0	<1.0	<1.0	-	<0.18	-	<4.0
	11/4/2016	<1.0	<1.0	<1.0	<1.5	<0.010	-	<4.0
	7/24/2018	<1.0	<1.0	<1.0	<1.5	**<1.0**	-	<10
	4/24/2020	<1.0	<1.0	<1.0	<1.5	<0.0092	<9.0	<10

TABLE 5
Laboratory Analytical Results - Groundwater
Voluntary Remediation Completion Report for the COA Rail Yards North, Albuquerque, Bernalillo County, New Mexico

Sample ID	Date	Organics (µg/L)						
		Benzene[1]	Toluene[1]	Ethylbenzene[1]	Total Xylenes[1]	EDB[2]	Total Naphthalenes[3, 4]	Total Naphthalenes[1, 4]
NMWQCC Standard		**5**	**1000**	**700**	**620**	**0.05**	**30**	**30**
RAILMW07 (MW-7)	6/11/1998	<1.0	<1.0	<1.0	-	-	-	<4.0
	10/16/2005	<1.0	<1.0	<1.0	<1.5	-	0.32	<4.0
	9/4/2010	<1.0	<1.0	<1.0	<0.54	-	<0.95	<4.0
	11/4/2016	<1.0	<1.0	<1.0	<1.5	<0.010	-	<4.0
	7/25/2018	<1.0	<1.0	<1.0	<1.5	**<1.0**	-	<10
	4/23/2020	1.0	<1.0	<1.0	<1.5	<0.0094	<9.0	<10
RAILMW08 (MW-8)	6/11/1998	<1.0	<1.0	<1.0	-	-	-	<4.0
	10/16/2005	<1.0	<1.0	<1.0	<1.5	-	0.3	<4.0
	2/11/2010	<1.0	<1.0	<1.0	-	<0.18	-	<4.0
	11/4/2016	<1.0	<1.0	<1.0	<1.5	<0.010	-	<4.0
	7/20/2018	<1.0	<1.0	<1.0	<1.5	**<1.0**	-	<10
	4/22/2020	<1.0	<1.0	<1.0	<1.5	<0.0094	<9.0	<10
RAILMW09 (MW-9)	4/19/2000	<1	<1	<1	<1	<1	-	-
	10/22/2005	<1	-	-	-	-	-	-
	2/10/2010	<0.16	<0.17	<0.16	-	<0.18	-	-
	11/4/2016	No sample collected. Could not locate well.						
	7/25/2018	No sample collected. Could not locate well.						
	4/22/2020	No sample collected. Could not locate well.						
RAILMW10	7/24/2018	<1.0	<1.0	<1.0	<1.5	**<1.0**	-	<10
	4/23/2020	<1.0	<1.0	<1.0	<1.5	<0.0094	<9.0	<10
RAILMW11	4/23/2020	1.0	<1.0	<1.0	<1.5	<0.0094	<9.0	2.5

Notes:

Bold, red font indicates values or RLs in excess of the NMWQCC Standard.

[1] = Analyzed by EPA Method 8260B.

[2] = Analyzed by EPA Method 504.1 or Method 8260B.

[3] = Analyzed by EPA Method 8230.

[4] = Total naphthalenes includes the sum of naphthalene, 1-methylnaphthalene, and 2-methylnaphthalene. RL for total naphthalenes = highest RL for individual compounds; when summing detections, values listed as "<" RL in the laboratory report are assumed to be 0.

µg/L = microgram(s) per liter.

BTEX = benzene, toluene, ethylbenzene, and total xylenes.

EDB = 1,2-dibromoethane.

NMWQCC = New Mexico Water Quality Control Commission.

NMWQCC Standard = Groundwater Standards as defined by the State of New Mexico Water Quality Control Commission (NMWQCC, 2002). Standard were updated Dec 2018; results reported after that date reflect the latest Standards.

RL = laboratory reporting limit.

TABLE 6
Laboratory Analytical Results - Soil Vapor
Voluntary Remediation Completion Report for the COA Rail Yards North, Albuquerque, Bernalillo County, New Mexico

Location	Sample ID	Date	Concentration (µg/m^3)														
			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	Trichloroethene
NMED Residential VISL			**173810**	**-**	**-**	**-**	**187.2**	**-**	**120**	**156**	**374.4**	**27.53**	**3476**	**3476**	**1390**	**173810**	**69.5**
NMED Industrial VISL			**819304**	**-**	**-**	**-**	**917.6**	**-**	**588.2**	**764.7**	**1835**	**134.9**	**16386**	**16386**	**6554**	**819304**	**328**
SV-07-01	SV-07-01	11/2/2016	<10	<10	<10	<10	<10	<10	<10	<10	<10	2.5	<10	<10	<10	<10	<10
	RYSV0701	7/19/2018	4.8	<2	<2	<2.4	<1.4	-	<1.3	<2.5	<1.7	<6.6	-	<3.5	11	2.4	<2.1
SV-07-02	SV-07-02	11/2/2016	17.4	<10	<10	1013.24	<10	<10	11.89	<10	14.41	2.5	<10	39.65	<10	126.72	<10
	RYSV0702	7/19/2018	62	<2	<2	<2.4	<1.4	-	<1.3	<2.5	<1.7	<6.6	-	<3.5	3.3	<1.5	<2.1
SV-07-03	SV-07-03	11/2/2016	<10	<10	<10	1127.89	12.68	<10	10.85	<10	14.04	2.5	<10	37.35	<10	93.8	<10
	RYSV0703	7/19/2018	3.5	11	<2	<2.4	<1.4	-	<1.3	<2.5	<1.7	<6.6	-	6.1	30	2.2	**360**
SV-07-04	SV-07-04	11/2/2016	<10	<10	<10	1109.66	<10	<10	<10	<10	16.45	2.5	10.91	43.8	<10	121.69	<10
	RYSV0704	7/19/2018	<2.2	<2	<2	<2.4	<1.4	-	<1.3	<2.5	<1.7	<6.6	-	<3.5	4.8	<1.5	<2.1
SV-08-01 (SV-08-01R)	SV-08-01	11/3/2016	<10	<10	<10	130.6	<10	<10	<10	<10	<10	2.5	<10	<10	<10	29.05	<10
	RYSV0801R	7/19/2018	<2.2	6.2	2.4	<2.4	<1.4	-	<1.3	<2.5	<1.7	<6.6	-	<3.5	11	<1.5	<2.1
SV-08-02 (SV-08-02R)	SV-08-02	11/2/2016	<10	<10	<10	113.95	<10	<10	<10	<10	<10	2.5	<10	<10	<10	21.02	<10
	RYSV0802R	7/19/2018	<2.2	9.6	2.7	<2.4	<1.4	-	<1.3	<2.5	<1.7	27	-	<3.5	<2.7	2	<2.1
SV-08-03	SV-08-03	10/31/2016	16.02	<10	<10	1207.58	12.82	<10	10.18	<10	<10	2.5	<10	<10	<10	52.86	<10
	RYSV0803	7/19/2018	86	<2	<2	<2.4	<1.4	-	<1.3	<2.5	<1.7	<6.6	-	3.8	9.8	17	<2.1
SV-08-04	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
	RYSV0804	7/19/2018	<2.2	3.1	<2	<2.4	<1.4	-	2.6	<2.5	4.1	<6.6	-	5.3	84	6	3.7
SV-08-05	SV-08-05	11/2/2016	<10	<10	<10	904.26	<10	16.43	<10	<10	11.07	**59.69**	<10	30.27	<10	65.96	<10
	RYSV0805	7/19/2018	21	5.8	<2	<2.4	3.8	-	<1.3	<2.5	<1.7	<6.6	-	<3.5	5.6	<1.5	<2.1
SV-08-06	SV-08-06	11/2/2016	18.38	<10	<10	974.36	<10	<10	<10	<10	12.02	12.95	<10	33.56	<10	70.62	<10
	RYSV0806	7/19/2018	64	<2	<2	<2.4	<1.4	-	<1.3	<2.5	<1.7	12	-	<3.5	6.5	2	<2.1

TABLE 6
Laboratory Analytical Results - Soil Vapor
Voluntary Remediation Completion Report for the COA Rail Yards North, Albuquerque, Bernalillo County, New Mexico

Location	Sample ID	Date	Concentration (µg/m^3)														
			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	Trichloroethene
NMED Residential VISL			**173810**	**-**	**-**	**-**	**187.2**	**-**	**120**	**156**	**374.4**	**27.53**	**3476**	**3476**	**1390**	**173810**	**69.5**
NMED Industrial VISL			**819304**	**-**	**-**	**-**	**917.6**	**-**	**588.2**	**764.7**	**1835**	**134.9**	**16386**	**16386**	**6554**	**819304**	**328**
SV-08-07	SV-08-07	11/3/2016	10.17	<10	<10	470.72	<10	21.28	<10	<10	18.63	**89.4**	12.78	46.51	<10	106.17	<10
	RYSV0807	7/19/2018	25	<2	<2	<2.4	<1.4	-	<1.3	<2.5	<1.7	<6.6	-	<3.5	<2.7	<1.5	<2.1
SV-08-08 (SV-08-08R)	SV-08-08	11/3/2016	<10	<10	<10	794.56	<10	<10	<10	<10	13.59	4.22	<10	35.28	<10	94.74	<10
	RYSV0808R	7/19/2018	2.6	2	<2	<2.4	<1.4	-	<1.3	<2.5	<1.7	<6.6	-	<3.5	3.1	1.9	4.3
SV-08-09 (SV-08-09R)	SV-08-09	11/2/2016	<10	<10	<10	834.78	<10	<10	<10	<10	<10	7.38	<10	23.46	<10	45.32	<10
	RYSV0809R	7/19/2018	<2.2	<2	<2	<2.4	<1.4	-	<1.3	<2.5	<1.7	<6.6	-	<3.5	<2.7	<1.5	<2.1
SV-08-10 (SV-08-10R)	SV-08-10	11/2/2016	<10	46.07	17.41	626.19	<10	13.25	<10	11.31	10.95	**55**	<10	27.47	<10	47.67	<10
	RYSV0810R	7/19/2018	17	5.5	3.6	<2.4	<1.4	-	<1.3	46	<1.7	18	-	<3.5	<2.7	26	43

Notes:

Bold, red font indicates values or RLs in excess of the NMED VISL (NMED, 2019).

Analyzed by EPA Method TO-15 or TO-17.

- = none established or not analyzed.

µg/m^3 = micrograms per cubic meters.

NMED = New Mexico Environment Department.

VISL = vapor instrusion screening level.

APPENDIX A

COA RAIL YARDS NORTH – LEGAL DESCRIPTION

LEGAL DESCRIPTION

COMMENCING AT THE ACS MONUMENT STAMPED "18-KI4", HAYING NEW MEXICO STATE PLANE COORDINATE VALUES (CENTRAL ZONE) (NAD83(1 l)) OF N-1486053.605 AND E-1521576.548:

THENCE S. 11' 28' 27" W. A DISTANCE OF 2,381.68 FEET TO A POINT ON A LINE LYING 15 FEET WESTERLY OF, NORMALLY DISTANT FROM AND PARALLEL WITH THE CENTERLINE OF THE THAT CERTAIN LINE OF RAILROAD DESIGNATED IN THE RECORDS OF THE ATCHISON, TOPEKA AND SANTA FE RAILWAY COMPANY AS THE ALBUQUERQUE STATION SIDE TRACT NUMBER 343, ALSO BEING THE TRUE POINT OF BEGINNING AND THE NORTHEAST CORNER OF THE TRACT OF LAND HEREIN DESCRIBED:

THENCE SOUTHERLY ON THE LAST DESCRIBED PARALLEL LINE, S.01' 02' 27" E., A DISTANCE OF 404.99 FEET TO A POINT OF CURVATURE:

THENCE CONTINUING SOUTHERLY, CONCENTRIC WITH AND 15 FEET WESTERLY FROM THE CENTER LINE OF SAID SIDE TRACT NUMBER 343, ON A TANGENT CURVE TO THE RIGHT, HAYING A RADIUS OF 1,150.74 FEET AND A CENTRAL ANGLE OF 05' 34' 23" FOR AN ARC DISTANCE OF 111.93 FEET;

THENCE EASTERLY ON A BEARING OF S. 80' 51' 38" E., BEING ONE FOOT, MORE OR LESS, NORTHERLY OF THE NORTHERLY FACE OF A BUILDING, A DISTANCE OF 3.72 FEET TO THE INTERSECTION WITH A LINE LYING 9 FEET WESTERLY OF, NORMALLY DISTANT FROM AND PARALLEL WITH THE CENTER LINE OF THAT CERTAIN LINE OF RAILROAD DESIGNATED IN THE RECORDS OF THE ATCHISON, TOPEKA AND SANTA FE RAILWAY COMPANY AS THE ALBUQUERQUE STATION SIDE TRACT NUMBER 113;

THENCE SOUTHERLY ON THE LAST DESCRIBED PARALLEL LINE, BEARINGS. 09' 08' 22" W., AND BEING 0.4 FEET, MORE OR LESS, EASTERLY OF THE EASTERLY FACE OF SAID BUILDING, FOR A DISTANCE OF 308.09 FEET;

THENCE WESTERLY ON A BEARING OF N. 80' 51' 38" W., BEING ONE FOOT, MORE OR LESS, SOUTHERLY OF THE SOUTHERLY FACE OF SAID BUILDING, A DISTANCE OF 1.00 FOOT TO THE INTERSECTION WITH A LINE LYING IO.O FEET WESTERLY OF, NORMALLY DISTANT FROM AND PARALLEL WITH THE CENTER LINE OF SAID SIDE TRACT NUMBER 113;

THENCE SOUTHERLY ON THE LAST DESCRIBED PARALLEL LINE, BEARINGS. 09' 08' 22" W., A DISTANCE OF 87.55 FEET TO THE SOUTHEAST CORNER OF THE HEREIN DESCRIBED TRACT;

THENCE WESTERLY ON A BEARING OF N. 80' 53' 58" W., FOR A DISTANCE OF 649.27 FEET TO THE INTERSECTION WITH THE EASTERLY RIGHT OF WAY LINE OF SECOND STREET SW, ALSO BEING THE WESTERLY PROPERTY LINE OF SAID RAILWAY COMPANY AND THE SOUTHEAST CORNER OF THE HEREIN DESCRIBED TRACT;

THENCE NORTHERLY ON THE EASTERLY RIGHT OF WAY LINE OF SAID SECOND STREET SW AND THE WESTERLY PROPERTY LINE OF SAID RAILWAY COMPANY, BEARING N. 09' 00' 16" E., A DISTANCE OF 409.31 FEET TO A POINT OF CURVATURE AND THE INTERSECTION WITH THE SOUTHEASTERLY RIGHT OF WAY LINE OF FIRST/SECOND STREET SW CONNECTION;

THENCE CONTINUING NORTHEAS TERLY, ON A TANGENT CURVE TO THE RIGHT, HAYING A RADIUS OF 137 FEET AND A CENTRAL ANGLE OF 45' 11' 32" FORAN ARC DISTANCE OF !08.06 FEET;

THENCE NORTHEASTERLY ON THE SOUTHEASTERLY RIGHT OF WAY LINE OF SAID FIRST/SECOND STREET SW CONNECTION AND THE NORTHWESTERLY PROPERTY LINE OF SAID RAILWAY COMPANY, BEARING N. 54' 11' 40" E., A DISTANCE OF 564.50 FEET TO THE NORTHWEST CORNER OF THE HEREIN DESCRIBED TRACT;

THENCE ON A BEARING OF S. 80' 59' 32" E., A DISTANCE OF 121.78 FEET TO THE TRUE POINT OF BEGINNING.

APPENDIX B

Field Notes and Field Forms

Project Name: COA Rail Yards
Water Level Instrument: Solinist

Project No.:
Site Location:

Well	Date	Time	Depth to PSH (ft bmp)	Depth to Water (ft bmp)	Total Depth (ft bmp)	Description of Measuring Point	GPS Coordinate Northing	GPS Coordinate Easting	Gauger Initials	Comments
RAILMW8	4/22/20	0817		21.16	46.11	North TOC			KLC	
RAILMW6	4/22/20	0823		25.72	49.28	North TOC			KLC	
RAILMW07	4/22/20	0836		21.24	44.85	North TOC			KLC	
RAILMW02	4/23/20	0905		17.50	41.34	North TOC			KLC	
RAILMW03	4/23/20	0914		22.01	44.75	North TOC			KLC	
RAILMW01	4/23/20	0910		(6.10	Well	Blocked, Casing/Riser	have			been hit - Broken
RAILMW04	4/23/20	0924		22.92	44.48	North TOC			KLC	
RAILMW05	4/23/20	0927		24.00	46.16	North TOC			KLC	
RAILMW11	4/23/20	1334		18.85	39.55	North TOC			KLC	
RAILMW10	4/23/20	1454		21.60	38.38	North TOC			KLC	

INTERA
GEOSCIENCE & ENGINEERING SOLUTIONS

Standard Operating Procedure
SOP 30: Field Form 5 – STANDARD PURGING and SAMPLING DATA

PROJECT NAME: COA Rail Yards
PROJECT NO.: _____ DATE: 4/22/20 FIELD CREW: Konrad Clark
WELL NO.: RAILMW02E

WATER LEVEL AND WATER COLUMN HEIGHT

TIME	DEPTH TO BOTTOM OF WELL (DTB) (ft btoc)	DEPTH TO WATER (DTW) (ft btoc)	Water Column Height (DTB-DTW) (ft)
	46.11	21.16	24.95

ft btoc: feet below top of casing from designated measuring point

PURGE VOLUME

Well Casing Diameter (inches)	Volume/Linear Foot (see conversion table below)	1 Well Volume (gal)	2 Well Volumes (gal)	3 Well Volumes (gal)
2" & 3	4.24			~~12.7~~ 28.4

VOLUME/LINEAR FOOT (gal/ft) (Use well casing ID)

1" = 0.04	1.5" = 0.09	2" = 0.17	3" = 0.38	4" = 0.66	6" = 1.5	8" = 2.6	10" = 4.1

1 well casing volume = Volume/Linear Foot x Water Column Height

METHOD OF PURGING: Disposable bailer
METHOD OF SAMPLING: Disposable bailer

WATER LEVEL/WATER QUALITY INSTRUMENTS USED

INSTRUMENT	SERIAL NO.	TIME CALIBRATION PERFORMED	TECH	COMMENTS
YSI		0855	KLC	

WATER QUALITY READINGS DURING PURGING

TIME	TEMP (°C)	pH	SP. COND. (µS/cm)	TURB. (NTU)*	DO (mg/L)	ORP (mV)	Total Purge Volume (gal)	Comments (color/odor)
0907	19.0	6.90	112.3				0.6	Start
0918	19.2	7.11	1.2				2.6	Turbid/None
0926	18.8	7.17	259.6				5.2	" "
0938	18.3	7.10	954				9.6	" "
0951	18.8	7.05	437.1				14.8	Lt turbid/None
1010	18.8	7.14	1063				19.6	" "
1051	18.6	7.20	1050				25.0	" "
1107	18.8	7.21	1073				29.0	" "

*If measured.
Stabilization = **Temp** ±1°C; **pH** ±0.2 units; **Sp. Cond.** ±10%; **Turb.** ±10%

WATER QUALITY READINGS DURING PURGING (continued)

TIME	TEMP (°C)	pH	SP. COND. (µS/cm)	TURB. (NTU)*	DO (mg/L)	ORP (mV)	Total Volume Purged (gal)	Comments (color/odor)

*If measured.
Stabilization = **Temp** ±1°C; **pH** ±0.2 units; **Sp. Cond.** ±10%; **Turb.** ±10%

GROUNDWATER SAMPLING DATA

GROUNDWATER SAMPLE ID: RAILMW08 DUPLICATE SAMPLE ID: _____

Time	Bottle Type	Analytical Method	# of Bottles	Volume	Preservative
1126	VOA	8260	6	40ml	HCL
1126	VOA	504.1	2	40ml	Sodium Thiosulfate
1126	Amber	8310	1	1L	None
1126	Amber	TPH DRO GRO	1	250ml	None
1126	HDPE	Dissolved Metals	1	125ml	HNO3
		TOTAL:			

Sampler: Konrad Clark (Printed Name) _____ (Signature)

PROJECT NAME: COA Rail Yards WELL NO.: RAILMW87
PROJECT NO.: _____ DATE: 4/23/20 FIELD CREW: Konrad Craik

WATER LEVEL AND WATER COLUMN HEIGHT

TIME	DEPTH TO BOTTOM OF WELL (DTB) (ft btoc)	DEPTH TO WATER (DTW) (ft btoc)	Water Column Height (DTB-DTW) (ft)
	44.85	21.24	23.61

ft btoc: feet below top of casing from designated measuring point

PURGE VOLUME

Well Casing Diameter (inches)	Volume/Linear Foot (see conversion table below)	1 Well Volume (gal)	2 Well Volumes (gal)	3 Well Volumes (gal)
2	4.01			12.0

VOLUME/LINEAR FOOT (gal/ft) (Use well casing ID)

1" = 0.04	1.5" = 0.09	2" = 0.17	3" = 0.38	4" = 0.66	6" = 1.5	8" = 2.6	10" = 4.1

1 well casing volume = Volume/Linear Foot x Water Column Height

METHOD OF PURGING: Disposable bailer
METHOD OF SAMPLING: Disposable bailer

WATER LEVEL/WATER QUALITY INSTRUMENTS USED

INSTRUMENT	SERIAL NO.	TIME CALIBRATION PERFORMED	TECH	COMMENTS
YSI		0655	KLC	

WATER QUALITY READINGS DURING PURGING

TIME	TEMP (°C)	pH	SP. COND. (µS/cm)	TURB. (NTU)*	DO (mg/L)	ORP (mV)	Total Purge Volume (gal)	Comments (color/odor)
0711								Start
0714	18.3	6.54	792				1.1	turbid Brn / None
0719	18.7	6.65	769				3.1	Lt turbid Brn / None
0723	18.7	6.69	897				5.6	" "
0728	18.8	6.68	930				8.9	" "
0732	18.7	6.71	899				11.0	" "
0734	18.8	6.69	875				12.2	" "

*If measured.
Stabilization = **Temp** ±1°C; **pH** ±0.2 units; **Sp. Cond.** ±10%; **Turb.** ±10%

WATER QUALITY READINGS DURING PURGING (continued)

TIME	TEMP (°C)	pH	SP. COND. (µS/cm)	TURB. (NTU)*	DO (mg/L)	ORP (mV)	Total Volume Purged (gal)	Comments (color/odor)

*If measured.
Stabilization = **Temp** ±1°C; **pH** ±0.2 units; **Sp. Cond.** ±10%; **Turb.** ±10%

GROUNDWATER SAMPLING DATA

GROUNDWATER SAMPLE ID: RAFLMW07 DUPLICATE SAMPLE ID: _____

Time	Bottle Type	Analytical Method	# of Bottles	Volume	Preservative
0750	VOA	8260	6	40ml	HCL
0750	VOA	504.1	2	40ml	Sodium Thiosulfide
0750	Amber	8310	1	1L	None
0750	Amber	TPH DRO GRO	1	250ml	None
0750	HDPE	Dissolved Metals	1	125ml	HZSO4
		TOTAL:			

Sampler: Konrad Clark _____
(Printed Name) **(Signature)**

PROJECT NAME: CoA Rail Yards WELL NO.: RAILMW02
PROJECT NO.: _____ DATE: 4/23/20 FIELD CREW: Konrad Clark

WATER LEVEL AND WATER COLUMN HEIGHT

TIME	DEPTH TO BOTTOM OF WELL (DTB) (ft btoc)	DEPTH TO WATER (DTW) (ft btoc)	Water Column Height (DTB-DTW) (ft)
0905	41.34	17.50	23.84

ft btoc: feet below top of casing from designated measuring point

PURGE VOLUME

Well Casing Diameter (inches)	Volume/Linear Foot (see conversion table below)	1 Well Volume (gal)	2 Well Volumes (gal)	3 Well Volumes (gal)
2	4.05			12.1

VOLUME/LINEAR FOOT (gal/ft) (Use well casing ID)

1" = 0.04	1.5" = 0.09	2" = 0.17	3" = 0.38	4" = 0.66	6" = 1.5	8" = 2.6	10" = 4.1

1 well casing volume = Volume/Linear Foot x Water Column Height

METHOD OF PURGING: Disposable bailer
METHOD OF SAMPLING: Disposable bailer

WATER LEVEL/WATER QUALITY INSTRUMENTS USED

INSTRUMENT	SERIAL NO.	TIME CALIBRATION PERFORMED	TECH	COMMENTS
YSI		0655	KLC	

WATER QUALITY READINGS DURING PURGING

TIME	TEMP (°C)	pH	SP. COND. (µS/cm)	TURB. (NTU)*	DO (mg/L)	ORP (mV)	Total Purge Volume (gal)	Comments (color/odor)
0943		Jke						
0947	18.0	7.01	701					Start
0950	18.2	6.99	736				1.5	mostly clear/brown
0955	18.2	7.01	741				3.9	Clear / Hydro
1000	18.2	7.02	742				6.5	" "
1005	18.1	7.04	744				10.0	" "
1007	18.1	7.03	744				11.2	" "
							12.2	" "

*If measured.
Stabilization = **Temp** ±1°C; **pH** ±0.2 units; **Sp. Cond.** ±10%; **Turb.** ±10%

WATER QUALITY READINGS DURING PURGING (continued)

TIME	TEMP (°C)	pH	SP. COND. (µS/cm)	TURB. (NTU)*	DO (mg/L)	ORP (mV)	Total Volume Purged (gal)	Comments (color/odor)

*If measured.
Stabilization = **Temp** ±1°C; **pH** ±0.2 units; **Sp. Cond.** ±10%; **Turb.** ±10%

GROUNDWATER SAMPLING DATA

GROUNDWATER SAMPLE ID: RAILMW02 DUPLICATE SAMPLE ID: _____

Time	Bottle Type	Analytical Method	# of Bottles	Volume	Preservative
1020	VOA	8260	6	40ml	HCL
1020	VOA	504.1	3	40ml	Sodium Thiosulfate
1020	Amber	8310	1	1L	None
1020	Amber	TPH DRO GRO	1	250ml	None
1020	HDPE	Dissolved Metals	1	125ml	H2SO4
		TOTAL:			

Sampler: Konrad Clark (Printed Name) _____ (Signature)

PROJECT NAME: COA Rail Yards WELL NO.: RAILMW03
PROJECT NO.: _____ DATE: 4/23/20 FIELD CREW: Conrad Clark

WATER LEVEL AND WATER COLUMN HEIGHT

TIME	DEPTH TO BOTTOM OF WELL (DTB) (ft btoc)	DEPTH TO WATER (DTW) (ft btoc)	Water Column Height (DTB-DTW) (ft)
0919	44.75	22.01	22.74

ft btoc: feet below top of casing from designated measuring point

PURGE VOLUME

Well Casing Diameter (inches)	Volume/Linear Foot (see conversion table below)	1 Well Volume (gal)	2 Well Volumes (gal)	3 Well Volumes (gal)
2	3.86			11.6

VOLUME/LINEAR FOOT (gal/ft) (Use well casing ID)

1" = 0.04	1.5" = 0.09	2" = 0.17	3" = 0.38	4" = 0.66	6" = 1.5	8" = 2.6	10" = 4.1

1 well casing volume = Volume/Linear Foot x Water Column Height

METHOD OF PURGING: Disposable bailer
METHOD OF SAMPLING: Disposable bailer

WATER LEVEL/WATER QUALITY INSTRUMENTS USED

INSTRUMENT	SERIAL NO.	TIME CALIBRATION PERFORMED	TECH	COMMENTS

WATER QUALITY READINGS DURING PURGING

TIME	TEMP (°C)	pH	SP. COND. (µS/cm)	TURB. (NTU)*	DO (mg/L)	ORP (mV)	Total Purge Volume (gal)	Comments (color/odor)
1047	~~19.9~~	~~6.70~~	~~715~~ KC					Start
1050	19.9	6.70	715				1.5	Clear/None
1053	19.7	6.70	734				4.2	" "
1058	19.7	6.71	745				6.8	" "
1102	19.6	6.71	751				9.2	" "
1107	19.7	6.72	753				11.6	" "

*If measured.
Stabilization = **Temp** ±1°C; **pH** ±0.2 units; **Sp. Cond.** ±10%; **Turb.** ±10%

WATER QUALITY READINGS DURING PURGING (continued)

TIME	TEMP (°C)	pH	SP. COND. (µS/cm)	TURB. (NTU)*	DO (mg/L)	ORP (mV)	Total Volume Purged (gal)	Comments (color/odor)

*If measured.
Stabilization = **Temp** ±1°C; **pH** ±0.2 units; **Sp. Cond.** ±10%; **Turb.** ±10%

GROUNDWATER SAMPLING DATA

GROUNDWATER SAMPLE ID: RAILMW03 DUPLICATE SAMPLE ID: _____

Time	Bottle Type	Analytical Method	# of Bottles	Volume	Preservative
1119	VOA	8260	6	40ml	HCL
1119	VOA	504.1	2	40ml	Sodium Thiosulfate
1119	Amber	8310	1	1L	None
1119	Amber	TPH DRO GRO	1	250ml	None
1119	HDPE	Dissolved metals	1	125ml	H2SO4
		TOTAL:			

Sampler: Konrad Clark _____
(Printed Name) **(Signature)**

PROJECT NAME: CA Rail Yards WELL NO.: RAILMW04
PROJECT NO.: _____ DATE: 4/23/20 FIELD CREW: Conrad Clark

WATER LEVEL AND WATER COLUMN HEIGHT

TIME	DEPTH TO BOTTOM OF WELL (DTB) (ft btoc)	DEPTH TO WATER (DTW) (ft btoc)	Water Column Height (DTB-DTW) (ft)
0924	44.48	22.92	21.56

ft btoc: feet below top of casing from designated measuring point

PURGE VOLUME

Well Casing Diameter (inches)	Volume/Linear Foot (see conversion table below)	1 Well Volume (gal)	2 Well Volumes (gal)	3 Well Volumes (gal)
2	3.66			10.9

VOLUME/LINEAR FOOT (gal/ft) (Use well casing ID)

1" = 0.04	1.5" = 0.09	2" = 0.17	3" = 0.38	4" = 0.66	6" = 1.5	8" = 2.6	10" = 4.1

1 well casing volume = Volume/Linear Foot x Water Column Height

METHOD OF PURGING: Disposable Bailer
METHOD OF SAMPLING: Disposable Bailer

WATER LEVEL/WATER QUALITY INSTRUMENTS USED

INSTRUMENT	SERIAL NO.	TIME CALIBRATION PERFORMED	TECH	COMMENTS
YSI		0655	KLC	

WATER QUALITY READINGS DURING PURGING

TIME	TEMP (°C)	pH	SP. COND. (µS/cm)	TURB. (NTU)*	DO (mg/L)	ORP (mV)	Total Purge Volume (gal)	Comments (color/odor)
1139								Start
1141	19.4	7.02	597				1	Clear/none
1148	19.3	6.98	559				4.6	" / Lt Hydr
1158	19.7	6.97	555				6.4	" / "
1204	19.4	6.96	561				9.7	" / "

*If measured.
Stabilization = **Temp** ±1°C; **pH** ±0.2 units; **Sp. Cond.** ±10%; **Turb.** ±10%

WATER QUALITY READINGS DURING PURGING (continued)

TIME	TEMP (°C)	pH	SP. COND. (µS/cm)	TURB. (NTU)*	DO (mg/L)	ORP (mV)	Total Volume Purged (gal)	Comments (color/odor)

*If measured.
Stabilization = **Temp** ±1°C; **pH** ±0.2 units; **Sp. Cond.** ±10%; **Turb.** ±10%

GROUNDWATER SAMPLING DATA

GROUNDWATER SAMPLE ID: _____ DUPLICATE SAMPLE ID: _____

Time	Bottle Type	Analytical Method	# of Bottles	Volume	Preservative
1219	VOA	8260	6	40ml	HCL
1219	VOA	5041	2	40ml	Sodium Thiosulfate
1219	Amber	8310	1	1L	None
1219	Amber	TPH DRO GRO	1	250ml	None
1219	HDPE	Dissolved metals	1	125ml	HNO3
		TOTAL:			

Sampler: Konrad Clark _____
(Printed Name) **(Signature)**

PROJECT NAME: COA Rail Yards WELL NO.: RAILMW05
PROJECT NO.: _____ DATE: 4/23/20 FIELD CREW: Konrad Clark

WATER LEVEL AND WATER COLUMN HEIGHT

TIME	DEPTH TO BOTTOM OF WELL (DTB) (ft btoc)	DEPTH TO WATER (DTW) (ft btoc)	Water Column Height (DTB-DTW) (ft)
0927	46.16	24.00	22.16

ft btoc: feet below top of casing from designated measuring point

PURGE VOLUME

Well Casing Diameter (inches)	Volume/Linear Foot (see conversion table below)	1 Well Volume (gal)	2 Well Volumes (gal)	3 Well Volumes (gal)
2	3.76			11.3

VOLUME/LINEAR FOOT (gal/ft) (Use well casing ID)

1" = 0.04	1.5" = 0.09	2" = 0.17	3" = 0.38	4" = 0.66	6" = 1.5	8" = 2.6	10" = 4.1

1 well casing volume = Volume/Linear Foot x Water Column Height

METHOD OF PURGING: Disposable bailer
METHOD OF SAMPLING: Disposable Bailer

WATER LEVEL/WATER QUALITY INSTRUMENTS USED

INSTRUMENT	SERIAL NO.	TIME CALIBRATION PERFORMED	TECH	COMMENTS
YSI		0655	KLC	

WATER QUALITY READINGS DURING PURGING

TIME	TEMP (°C)	pH	SP. COND. (µS/cm)	TURB. (NTU)*	DO (mg/L)	ORP (mV)	Total Purge Volume (gal)	Comments (color/odor)
1240								Start
1242	19.4	7.18	488				0.8	Clear/None
1247	19.1	6.76	622				3.9	Clear None
1253	19.3	6.65	772				6.5	" "
1259	18.9	6.59	~~480~~	833			9.7	" "
1303	19.0	6.58	856				11.5	" "

*If measured.
Stabilization = **Temp** ±1°C; **pH** ±0.2 units; **Sp. Cond.** ±10%; **Turb.** ±10%

WATER QUALITY READINGS DURING PURGING (continued)

TIME	TEMP (°C)	pH	SP. COND. (µS/cm)	TURB. (NTU)*	DO (mg/L)	ORP (mV)	Total Volume Purged (gal)	Comments (color/odor)

*If measured.
Stabilization = **Temp** ±1°C; **pH** ±0.2 units; **Sp. Cond.** ±10%; **Turb.** ±10%

GROUNDWATER SAMPLING DATA

GROUNDWATER SAMPLE ID: RAILMW05 DUPLICATE SAMPLE ID: _____

Time	Bottle Type	Analytical Method	# of Bottles	Volume	Preservative
1317	VOA	8260	6	40ml	HCL
1317	VOA	5041	2	40ml	Sodium Thiosulfate
1317	Amber	8310	1	1L	None
1317	Amber	TPH DRO GRO	1	250ml	None
1317	HDPE	Dissolved Metals	1	125ml	H2SO4
		TOTAL:			

Sampler: Konrad Clark _____
(Printed Name) **(Signature)**

PROJECT NAME: COA Rail Yards WELL NO.: RAIL MW11
PROJECT NO.: _____ DATE: 4/23/20 FIELD CREW: Conrad Clark

WATER LEVEL AND WATER COLUMN HEIGHT

TIME	DEPTH TO BOTTOM OF WELL (DTB) (ft btoc)	DEPTH TO WATER (DTW) (ft btoc)	Water Column Height (DTB-DTW) (ft)
1334	39.55	18.85	20.7

ft btoc: feet below top of casing from designated measuring point

PURGE VOLUME

Well Casing Diameter (inches)	Volume/Linear Foot (see conversion table below)	1 Well Volume (gal)	2 Well Volumes (gal)	3 Well Volumes (gal)
2	3.51			10.5

VOLUME/LINEAR FOOT (gal/ft) (Use well casing ID)

1" = 0.04	1.5" = 0.09	2" = 0.17	3" = 0.38	4" = 0.66	6" = 1.5	8" = 2.6	10" = 4.1

1 well casing volume = Volume/Linear Foot x Water Column Height

METHOD OF PURGING: disposable bailer
METHOD OF SAMPLING: disposable bailer

WATER LEVEL/WATER QUALITY INSTRUMENTS USED

INSTRUMENT	SERIAL NO.	TIME CALIBRATION PERFORMED	TECH	COMMENTS
YSI		0655	KLC	

WATER QUALITY READINGS DURING PURGING

TIME	TEMP (°C)	pH	SP. COND. (µS/cm)	TURB. (NTU)*	DO (mg/L)	ORP (mV)	Total Purge Volume (gal)	Comments (color/odor)
1344								Start
1346	19.3	7.03	309.2				1.0	clear / None
1351	19.3	7.02	708				4.5	cle / Hydro / Lt. Sheen
1356	19.2	7.04	700				6.4	" "
1359	19.3	7.03	699				8.0	" "
1401	19.3	7.03	699				9.5	" "
1403	19.3	7.04	699				10.5	" "

*If measured.
Stabilization = **Temp** ±1°C; **pH** ±0.2 units; **Sp. Cond.** ±10%; **Turb.** ±10%

WATER QUALITY READINGS DURING PURGING (continued)

TIME	TEMP (°C)	pH	SP. COND. (µS/cm)	TURB. (NTU)*	DO (mg/L)	ORP (mV)	Total Volume Purged (gal)	Comments (color/odor)

*If measured.
Stabilization = **Temp** ±1°C; **pH** ±0.2 units; **Sp. Cond.** ±10%; **Turb.** ±10%

GROUNDWATER SAMPLING DATA

GROUNDWATER SAMPLE ID: RAILMW11 DUPLICATE SAMPLE ID: _____

Time	Bottle Type	Analytical Method	# of Bottles	Volume	Preservative
1416	VOA	8260	6	40ml	HCL
1416	VOA	SO4,1	2	40ml	Sodium Thiosulfate
1416	Amber	8310	1	1L	None
1416	Amber	TPH DRO GRO	1	250ml	None
1416	HDPE	Dissolved Metals	1	125ml	H2SO4
		TOTAL:			

Sampler: Konrad Clark _____
(Printed Name) **(Signature)**

PROJECT NAME: COA Rail Yards WELL NO.: RAILMW10
PROJECT NO.: _____ DATE: 4/23/20 FIELD CREW: Konrad Clark

WATER LEVEL AND WATER COLUMN HEIGHT

TIME	DEPTH TO BOTTOM OF WELL (DTB) (ft btoc)	DEPTH TO WATER (DTW) (ft btoc)	Water Column Height (DTB-DTW) (ft)
1454	38.38	21.60	16.78

ft btoc: feet below top of casing from designated measuring point

PURGE VOLUME

Well Casing Diameter (inches)	Volume/Linear Foot (see conversion table below)	1 Well Volume (gal)	2 Well Volumes (gal)	3 Well Volumes (gal)
2	2.85			8.5

VOLUME/LINEAR FOOT (gal/ft) (Use well casing ID)

1" = 0.04	1.5" = 0.09	2" = 0.17	3" = 0.38	4" = 0.66	6" = 1.5	8" = 2.6	10" = 4.1

1 well casing volume = Volume/Linear Foot x Water Column Height

METHOD OF PURGING: Disposable bailer
METHOD OF SAMPLING: Disposable bailer

WATER LEVEL/WATER QUALITY INSTRUMENTS USED

INSTRUMENT	SERIAL NO.	TIME CALIBRATION PERFORMED	TECH	COMMENTS
YSI		0655	KLC	

WATER QUALITY READINGS DURING PURGING

TIME	TEMP (°C)	pH	SP. COND. (µS/cm)	TURB. (NTU)*	DO (mg/L)	ORP (mV)	Total Purge Volume (gal)	Comments (color/odor)
1508								Start
1510	19.7	6.61	492				1.0	clear/None
1513	19.3	6.71	823				2.4	Turbid/None
1516	19.2	6.70	894				4.2	" "
1521	19.1	6.71	902				6.0	" "
1523	19.2	6.68	906				7.0	" "
1526	19.2	6.69	907				8.5	" "

*If measured.
Stabilization = **Temp** ±1°C; **pH** ±0.2 units; **Sp. Cond.** ±10%; **Turb.** ±10%

WATER QUALITY READINGS DURING PURGING (continued)

TIME	TEMP (°C)	pH	SP. COND. (µS/cm)	TURB. (NTU)*	DO (mg/L)	ORP (mV)	Total Volume Purged (gal)	Comments (color/odor)

*If measured.
Stabilization = **Temp** ±1°C; **pH** ±0.2 units; **Sp. Cond.** ±10%; **Turb.** ±10%

GROUNDWATER SAMPLING DATA

GROUNDWATER SAMPLE ID: RAILMW10 DUPLICATE SAMPLE ID: _____

Time	Bottle Type	Analytical Method	# of Bottles	Volume	Preservative
1540	VOA	8260		40ml	HCL
1540	VOA	504.1		40ml	Sodium Thiosulfate
1540	Amber	8310		1L	None
1540	Amber	TPHDRO GRO		250ml	None
1540	HDPE	Dissolved Metals		120ml	H2SO4
		TOTAL:			

Sampler: Konrad Clark (Printed Name) _____ (Signature)

PROJECT NAME: COA Rail Yards WELL NO.: RAILMW06
PROJECT NO.: _____ DATE: 4/24/20 FIELD CREW: Konrad Clark

WATER LEVEL AND WATER COLUMN HEIGHT

TIME	DEPTH TO BOTTOM OF WELL (DTB) (ft btoc)	DEPTH TO WATER (DTW) (ft btoc)	Water Column Height (DTB-DTW) (ft)
0823	49.28	25.72	23.56

ft btoc: feet below top of casing from designated measuring point

PURGE VOLUME

Well Casing Diameter (inches)	Volume/Linear Foot (see conversion table below)	1 Well Volume (gal)	2 Well Volumes (gal)	3 Well Volumes (gal)
2	4.00			12.0

VOLUME/LINEAR FOOT (gal/ft) (Use well casing ID)

1" = 0.04	1.5" = 0.09	2" = 0.17	3" = 0.38	4" = 0.66	6" = 1.5	8" = 2.6	10" = 4.1

1 well casing volume = Volume/Linear Foot x Water Column Height

METHOD OF PURGING: Disposable bailer
METHOD OF SAMPLING: Disposable bailer

WATER LEVEL/WATER QUALITY INSTRUMENTS USED

INSTRUMENT	SERIAL NO.	TIME CALIBRATION PERFORMED	TECH	COMMENTS
YSI		0710	KLC	

WATER QUALITY READINGS DURING PURGING

TIME	TEMP (°C)	pH	SP. COND. (µS/cm)	TURB. (NTU)*	DO (mg/L)	ORP (mV)	Total Purge Volume (gal)	Comments (color/odor)
0723								Start
0725	19.7	6.97	1125				1.0	Clear / None
0730	19.7	6.96	1242				4.2	" "
0735	19.6	6.98	1238				6.5	" "
0740	19.8	6.99	1220				8.2	" "
0746	19.9	7.02	1215				10.1	Lt turbid / None
0749	19.8	7.01	1215				13.7	" "

*If measured.
Stabilization = **Temp** ±1°C; **pH** ±0.2 units; **Sp. Cond.** ±10%; **Turb.** ±10%

WATER QUALITY READINGS DURING PURGING (continued)

TIME	TEMP (°C)	pH	SP. COND. (µS/cm)	TURB. (NTU)*	DO (mg/L)	ORP (mV)	Total Volume Purged (gal)	Comments (color/odor)

*If measured.
Stabilization = **Temp** ±1°C; **pH** ±0.2 units; **Sp. Cond.** ±10%; **Turb.** ±10%

GROUNDWATER SAMPLING DATA

GROUNDWATER SAMPLE ID: RAILMW06 DUPLICATE SAMPLE ID: _____

Time	Bottle Type	Analytical Method	# of Bottles	Volume	Preservative
0806	VOA	8260	6	40ml	HCL
0806	VOA	504.1	2	40ml	Sodium Thiosulfate
0806	Amber	8310	1	1L	None
0806	Amber	TPH DRO GRO	1	250ml	None
0806	HDPE	6010C/200.7/6020	1	120ml	H2SO4
		TOTAL:			

Sampler: Conrad Clark _____
(Printed Name) **(Signature)**

4/22/20

0735 Konrad onsite by "Wheels"
Weather: Partly Cloudy & Cool
Objective: Conduct well Gauging & Sampling

Go to open gate but find that The "86" Lock is on a link but is not daisy Chained into locks so can't access The South Side, go to other side and look for wells

0758 have found all 3 wells on North Portion, will open up Vaults Prior to Gauging

Calibrate YSI and Set up to Sample RAILMW-08

Time	temp	pH	SP Cond	Vol
1107	18.8	7.21	1073	29.0

1126 Sample Collected
1210 Konrad offsite

4/22/20

Water Levels

Date	Well ID	DTW	TD
4/22	RAILMW-08	21.16	46.11
4/22	RAILMW-06	25.72	49.28
4/22	RAILMW-07	21.24	44.85
4/23	RAILMW-02	17.50	41.34
4/23	RAILMW-03	22.01	44.75
4/23	RAILMW-04	22.92	44.48
4/23	RAILMW-05	24.00	46.16
4/23	RAILMW-11	18.85	39.55
4/23	RAILMW-10	21.60	38.38

RAILMW-01 is leaning over at angle with Concrete pad partialy up in the Air. Had dirt blockage ~6' and totaly blocked @ 16'

4/23/20

0640 Konrad onsite.
Start Setting up to Sample RAILMW07 in the Grass area before Sprinklers turn on at 0800 till 0830

0655 Calibrat YSI for use

Sample Log

0750	RAILMW07	Sample Collected
1020	RAILMW02	Sample Collected
1119	RAILMW03	Sample Collected
1219	RAILMW04	Sample Collected
1317	RAILMW05	Sample Collected
1416	RAILMW11	Sample Collected
1540	RAILMW10	Sample Collected

4/23

Sample Last Parameters

Location	Time	Temp	pH	SpCond	Purge Vol
RAILMW07	0734	18.8	6.69	875	12.2
RAILMW02	1007	18.1	7.03	744	12.2
RAILMW03	1107	19.7	6.72	753	11.6
RAILMW04	1204	19.4	6.86	561	9.7
RAILMW05	1303	19.0	6.58	856	11.5
RAILMW11	1405	19.3	7.04	699	10.5
RAILMW10	1526	19.2	6.69	907	8.5

Clean up equipment
fill out CoC

1635 offsite to Hall

4/24/20

0703 Konrad onsite
TLC Construction guys not onsite today

0710 Calibrate YSI for use

Setup to sample RAILMW06

Last Parameter

Time	temp	pH	SpCond	Vol
0749	19.8	7.01	1215	13.7

0806 RAILMW06 Sample Collected

Yesterday the Construction Crew Installed a New 8" Flush mount Vault on RAILMW06 but Casing Still Needs to be Cut. Call Ken and he said to Cut it.
Cut Exactly 25" off Casing using inside PVC cutter. Clean up
0935 offsite to Hall

APPENDIX C

Laboratory Analytical Reports – Ground Water

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

May 06, 2020

Joseph Tracy

Intera, Inc.
6000 Uptown Boulevard, NE Suite 220
Albuquerque, NM 87110
TEL: (505) 246-1600
FAX: (505) 246-2600

RE: COA Rail Yards OrderNo.: 2004A60

Dear Joseph Tracy:

Hall Environmental Analysis Laboratory received 8 sample(s) on 4/23/2020 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0901

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Intera, Inc. **Client Sample ID:** RAILMW08
Project: COA Rail Yards **Collection Date:** 4/22/2020 11:26:00 AM
Lab ID: 2004A60-001 **Matrix:** AQUEOUS **Received Date:** 4/23/2020 4:38:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA 200.8: DISSOLVED METALS						Analyst: **bcv**	
Copper	ND	0.0010		mg/L	1	4/29/2020 5:05:57 PM	B68526
Lead	ND	0.00050		mg/L	1	4/29/2020 5:05:57 PM	B68526
EPA METHOD 200.7: DISSOLVED METALS						Analyst: **pmf**	
Barium	0.061	0.0020		mg/L	1	4/27/2020 6:56:05 PM	A68449
Chromium	ND	0.0060		mg/L	1	4/28/2020 3:34:56 AM	A68450
Iron	ND	0.020		mg/L	1	4/27/2020 6:56:05 PM	A68449
Manganese	0.048	0.0020		mg/L	1	4/27/2020 6:56:05 PM	A68449
Zinc	0.019	0.010		mg/L	1	4/27/2020 6:56:05 PM	A68449
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **DJF**	
Gasoline Range Organics (GRO)	ND	0.050		mg/L	1	4/25/2020 1:08:15 PM	GW6841
Surr: BFB	96.7	70-130		%Rec	1	4/25/2020 1:08:15 PM	GW6841
EPA METHOD 8011/504.1: EDB						Analyst: **CLP**	
1,2-Dibromoethane	ND	0.0094		µg/L	1	4/28/2020 11:28:18 AM	52123
NOTES:							
No trip blank was included with work order							
EPA METHOD 8015M/D: DIESEL RANGE						Analyst: **BRM**	
Diesel Range Organics (DRO)	ND	1.0		mg/L	1	4/29/2020 12:14:41 PM	52139
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	4/29/2020 12:14:41 PM	52139
Surr: DNOP	98.0	70-130		%Rec	1	4/29/2020 12:14:41 PM	52139
EPA METHOD 8310: PAHS						Analyst: **TOM**	
Naphthalene	ND	3.0		µg/L	1	4/29/2020 1:32:18 PM	52095
1-Methylnaphthalene	ND	3.0		µg/L	1	4/29/2020 1:32:18 PM	52095
2-Methylnaphthalene	ND	3.0		µg/L	1	4/29/2020 1:32:18 PM	52095
Acenaphthylene	ND	3.0		µg/L	1	4/29/2020 1:32:18 PM	52095
Acenaphthene	ND	3.0		µg/L	1	4/29/2020 1:32:18 PM	52095
Fluorene	ND	0.80		µg/L	1	4/29/2020 1:32:18 PM	52095
Phenanthrene	ND	0.60		µg/L	1	4/29/2020 1:32:18 PM	52095
Anthracene	ND	0.60		µg/L	1	4/29/2020 1:32:18 PM	52095
Fluoranthene	ND	0.40		µg/L	1	4/29/2020 1:32:18 PM	52095
Pyrene	ND	0.40		µg/L	1	4/29/2020 1:32:18 PM	52095
Benz(a)anthracene	ND	0.070		µg/L	1	4/29/2020 1:32:18 PM	52095
Chrysene	ND	0.20		µg/L	1	4/29/2020 1:32:18 PM	52095
Benzo(b)fluoranthene	ND	0.10		µg/L	1	4/29/2020 1:32:18 PM	52095
Benzo(k)fluoranthene	ND	0.070		µg/L	1	4/29/2020 1:32:18 PM	52095
Benzo(a)pyrene	ND	0.070		µg/L	1	4/29/2020 1:32:18 PM	52095
Dibenz(a,h)anthracene	ND	0.12		µg/L	1	4/29/2020 1:32:18 PM	52095
Benzo(g,h,i)perylene	ND	0.12		µg/L	1	4/29/2020 1:32:18 PM	52095

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Intera, Inc.
Client Sample ID: RAILMW08
Project: COA Rail Yards
Collection Date: 4/22/2020 11:26:00 AM
Lab ID: 2004A60-001
Matrix: AQUEOUS
Received Date: 4/23/2020 4:38:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8310: PAHS						Analyst: **TOM**	
Indeno(1,2,3-cd)pyrene	ND	0.25		µg/L	1	4/29/2020 1:32:18 PM	52095
Surr: Benzo(e)pyrene	56.0	43.5-108		%Rec	1	4/29/2020 1:32:18 PM	52095
EPA METHOD 8260B: VOLATILES						Analyst: **DJF**	
Benzene	ND	1.0		µg/L	1	4/25/2020 1:08:15 PM	W68413
Toluene	ND	1.0		µg/L	1	4/25/2020 1:08:15 PM	W68413
Ethylbenzene	ND	1.0		µg/L	1	4/25/2020 1:08:15 PM	W68413
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	4/25/2020 1:08:15 PM	W68413
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	4/25/2020 1:08:15 PM	W68413
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	4/25/2020 1:08:15 PM	W68413
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	4/25/2020 1:08:15 PM	W68413
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	4/25/2020 1:08:15 PM	W68413
Naphthalene	ND	2.0		µg/L	1	4/25/2020 1:08:15 PM	W68413
1-Methylnaphthalene	ND	4.0		µg/L	1	4/25/2020 1:08:15 PM	W68413
2-Methylnaphthalene	ND	4.0		µg/L	1	4/25/2020 1:08:15 PM	W68413
Acetone	ND	10		µg/L	1	4/25/2020 1:08:15 PM	W68413
Bromobenzene	ND	1.0		µg/L	1	4/25/2020 1:08:15 PM	W68413
Bromodichloromethane	ND	1.0		µg/L	1	4/25/2020 1:08:15 PM	W68413
Bromoform	ND	1.0		µg/L	1	4/25/2020 1:08:15 PM	W68413
Bromomethane	ND	3.0		µg/L	1	4/25/2020 1:08:15 PM	W68413
2-Butanone	ND	10		µg/L	1	4/25/2020 1:08:15 PM	W68413
Carbon disulfide	ND	10		µg/L	1	4/25/2020 1:08:15 PM	W68413
Carbon Tetrachloride	ND	1.0		µg/L	1	4/25/2020 1:08:15 PM	W68413
Chlorobenzene	ND	1.0		µg/L	1	4/25/2020 1:08:15 PM	W68413
Chloroethane	ND	2.0		µg/L	1	4/25/2020 1:08:15 PM	W68413
Chloroform	ND	1.0		µg/L	1	4/25/2020 1:08:15 PM	W68413
Chloromethane	ND	3.0		µg/L	1	4/25/2020 1:08:15 PM	W68413
2-Chlorotoluene	ND	1.0		µg/L	1	4/25/2020 1:08:15 PM	W68413
4-Chlorotoluene	ND	1.0		µg/L	1	4/25/2020 1:08:15 PM	W68413
cis-1,2-DCE	ND	1.0		µg/L	1	4/25/2020 1:08:15 PM	W68413
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	4/25/2020 1:08:15 PM	W68413
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	4/25/2020 1:08:15 PM	W68413
Dibromochloromethane	ND	1.0		µg/L	1	4/25/2020 1:08:15 PM	W68413
Dibromomethane	ND	1.0		µg/L	1	4/25/2020 1:08:15 PM	W68413
1,2-Dichlorobenzene	ND	1.0		µg/L	1	4/25/2020 1:08:15 PM	W68413
1,3-Dichlorobenzene	ND	1.0		µg/L	1	4/25/2020 1:08:15 PM	W68413
1,4-Dichlorobenzene	ND	1.0		µg/L	1	4/25/2020 1:08:15 PM	W68413
Dichlorodifluoromethane	ND	1.0		µg/L	1	4/25/2020 1:08:15 PM	W68413
1,1-Dichloroethane	ND	1.0		µg/L	1	4/25/2020 1:08:15 PM	W68413
1,1-Dichloroethene	ND	1.0		µg/L	1	4/25/2020 1:08:15 PM	W68413

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Intera, Inc.
Client Sample ID: RAILMW08
Project: COA Rail Yards
Collection Date: 4/22/2020 11:26:00 AM
Lab ID: 2004A60-001 **Matrix:** AQUEOUS **Received Date:** 4/23/2020 4:38:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **DJF**	
1,2-Dichloropropane	ND	1.0		µg/L	1	4/25/2020 1:08:15 PM	W68413
1,3-Dichloropropane	ND	1.0		µg/L	1	4/25/2020 1:08:15 PM	W68413
2,2-Dichloropropane	ND	2.0		µg/L	1	4/25/2020 1:08:15 PM	W68413
1,1-Dichloropropene	ND	1.0		µg/L	1	4/25/2020 1:08:15 PM	W68413
Hexachlorobutadiene	ND	1.0		µg/L	1	4/25/2020 1:08:15 PM	W68413
2-Hexanone	ND	10		µg/L	1	4/25/2020 1:08:15 PM	W68413
Isopropylbenzene	ND	1.0		µg/L	1	4/25/2020 1:08:15 PM	W68413
4-Isopropyltoluene	ND	1.0		µg/L	1	4/25/2020 1:08:15 PM	W68413
4-Methyl-2-pentanone	ND	10		µg/L	1	4/25/2020 1:08:15 PM	W68413
Methylene Chloride	ND	3.0		µg/L	1	4/25/2020 1:08:15 PM	W68413
n-Butylbenzene	ND	3.0		µg/L	1	4/25/2020 1:08:15 PM	W68413
n-Propylbenzene	ND	1.0		µg/L	1	4/25/2020 1:08:15 PM	W68413
sec-Butylbenzene	ND	1.0		µg/L	1	4/25/2020 1:08:15 PM	W68413
Styrene	ND	1.0		µg/L	1	4/25/2020 1:08:15 PM	W68413
tert-Butylbenzene	ND	1.0		µg/L	1	4/25/2020 1:08:15 PM	W68413
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	4/25/2020 1:08:15 PM	W68413
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	4/25/2020 1:08:15 PM	W68413
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	4/25/2020 1:08:15 PM	W68413
trans-1,2-DCE	ND	1.0		µg/L	1	4/25/2020 1:08:15 PM	W68413
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	4/25/2020 1:08:15 PM	W68413
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	4/25/2020 1:08:15 PM	W68413
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	4/25/2020 1:08:15 PM	W68413
1,1,1-Trichloroethane	ND	1.0		µg/L	1	4/25/2020 1:08:15 PM	W68413
1,1,2-Trichloroethane	ND	1.0		µg/L	1	4/25/2020 1:08:15 PM	W68413
Trichloroethene (TCE)	ND	1.0		µg/L	1	4/25/2020 1:08:15 PM	W68413
Trichlorofluoromethane	ND	1.0		µg/L	1	4/25/2020 1:08:15 PM	W68413
1,2,3-Trichloropropane	ND	2.0		µg/L	1	4/25/2020 1:08:15 PM	W68413
Vinyl chloride	ND	1.0		µg/L	1	4/25/2020 1:08:15 PM	W68413
Xylenes, Total	ND	1.5		µg/L	1	4/25/2020 1:08:15 PM	W68413
Surr: 1,2-Dichloroethane-d4	94.0	70-130		%Rec	1	4/25/2020 1:08:15 PM	W68413
Surr: 4-Bromofluorobenzene	102	70-130		%Rec	1	4/25/2020 1:08:15 PM	W68413
Surr: Dibromofluoromethane	102	70-130		%Rec	1	4/25/2020 1:08:15 PM	W68413
Surr: Toluene-d8	96.6	70-130		%Rec	1	4/25/2020 1:08:15 PM	W68413

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Intera, Inc. **Client Sample ID:** RAILMW07
Project: COA Rail Yards **Collection Date:** 4/23/2020 7:50:00 AM
Lab ID: 2004A60-002 **Matrix:** AQUEOUS **Received Date:** 4/23/2020 4:38:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA 200.8: DISSOLVED METALS						Analyst: **bcv**	
Copper	ND	0.0010		mg/L	1	4/29/2020 5:13:45 PM	B68526
Lead	ND	0.00050		mg/L	1	4/29/2020 5:13:45 PM	B68526
EPA METHOD 200.7: DISSOLVED METALS						Analyst: **pmf**	
Barium	0.066	0.0020		mg/L	1	4/27/2020 6:58:52 PM	A68449
Chromium	ND	0.0060		mg/L	1	4/28/2020 3:37:43 AM	A68450
Iron	ND	0.020		mg/L	1	4/27/2020 6:58:52 PM	A68449
Manganese	0.72	0.0020	*	mg/L	1	4/27/2020 6:58:52 PM	A68449
Zinc	0.014	0.010		mg/L	1	4/27/2020 6:58:52 PM	A68449
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **DJF**	
Gasoline Range Organics (GRO)	ND	0.050		mg/L	1	4/25/2020 1:36:48 PM	GW6841
Surr: BFB	98.9	70-130		%Rec	1	4/25/2020 1:36:48 PM	GW6841
EPA METHOD 8011/504.1: EDB						Analyst: **CLP**	
1,2-Dibromoethane	ND	0.0094		µg/L	1	4/28/2020 11:43:23 AM	52123
NOTES:							
No trip blank was included with work order							
EPA METHOD 8015M/D: DIESEL RANGE						Analyst: **BRM**	
Diesel Range Organics (DRO)	ND	1.0		mg/L	1	4/29/2020 1:28:03 PM	52139
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	4/29/2020 1:28:03 PM	52139
Surr: DNOP	97.3	70-130		%Rec	1	4/29/2020 1:28:03 PM	52139
EPA METHOD 8310: PAHS						Analyst: **TOM**	
Naphthalene	ND	3.0		µg/L	1	4/29/2020 1:57:49 PM	52095
1-Methylnaphthalene	ND	3.0		µg/L	1	4/29/2020 1:57:49 PM	52095
2-Methylnaphthalene	ND	3.0		µg/L	1	4/29/2020 1:57:49 PM	52095
Acenaphthylene	ND	3.0		µg/L	1	4/29/2020 1:57:49 PM	52095
Acenaphthene	ND	3.0		µg/L	1	4/29/2020 1:57:49 PM	52095
Fluorene	ND	0.80		µg/L	1	4/29/2020 1:57:49 PM	52095
Phenanthrene	ND	0.60		µg/L	1	4/29/2020 1:57:49 PM	52095
Anthracene	ND	0.60		µg/L	1	4/29/2020 1:57:49 PM	52095
Fluoranthene	ND	0.40		µg/L	1	4/29/2020 1:57:49 PM	52095
Pyrene	ND	0.40		µg/L	1	4/29/2020 1:57:49 PM	52095
Benz(a)anthracene	ND	0.070		µg/L	1	4/29/2020 1:57:49 PM	52095
Chrysene	ND	0.20		µg/L	1	4/29/2020 1:57:49 PM	52095
Benzo(b)fluoranthene	ND	0.10		µg/L	1	4/29/2020 1:57:49 PM	52095
Benzo(k)fluoranthene	ND	0.070		µg/L	1	4/29/2020 1:57:49 PM	52095
Benzo(a)pyrene	ND	0.070		µg/L	1	4/29/2020 1:57:49 PM	52095
Dibenz(a,h)anthracene	ND	0.12		µg/L	1	4/29/2020 1:57:49 PM	52095
Benzo(g,h,i)perylene	ND	0.12		µg/L	1	4/29/2020 1:57:49 PM	52095

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Intera, Inc. **Client Sample ID:** RAILMW07
Project: COA Rail Yards **Collection Date:** 4/23/2020 7:50:00 AM
Lab ID: 2004A60-002 **Matrix:** AQUEOUS **Received Date:** 4/23/2020 4:38:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8310: PAHS						Analyst: **TOM**	
Indeno(1,2,3-cd)pyrene	ND	0.25		µg/L	1	4/29/2020 1:57:49 PM	52095
Surr: Benzo(e)pyrene	66.0	43.5-108		%Rec	1	4/29/2020 1:57:49 PM	52095
EPA METHOD 8260B: VOLATILES						Analyst: **DJF**	
Benzene	ND	1.0		µg/L	1	4/25/2020 1:36:48 PM	W68413
Toluene	ND	1.0		µg/L	1	4/25/2020 1:36:48 PM	W68413
Ethylbenzene	ND	1.0		µg/L	1	4/25/2020 1:36:48 PM	W68413
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	4/25/2020 1:36:48 PM	W68413
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	4/25/2020 1:36:48 PM	W68413
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	4/25/2020 1:36:48 PM	W68413
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	4/25/2020 1:36:48 PM	W68413
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	4/25/2020 1:36:48 PM	W68413
Naphthalene	ND	2.0		µg/L	1	4/25/2020 1:36:48 PM	W68413
1-Methylnaphthalene	ND	4.0		µg/L	1	4/25/2020 1:36:48 PM	W68413
2-Methylnaphthalene	ND	4.0		µg/L	1	4/25/2020 1:36:48 PM	W68413
Acetone	ND	10		µg/L	1	4/25/2020 1:36:48 PM	W68413
Bromobenzene	ND	1.0		µg/L	1	4/25/2020 1:36:48 PM	W68413
Bromodichloromethane	ND	1.0		µg/L	1	4/25/2020 1:36:48 PM	W68413
Bromoform	ND	1.0		µg/L	1	4/25/2020 1:36:48 PM	W68413
Bromomethane	ND	3.0		µg/L	1	4/25/2020 1:36:48 PM	W68413
2-Butanone	ND	10		µg/L	1	4/25/2020 1:36:48 PM	W68413
Carbon disulfide	ND	10		µg/L	1	4/25/2020 1:36:48 PM	W68413
Carbon Tetrachloride	ND	1.0		µg/L	1	4/25/2020 1:36:48 PM	W68413
Chlorobenzene	ND	1.0		µg/L	1	4/25/2020 1:36:48 PM	W68413
Chloroethane	ND	2.0		µg/L	1	4/25/2020 1:36:48 PM	W68413
Chloroform	ND	1.0		µg/L	1	4/25/2020 1:36:48 PM	W68413
Chloromethane	ND	3.0		µg/L	1	4/25/2020 1:36:48 PM	W68413
2-Chlorotoluene	ND	1.0		µg/L	1	4/25/2020 1:36:48 PM	W68413
4-Chlorotoluene	ND	1.0		µg/L	1	4/25/2020 1:36:48 PM	W68413
cis-1,2-DCE	ND	1.0		µg/L	1	4/25/2020 1:36:48 PM	W68413
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	4/25/2020 1:36:48 PM	W68413
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	4/25/2020 1:36:48 PM	W68413
Dibromochloromethane	ND	1.0		µg/L	1	4/25/2020 1:36:48 PM	W68413
Dibromomethane	ND	1.0		µg/L	1	4/25/2020 1:36:48 PM	W68413
1,2-Dichlorobenzene	ND	1.0		µg/L	1	4/25/2020 1:36:48 PM	W68413
1,3-Dichlorobenzene	ND	1.0		µg/L	1	4/25/2020 1:36:48 PM	W68413
1,4-Dichlorobenzene	ND	1.0		µg/L	1	4/25/2020 1:36:48 PM	W68413
Dichlorodifluoromethane	ND	1.0		µg/L	1	4/25/2020 1:36:48 PM	W68413
1,1-Dichloroethane	ND	1.0		µg/L	1	4/25/2020 1:36:48 PM	W68413
1,1-Dichloroethene	ND	1.0		µg/L	1	4/25/2020 1:36:48 PM	W68413

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Intera, Inc.
Client Sample ID: RAILMW07
Project: COA Rail Yards
Collection Date: 4/23/2020 7:50:00 AM
Lab ID: 2004A60-002 **Matrix:** AQUEOUS **Received Date:** 4/23/2020 4:38:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **DJF**	
1,2-Dichloropropane	ND	1.0		µg/L	1	4/25/2020 1:36:48 PM	W68413
1,3-Dichloropropane	ND	1.0		µg/L	1	4/25/2020 1:36:48 PM	W68413
2,2-Dichloropropane	ND	2.0		µg/L	1	4/25/2020 1:36:48 PM	W68413
1,1-Dichloropropene	ND	1.0		µg/L	1	4/25/2020 1:36:48 PM	W68413
Hexachlorobutadiene	ND	1.0		µg/L	1	4/25/2020 1:36:48 PM	W68413
2-Hexanone	ND	10		µg/L	1	4/25/2020 1:36:48 PM	W68413
Isopropylbenzene	ND	1.0		µg/L	1	4/25/2020 1:36:48 PM	W68413
4-Isopropyltoluene	ND	1.0		µg/L	1	4/25/2020 1:36:48 PM	W68413
4-Methyl-2-pentanone	ND	10		µg/L	1	4/25/2020 1:36:48 PM	W68413
Methylene Chloride	ND	3.0		µg/L	1	4/25/2020 1:36:48 PM	W68413
n-Butylbenzene	ND	3.0		µg/L	1	4/25/2020 1:36:48 PM	W68413
n-Propylbenzene	ND	1.0		µg/L	1	4/25/2020 1:36:48 PM	W68413
sec-Butylbenzene	ND	1.0		µg/L	1	4/25/2020 1:36:48 PM	W68413
Styrene	ND	1.0		µg/L	1	4/25/2020 1:36:48 PM	W68413
tert-Butylbenzene	ND	1.0		µg/L	1	4/25/2020 1:36:48 PM	W68413
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	4/25/2020 1:36:48 PM	W68413
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	4/25/2020 1:36:48 PM	W68413
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	4/25/2020 1:36:48 PM	W68413
trans-1,2-DCE	ND	1.0		µg/L	1	4/25/2020 1:36:48 PM	W68413
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	4/25/2020 1:36:48 PM	W68413
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	4/25/2020 1:36:48 PM	W68413
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	4/25/2020 1:36:48 PM	W68413
1,1,1-Trichloroethane	ND	1.0		µg/L	1	4/25/2020 1:36:48 PM	W68413
1,1,2-Trichloroethane	ND	1.0		µg/L	1	4/25/2020 1:36:48 PM	W68413
Trichloroethene (TCE)	ND	1.0		µg/L	1	4/25/2020 1:36:48 PM	W68413
Trichlorofluoromethane	ND	1.0		µg/L	1	4/25/2020 1:36:48 PM	W68413
1,2,3-Trichloropropane	ND	2.0		µg/L	1	4/25/2020 1:36:48 PM	W68413
Vinyl chloride	ND	1.0		µg/L	1	4/25/2020 1:36:48 PM	W68413
Xylenes, Total	ND	1.5		µg/L	1	4/25/2020 1:36:48 PM	W68413
Surr: 1,2-Dichloroethane-d4	93.2	70-130		%Rec	1	4/25/2020 1:36:48 PM	W68413
Surr: 4-Bromofluorobenzene	102	70-130		%Rec	1	4/25/2020 1:36:48 PM	W68413
Surr: Dibromofluoromethane	98.5	70-130		%Rec	1	4/25/2020 1:36:48 PM	W68413
Surr: Toluene-d8	95.5	70-130		%Rec	1	4/25/2020 1:36:48 PM	W68413

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Intera, Inc. **Client Sample ID:** RAILMW02
Project: COA Rail Yards **Collection Date:** 4/23/2020 10:20:00 AM
Lab ID: 2004A60-003 **Matrix:** AQUEOUS **Received Date:** 4/23/2020 4:38:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA 200.8: DISSOLVED METALS						Analyst: **bcv**	
Copper	ND	0.0010		mg/L	1	4/29/2020 5:16:21 PM	B68526
Lead	ND	0.00050		mg/L	1	4/29/2020 5:16:21 PM	B68526
EPA METHOD 200.7: DISSOLVED METALS						Analyst: **pmf**	
Barium	0.11	0.0020		mg/L	1	4/27/2020 7:01:40 PM	A68449
Chromium	ND	0.0060		mg/L	1	4/28/2020 3:40:31 AM	A68450
Iron	0.18	0.020		mg/L	1	4/27/2020 7:01:40 PM	A68449
Manganese	0.31	0.0020	*	mg/L	1	4/27/2020 7:01:40 PM	A68449
Zinc	0.013	0.010		mg/L	1	4/27/2020 7:01:40 PM	A68449
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **DJF**	
Gasoline Range Organics (GRO)	ND	0.050		mg/L	1	4/25/2020 2:05:30 PM	GW6841
Surr: BFB	97.7	70-130		%Rec	1	4/25/2020 2:05:30 PM	GW6841
EPA METHOD 8011/504.1: EDB						Analyst: **CLP**	
1,2-Dibromoethane	ND	0.0093		µg/L	1	4/28/2020 11:58:31 AM	52123

NOTES:
No trip blank was included with work order

EPA METHOD 8015M/D: DIESEL RANGE						Analyst: **BRM**	
Diesel Range Organics (DRO)	ND	1.0		mg/L	1	4/29/2020 2:16:45 PM	52139
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	4/29/2020 2:16:45 PM	52139
Surr: DNOP	93.0	70-130		%Rec	1	4/29/2020 2:16:45 PM	52139
EPA METHOD 8310: PAHS						Analyst: **TOM**	
Naphthalene	ND	3.0		µg/L	1	4/29/2020 2:23:20 PM	52095
1-Methylnaphthalene	ND	3.0		µg/L	1	4/29/2020 2:23:20 PM	52095
2-Methylnaphthalene	ND	3.0		µg/L	1	4/29/2020 2:23:20 PM	52095
Acenaphthylene	ND	3.0		µg/L	1	4/29/2020 2:23:20 PM	52095
Acenaphthene	ND	3.0		µg/L	1	4/29/2020 2:23:20 PM	52095
Fluorene	ND	0.80		µg/L	1	4/29/2020 2:23:20 PM	52095
Phenanthrene	ND	0.60		µg/L	1	4/29/2020 2:23:20 PM	52095
Anthracene	ND	0.60		µg/L	1	4/29/2020 2:23:20 PM	52095
Fluoranthene	ND	0.40		µg/L	1	4/29/2020 2:23:20 PM	52095
Pyrene	ND	0.40		µg/L	1	4/29/2020 2:23:20 PM	52095
Benz(a)anthracene	ND	0.070		µg/L	1	4/29/2020 2:23:20 PM	52095
Chrysene	ND	0.20		µg/L	1	4/29/2020 2:23:20 PM	52095
Benzo(b)fluoranthene	ND	0.10		µg/L	1	4/29/2020 2:23:20 PM	52095
Benzo(k)fluoranthene	ND	0.070		µg/L	1	4/29/2020 2:23:20 PM	52095
Benzo(a)pyrene	ND	0.070		µg/L	1	4/29/2020 2:23:20 PM	52095
Dibenz(a,h)anthracene	ND	0.12		µg/L	1	4/29/2020 2:23:20 PM	52095
Benzo(g,h,i)perylene	ND	0.12		µg/L	1	4/29/2020 2:23:20 PM	52095

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Intera, Inc. **Client Sample ID:** RAILMW02
Project: COA Rail Yards **Collection Date:** 4/23/2020 10:20:00 AM
Lab ID: 2004A60-003 **Matrix:** AQUEOUS **Received Date:** 4/23/2020 4:38:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8310: PAHS						Analyst: **TOM**	
Indeno(1,2,3-cd)pyrene	ND	0.25		µg/L	1	4/29/2020 2:23:20 PM	52095
Surr: Benzo(e)pyrene	65.7	43.5-108		%Rec	1	4/29/2020 2:23:20 PM	52095
EPA METHOD 8260B: VOLATILES						Analyst: **DJF**	
Benzene	ND	1.0		µg/L	1	4/25/2020 2:05:30 PM	W68413
Toluene	ND	1.0		µg/L	1	4/25/2020 2:05:30 PM	W68413
Ethylbenzene	ND	1.0		µg/L	1	4/25/2020 2:05:30 PM	W68413
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	4/25/2020 2:05:30 PM	W68413
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	4/25/2020 2:05:30 PM	W68413
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	4/25/2020 2:05:30 PM	W68413
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	4/25/2020 2:05:30 PM	W68413
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	4/25/2020 2:05:30 PM	W68413
Naphthalene	ND	2.0		µg/L	1	4/25/2020 2:05:30 PM	W68413
1-Methylnaphthalene	ND	4.0		µg/L	1	4/25/2020 2:05:30 PM	W68413
2-Methylnaphthalene	ND	4.0		µg/L	1	4/25/2020 2:05:30 PM	W68413
Acetone	ND	10		µg/L	1	4/25/2020 2:05:30 PM	W68413
Bromobenzene	ND	1.0		µg/L	1	4/25/2020 2:05:30 PM	W68413
Bromodichloromethane	ND	1.0		µg/L	1	4/25/2020 2:05:30 PM	W68413
Bromoform	ND	1.0		µg/L	1	4/25/2020 2:05:30 PM	W68413
Bromomethane	ND	3.0		µg/L	1	4/25/2020 2:05:30 PM	W68413
2-Butanone	ND	10		µg/L	1	4/25/2020 2:05:30 PM	W68413
Carbon disulfide	ND	10		µg/L	1	4/25/2020 2:05:30 PM	W68413
Carbon Tetrachloride	ND	1.0		µg/L	1	4/25/2020 2:05:30 PM	W68413
Chlorobenzene	ND	1.0		µg/L	1	4/25/2020 2:05:30 PM	W68413
Chloroethane	ND	2.0		µg/L	1	4/25/2020 2:05:30 PM	W68413
Chloroform	ND	1.0		µg/L	1	4/25/2020 2:05:30 PM	W68413
Chloromethane	ND	3.0		µg/L	1	4/25/2020 2:05:30 PM	W68413
2-Chlorotoluene	ND	1.0		µg/L	1	4/25/2020 2:05:30 PM	W68413
4-Chlorotoluene	ND	1.0		µg/L	1	4/25/2020 2:05:30 PM	W68413
cis-1,2-DCE	ND	1.0		µg/L	1	4/25/2020 2:05:30 PM	W68413
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	4/25/2020 2:05:30 PM	W68413
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	4/25/2020 2:05:30 PM	W68413
Dibromochloromethane	ND	1.0		µg/L	1	4/25/2020 2:05:30 PM	W68413
Dibromomethane	ND	1.0		µg/L	1	4/25/2020 2:05:30 PM	W68413
1,2-Dichlorobenzene	ND	1.0		µg/L	1	4/25/2020 2:05:30 PM	W68413
1,3-Dichlorobenzene	ND	1.0		µg/L	1	4/25/2020 2:05:30 PM	W68413
1,4-Dichlorobenzene	ND	1.0		µg/L	1	4/25/2020 2:05:30 PM	W68413
Dichlorodifluoromethane	ND	1.0		µg/L	1	4/25/2020 2:05:30 PM	W68413
1,1-Dichloroethane	ND	1.0		µg/L	1	4/25/2020 2:05:30 PM	W68413
1,1-Dichloroethene	ND	1.0		µg/L	1	4/25/2020 2:05:30 PM	W68413

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Intera, Inc.
Client Sample ID: RAILMW02
Project: COA Rail Yards
Collection Date: 4/23/2020 10:20:00 AM
Lab ID: 2004A60-003
Matrix: AQUEOUS
Received Date: 4/23/2020 4:38:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **DJF**	
1,2-Dichloropropane	ND	1.0		µg/L	1	4/25/2020 2:05:30 PM	W68413
1,3-Dichloropropane	ND	1.0		µg/L	1	4/25/2020 2:05:30 PM	W68413
2,2-Dichloropropane	ND	2.0		µg/L	1	4/25/2020 2:05:30 PM	W68413
1,1-Dichloropropene	ND	1.0		µg/L	1	4/25/2020 2:05:30 PM	W68413
Hexachlorobutadiene	ND	1.0		µg/L	1	4/25/2020 2:05:30 PM	W68413
2-Hexanone	ND	10		µg/L	1	4/25/2020 2:05:30 PM	W68413
Isopropylbenzene	ND	1.0		µg/L	1	4/25/2020 2:05:30 PM	W68413
4-Isopropyltoluene	ND	1.0		µg/L	1	4/25/2020 2:05:30 PM	W68413
4-Methyl-2-pentanone	ND	10		µg/L	1	4/25/2020 2:05:30 PM	W68413
Methylene Chloride	ND	3.0		µg/L	1	4/25/2020 2:05:30 PM	W68413
n-Butylbenzene	ND	3.0		µg/L	1	4/25/2020 2:05:30 PM	W68413
n-Propylbenzene	ND	1.0		µg/L	1	4/25/2020 2:05:30 PM	W68413
sec-Butylbenzene	ND	1.0		µg/L	1	4/25/2020 2:05:30 PM	W68413
Styrene	ND	1.0		µg/L	1	4/25/2020 2:05:30 PM	W68413
tert-Butylbenzene	ND	1.0		µg/L	1	4/25/2020 2:05:30 PM	W68413
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	4/25/2020 2:05:30 PM	W68413
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	4/25/2020 2:05:30 PM	W68413
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	4/25/2020 2:05:30 PM	W68413
trans-1,2-DCE	ND	1.0		µg/L	1	4/25/2020 2:05:30 PM	W68413
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	4/25/2020 2:05:30 PM	W68413
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	4/25/2020 2:05:30 PM	W68413
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	4/25/2020 2:05:30 PM	W68413
1,1,1-Trichloroethane	ND	1.0		µg/L	1	4/25/2020 2:05:30 PM	W68413
1,1,2-Trichloroethane	ND	1.0		µg/L	1	4/25/2020 2:05:30 PM	W68413
Trichloroethene (TCE)	ND	1.0		µg/L	1	4/25/2020 2:05:30 PM	W68413
Trichlorofluoromethane	ND	1.0		µg/L	1	4/25/2020 2:05:30 PM	W68413
1,2,3-Trichloropropane	ND	2.0		µg/L	1	4/25/2020 2:05:30 PM	W68413
Vinyl chloride	ND	1.0		µg/L	1	4/25/2020 2:05:30 PM	W68413
Xylenes, Total	ND	1.5		µg/L	1	4/25/2020 2:05:30 PM	W68413
Surr: 1,2-Dichloroethane-d4	92.7	70-130		%Rec	1	4/25/2020 2:05:30 PM	W68413
Surr: 4-Bromofluorobenzene	96.7	70-130		%Rec	1	4/25/2020 2:05:30 PM	W68413
Surr: Dibromofluoromethane	97.1	70-130		%Rec	1	4/25/2020 2:05:30 PM	W68413
Surr: Toluene-d8	97.1	70-130		%Rec	1	4/25/2020 2:05:30 PM	W68413

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Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Intera, Inc. **Client Sample ID:** RAILMW03
Project: COA Rail Yards **Collection Date:** 4/23/2020 11:19:00 AM
Lab ID: 2004A60-004 **Matrix:** AQUEOUS **Received Date:** 4/23/2020 4:38:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA 200.8: DISSOLVED METALS						Analyst: **bcv**	
Copper	ND	0.0010		mg/L	1	4/29/2020 5:24:11 PM	B68526
Lead	ND	0.00050		mg/L	1	4/29/2020 5:24:11 PM	B68526
EPA METHOD 200.7: DISSOLVED METALS						Analyst: **pmf**	
Barium	0.21	0.0020		mg/L	1	4/27/2020 7:04:22 PM	A68449
Chromium	ND	0.0060		mg/L	1	4/28/2020 3:43:13 AM	A68450
Iron	3.7	0.10	*	mg/L	5	4/28/2020 3:45:44 AM	A68450
Manganese	0.39	0.0020	*	mg/L	1	4/27/2020 7:04:22 PM	A68449
Zinc	0.011	0.010		mg/L	1	4/27/2020 7:04:22 PM	A68449
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **DJF**	
Gasoline Range Organics (GRO)	0.20	0.050		mg/L	1	4/25/2020 2:34:15 PM	GW6841
Surr: BFB	100	70-130		%Rec	1	4/25/2020 2:34:15 PM	GW6841
EPA METHOD 8011/504.1: EDB						Analyst: **CLP**	
1,2-Dibromoethane	ND	0.0095		µg/L	1	4/28/2020 12:44:02 PM	52123

NOTES:
No trip blank was included with work order

EPA METHOD 8015M/D: DIESEL RANGE						Analyst: **BRM**	
Diesel Range Organics (DRO)	ND	1.0		mg/L	1	4/29/2020 2:41:07 PM	52139
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	4/29/2020 2:41:07 PM	52139
Surr: DNOP	97.5	70-130		%Rec	1	4/29/2020 2:41:07 PM	52139
EPA METHOD 8310: PAHS						Analyst: **TOM**	
Naphthalene	ND	3.0		µg/L	1	4/29/2020 4:56:26 PM	52095
1-Methylnaphthalene	40	3.0		µg/L	1	4/29/2020 4:56:26 PM	52095
2-Methylnaphthalene	35	3.0		µg/L	1	4/29/2020 4:56:26 PM	52095
Acenaphthylene	ND	3.0		µg/L	1	4/29/2020 4:56:26 PM	52095
Acenaphthene	ND	3.0		µg/L	1	4/29/2020 4:56:26 PM	52095
Fluorene	1.7	0.80		µg/L	1	4/29/2020 4:56:26 PM	52095
Phenanthrene	1.0	0.60		µg/L	1	4/29/2020 4:56:26 PM	52095
Anthracene	ND	0.60		µg/L	1	4/29/2020 4:56:26 PM	52095
Fluoranthene	ND	0.40		µg/L	1	4/29/2020 4:56:26 PM	52095
Pyrene	ND	0.40		µg/L	1	4/29/2020 4:56:26 PM	52095
Benz(a)anthracene	ND	0.070		µg/L	1	4/29/2020 4:56:26 PM	52095
Chrysene	ND	0.20		µg/L	1	4/29/2020 4:56:26 PM	52095
Benzo(b)fluoranthene	ND	0.10		µg/L	1	4/29/2020 4:56:26 PM	52095
Benzo(k)fluoranthene	ND	0.070		µg/L	1	4/29/2020 4:56:26 PM	52095
Benzo(a)pyrene	ND	0.070		µg/L	1	4/29/2020 4:56:26 PM	52095
Dibenz(a,h)anthracene	ND	0.12		µg/L	1	4/29/2020 4:56:26 PM	52095
Benzo(g,h,i)perylene	ND	0.12		µg/L	1	4/29/2020 4:56:26 PM	52095

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Intera, Inc. **Client Sample ID:** RAILMW03
Project: COA Rail Yards **Collection Date:** 4/23/2020 11:19:00 AM
Lab ID: 2004A60-004 **Matrix:** AQUEOUS **Received Date:** 4/23/2020 4:38:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8310: PAHS						Analyst: **TOM**	
Indeno(1,2,3-cd)pyrene	ND	0.25		µg/L	1	4/29/2020 4:56:26 PM	52095
Surr: Benzo(e)pyrene	55.6	43.5-108		%Rec	1	4/29/2020 4:56:26 PM	52095
EPA METHOD 8260B: VOLATILES						Analyst: **DJF**	
Benzene	1.0	1.0		µg/L	1	4/25/2020 2:34:15 PM	W68413
Toluene	ND	1.0		µg/L	1	4/25/2020 2:34:15 PM	W68413
Ethylbenzene	ND	1.0		µg/L	1	4/25/2020 2:34:15 PM	W68413
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	4/25/2020 2:34:15 PM	W68413
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	4/25/2020 2:34:15 PM	W68413
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	4/25/2020 2:34:15 PM	W68413
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	4/25/2020 2:34:15 PM	W68413
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	4/25/2020 2:34:15 PM	W68413
Naphthalene	ND	2.0		µg/L	1	4/25/2020 2:34:15 PM	W68413
1-Methylnaphthalene	81	4.0		µg/L	1	4/25/2020 2:34:15 PM	W68413
2-Methylnaphthalene	93	4.0		µg/L	1	4/25/2020 2:34:15 PM	W68413
Acetone	ND	10		µg/L	1	4/25/2020 2:34:15 PM	W68413
Bromobenzene	ND	1.0		µg/L	1	4/25/2020 2:34:15 PM	W68413
Bromodichloromethane	ND	1.0		µg/L	1	4/25/2020 2:34:15 PM	W68413
Bromoform	ND	1.0		µg/L	1	4/25/2020 2:34:15 PM	W68413
Bromomethane	ND	3.0		µg/L	1	4/25/2020 2:34:15 PM	W68413
2-Butanone	ND	10		µg/L	1	4/25/2020 2:34:15 PM	W68413
Carbon disulfide	ND	10		µg/L	1	4/25/2020 2:34:15 PM	W68413
Carbon Tetrachloride	ND	1.0		µg/L	1	4/25/2020 2:34:15 PM	W68413
Chlorobenzene	ND	1.0		µg/L	1	4/25/2020 2:34:15 PM	W68413
Chloroethane	ND	2.0		µg/L	1	4/25/2020 2:34:15 PM	W68413
Chloroform	ND	1.0		µg/L	1	4/25/2020 2:34:15 PM	W68413
Chloromethane	ND	3.0		µg/L	1	4/25/2020 2:34:15 PM	W68413
2-Chlorotoluene	ND	1.0		µg/L	1	4/25/2020 2:34:15 PM	W68413
4-Chlorotoluene	ND	1.0		µg/L	1	4/25/2020 2:34:15 PM	W68413
cis-1,2-DCE	ND	1.0		µg/L	1	4/25/2020 2:34:15 PM	W68413
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	4/25/2020 2:34:15 PM	W68413
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	4/25/2020 2:34:15 PM	W68413
Dibromochloromethane	ND	1.0		µg/L	1	4/25/2020 2:34:15 PM	W68413
Dibromomethane	ND	1.0		µg/L	1	4/25/2020 2:34:15 PM	W68413
1,2-Dichlorobenzene	ND	1.0		µg/L	1	4/25/2020 2:34:15 PM	W68413
1,3-Dichlorobenzene	ND	1.0		µg/L	1	4/25/2020 2:34:15 PM	W68413
1,4-Dichlorobenzene	ND	1.0		µg/L	1	4/25/2020 2:34:15 PM	W68413
Dichlorodifluoromethane	ND	1.0		µg/L	1	4/25/2020 2:34:15 PM	W68413
1,1-Dichloroethane	ND	1.0		µg/L	1	4/25/2020 2:34:15 PM	W68413
1,1-Dichloroethene	ND	1.0		µg/L	1	4/25/2020 2:34:15 PM	W68413

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Intera, Inc. **Client Sample ID:** RAILMW03
Project: COA Rail Yards **Collection Date:** 4/23/2020 11:19:00 AM
Lab ID: 2004A60-004 **Matrix:** AQUEOUS **Received Date:** 4/23/2020 4:38:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **DJF**	
1,2-Dichloropropane	ND	1.0		µg/L	1	4/25/2020 2:34:15 PM	W68413
1,3-Dichloropropane	ND	1.0		µg/L	1	4/25/2020 2:34:15 PM	W68413
2,2-Dichloropropane	ND	2.0		µg/L	1	4/25/2020 2:34:15 PM	W68413
1,1-Dichloropropene	ND	1.0		µg/L	1	4/25/2020 2:34:15 PM	W68413
Hexachlorobutadiene	ND	1.0		µg/L	1	4/25/2020 2:34:15 PM	W68413
2-Hexanone	ND	10		µg/L	1	4/25/2020 2:34:15 PM	W68413
Isopropylbenzene	4.9	1.0		µg/L	1	4/25/2020 2:34:15 PM	W68413
4-Isopropyltoluene	ND	1.0		µg/L	1	4/25/2020 2:34:15 PM	W68413
4-Methyl-2-pentanone	ND	10		µg/L	1	4/25/2020 2:34:15 PM	W68413
Methylene Chloride	ND	3.0		µg/L	1	4/25/2020 2:34:15 PM	W68413
n-Butylbenzene	ND	3.0		µg/L	1	4/25/2020 2:34:15 PM	W68413
n-Propylbenzene	8.7	1.0		µg/L	1	4/25/2020 2:34:15 PM	W68413
sec-Butylbenzene	1.4	1.0		µg/L	1	4/25/2020 2:34:15 PM	W68413
Styrene	ND	1.0		µg/L	1	4/25/2020 2:34:15 PM	W68413
tert-Butylbenzene	ND	1.0		µg/L	1	4/25/2020 2:34:15 PM	W68413
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	4/25/2020 2:34:15 PM	W68413
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	4/25/2020 2:34:15 PM	W68413
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	4/25/2020 2:34:15 PM	W68413
trans-1,2-DCE	ND	1.0		µg/L	1	4/25/2020 2:34:15 PM	W68413
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	4/25/2020 2:34:15 PM	W68413
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	4/25/2020 2:34:15 PM	W68413
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	4/25/2020 2:34:15 PM	W68413
1,1,1-Trichloroethane	ND	1.0		µg/L	1	4/25/2020 2:34:15 PM	W68413
1,1,2-Trichloroethane	ND	1.0		µg/L	1	4/25/2020 2:34:15 PM	W68413
Trichloroethene (TCE)	ND	1.0		µg/L	1	4/25/2020 2:34:15 PM	W68413
Trichlorofluoromethane	ND	1.0		µg/L	1	4/25/2020 2:34:15 PM	W68413
1,2,3-Trichloropropane	ND	2.0		µg/L	1	4/25/2020 2:34:15 PM	W68413
Vinyl chloride	ND	1.0		µg/L	1	4/25/2020 2:34:15 PM	W68413
Xylenes, Total	ND	1.5		µg/L	1	4/25/2020 2:34:15 PM	W68413
Surr: 1,2-Dichloroethane-d4	94.8	70-130		%Rec	1	4/25/2020 2:34:15 PM	W68413
Surr: 4-Bromofluorobenzene	95.6	70-130		%Rec	1	4/25/2020 2:34:15 PM	W68413
Surr: Dibromofluoromethane	102	70-130		%Rec	1	4/25/2020 2:34:15 PM	W68413
Surr: Toluene-d8	96.9	70-130		%Rec	1	4/25/2020 2:34:15 PM	W68413

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Intera, Inc. **Client Sample ID:** RAILMW04
Project: COA Rail Yards **Collection Date:** 4/23/2020 12:19:00 PM
Lab ID: 2004A60-005 **Matrix:** AQUEOUS **Received Date:** 4/23/2020 4:38:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA 200.8: DISSOLVED METALS						Analyst: **bcv**	
Copper	ND	0.0010		mg/L	1	4/29/2020 5:26:47 PM	B68526
Lead	ND	0.00050		mg/L	1	4/29/2020 5:26:47 PM	B68526
EPA METHOD 200.7: DISSOLVED METALS						Analyst: **pmf**	
Barium	0.052	0.0020		mg/L	1	4/27/2020 7:16:09 PM	A68449
Chromium	ND	0.0060		mg/L	1	4/27/2020 7:16:09 PM	A68449
Iron	0.090	0.020		mg/L	1	4/27/2020 7:16:09 PM	A68449
Manganese	0.13	0.0020	*	mg/L	1	4/27/2020 7:16:09 PM	A68449
Zinc	0.016	0.010		mg/L	1	4/27/2020 7:16:09 PM	A68449
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JMR**	
Gasoline Range Organics (GRO)	ND	0.050		mg/L	1	4/26/2020 12:06:02 PM	GW6841
Surr: BFB	102	70-130		%Rec	1	4/26/2020 12:06:02 PM	GW6841
EPA METHOD 8011/504.1: EDB						Analyst: **CLP**	
1,2-Dibromoethane	ND	0.0094		µg/L	1	4/28/2020 12:59:09 PM	52123

NOTES:
No trip blank was included with work order

EPA METHOD 8015M/D: DIESEL RANGE						Analyst: **BRM**	
Diesel Range Organics (DRO)	ND	1.0		mg/L	1	4/29/2020 3:05:35 PM	52139
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	4/29/2020 3:05:35 PM	52139
Surr: DNOP	98.1	70-130		%Rec	1	4/29/2020 3:05:35 PM	52139
EPA METHOD 8310: PAHS						Analyst: **TOM**	
Naphthalene	ND	3.0		µg/L	1	4/29/2020 2:48:53 PM	52095
1-Methylnaphthalene	ND	3.0		µg/L	1	4/29/2020 2:48:53 PM	52095
2-Methylnaphthalene	ND	3.0		µg/L	1	4/29/2020 2:48:53 PM	52095
Acenaphthylene	ND	3.0		µg/L	1	4/29/2020 2:48:53 PM	52095
Acenaphthene	ND	3.0		µg/L	1	4/29/2020 2:48:53 PM	52095
Fluorene	ND	0.80		µg/L	1	4/29/2020 2:48:53 PM	52095
Phenanthrene	ND	0.60		µg/L	1	4/29/2020 2:48:53 PM	52095
Anthracene	ND	0.60		µg/L	1	4/29/2020 2:48:53 PM	52095
Fluoranthene	ND	0.40		µg/L	1	4/29/2020 2:48:53 PM	52095
Pyrene	ND	0.40		µg/L	1	4/29/2020 2:48:53 PM	52095
Benz(a)anthracene	ND	0.070		µg/L	1	4/29/2020 2:48:53 PM	52095
Chrysene	ND	0.20		µg/L	1	4/29/2020 2:48:53 PM	52095
Benzo(b)fluoranthene	ND	0.10		µg/L	1	4/29/2020 2:48:53 PM	52095
Benzo(k)fluoranthene	ND	0.070		µg/L	1	4/29/2020 2:48:53 PM	52095
Benzo(a)pyrene	ND	0.070		µg/L	1	4/29/2020 2:48:53 PM	52095
Dibenz(a,h)anthracene	ND	0.12		µg/L	1	4/29/2020 2:48:53 PM	52095
Benzo(g,h,i)perylene	ND	0.12		µg/L	1	4/29/2020 2:48:53 PM	52095

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Intera, Inc. **Client Sample ID:** RAILMW04
Project: COA Rail Yards **Collection Date:** 4/23/2020 12:19:00 PM
Lab ID: 2004A60-005 **Matrix:** AQUEOUS **Received Date:** 4/23/2020 4:38:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8310: PAHS						Analyst: **TOM**	
Indeno(1,2,3-cd)pyrene	ND	0.25		µg/L	1	4/29/2020 2:48:53 PM	52095
Surr: Benzo(e)pyrene	64.9	43.5-108		%Rec	1	4/29/2020 2:48:53 PM	52095
EPA METHOD 8260B: VOLATILES						Analyst: **DJF**	
Benzene	ND	1.0		µg/L	1	4/25/2020 3:02:51 PM	W68413
Toluene	ND	1.0		µg/L	1	4/25/2020 3:02:51 PM	W68413
Ethylbenzene	ND	1.0		µg/L	1	4/25/2020 3:02:51 PM	W68413
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	4/25/2020 3:02:51 PM	W68413
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	4/25/2020 3:02:51 PM	W68413
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	4/25/2020 3:02:51 PM	W68413
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	4/25/2020 3:02:51 PM	W68413
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	4/25/2020 3:02:51 PM	W68413
Naphthalene	ND	2.0		µg/L	1	4/25/2020 3:02:51 PM	W68413
1-Methylnaphthalene	ND	4.0		µg/L	1	4/25/2020 3:02:51 PM	W68413
2-Methylnaphthalene	ND	4.0		µg/L	1	4/25/2020 3:02:51 PM	W68413
Acetone	ND	10		µg/L	1	4/25/2020 3:02:51 PM	W68413
Bromobenzene	ND	1.0		µg/L	1	4/25/2020 3:02:51 PM	W68413
Bromodichloromethane	ND	1.0		µg/L	1	4/25/2020 3:02:51 PM	W68413
Bromoform	ND	1.0		µg/L	1	4/25/2020 3:02:51 PM	W68413
Bromomethane	ND	3.0		µg/L	1	4/25/2020 3:02:51 PM	W68413
2-Butanone	ND	10		µg/L	1	4/25/2020 3:02:51 PM	W68413
Carbon disulfide	ND	10		µg/L	1	4/25/2020 3:02:51 PM	W68413
Carbon Tetrachloride	ND	1.0		µg/L	1	4/25/2020 3:02:51 PM	W68413
Chlorobenzene	ND	1.0		µg/L	1	4/25/2020 3:02:51 PM	W68413
Chloroethane	ND	2.0		µg/L	1	4/25/2020 3:02:51 PM	W68413
Chloroform	ND	1.0		µg/L	1	4/25/2020 3:02:51 PM	W68413
Chloromethane	ND	3.0		µg/L	1	4/25/2020 3:02:51 PM	W68413
2-Chlorotoluene	ND	1.0		µg/L	1	4/25/2020 3:02:51 PM	W68413
4-Chlorotoluene	ND	1.0		µg/L	1	4/25/2020 3:02:51 PM	W68413
cis-1,2-DCE	ND	1.0		µg/L	1	4/25/2020 3:02:51 PM	W68413
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	4/25/2020 3:02:51 PM	W68413
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	4/25/2020 3:02:51 PM	W68413
Dibromochloromethane	ND	1.0		µg/L	1	4/25/2020 3:02:51 PM	W68413
Dibromomethane	ND	1.0		µg/L	1	4/25/2020 3:02:51 PM	W68413
1,2-Dichlorobenzene	ND	1.0		µg/L	1	4/25/2020 3:02:51 PM	W68413
1,3-Dichlorobenzene	ND	1.0		µg/L	1	4/25/2020 3:02:51 PM	W68413
1,4-Dichlorobenzene	ND	1.0		µg/L	1	4/25/2020 3:02:51 PM	W68413
Dichlorodifluoromethane	ND	1.0		µg/L	1	4/25/2020 3:02:51 PM	W68413
1,1-Dichloroethane	ND	1.0		µg/L	1	4/25/2020 3:02:51 PM	W68413
1,1-Dichloroethene	ND	1.0		µg/L	1	4/25/2020 3:02:51 PM	W68413

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Intera, Inc. **Client Sample ID:** RAILMW04
Project: COA Rail Yards **Collection Date:** 4/23/2020 12:19:00 PM
Lab ID: 2004A60-005 **Matrix:** AQUEOUS **Received Date:** 4/23/2020 4:38:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **DJF**	
1,2-Dichloropropane	ND	1.0		µg/L	1	4/25/2020 3:02:51 PM	W68413
1,3-Dichloropropane	ND	1.0		µg/L	1	4/25/2020 3:02:51 PM	W68413
2,2-Dichloropropane	ND	2.0		µg/L	1	4/25/2020 3:02:51 PM	W68413
1,1-Dichloropropene	ND	1.0		µg/L	1	4/25/2020 3:02:51 PM	W68413
Hexachlorobutadiene	ND	1.0		µg/L	1	4/25/2020 3:02:51 PM	W68413
2-Hexanone	ND	10		µg/L	1	4/25/2020 3:02:51 PM	W68413
Isopropylbenzene	ND	1.0		µg/L	1	4/25/2020 3:02:51 PM	W68413
4-Isopropyltoluene	ND	1.0		µg/L	1	4/25/2020 3:02:51 PM	W68413
4-Methyl-2-pentanone	ND	10		µg/L	1	4/25/2020 3:02:51 PM	W68413
Methylene Chloride	ND	3.0		µg/L	1	4/25/2020 3:02:51 PM	W68413
n-Butylbenzene	ND	3.0		µg/L	1	4/25/2020 3:02:51 PM	W68413
n-Propylbenzene	ND	1.0		µg/L	1	4/25/2020 3:02:51 PM	W68413
sec-Butylbenzene	ND	1.0		µg/L	1	4/25/2020 3:02:51 PM	W68413
Styrene	ND	1.0		µg/L	1	4/25/2020 3:02:51 PM	W68413
tert-Butylbenzene	ND	1.0		µg/L	1	4/25/2020 3:02:51 PM	W68413
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	4/25/2020 3:02:51 PM	W68413
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	4/25/2020 3:02:51 PM	W68413
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	4/25/2020 3:02:51 PM	W68413
trans-1,2-DCE	ND	1.0		µg/L	1	4/25/2020 3:02:51 PM	W68413
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	4/25/2020 3:02:51 PM	W68413
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	4/25/2020 3:02:51 PM	W68413
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	4/25/2020 3:02:51 PM	W68413
1,1,1-Trichloroethane	ND	1.0		µg/L	1	4/25/2020 3:02:51 PM	W68413
1,1,2-Trichloroethane	ND	1.0		µg/L	1	4/25/2020 3:02:51 PM	W68413
Trichloroethene (TCE)	ND	1.0		µg/L	1	4/25/2020 3:02:51 PM	W68413
Trichlorofluoromethane	ND	1.0		µg/L	1	4/25/2020 3:02:51 PM	W68413
1,2,3-Trichloropropane	ND	2.0		µg/L	1	4/25/2020 3:02:51 PM	W68413
Vinyl chloride	ND	1.0		µg/L	1	4/25/2020 3:02:51 PM	W68413
Xylenes, Total	ND	1.5		µg/L	1	4/25/2020 3:02:51 PM	W68413
Surr: 1,2-Dichloroethane-d4	92.2	70-130		%Rec	1	4/25/2020 3:02:51 PM	W68413
Surr: 4-Bromofluorobenzene	102	70-130		%Rec	1	4/25/2020 3:02:51 PM	W68413
Surr: Dibromofluoromethane	100	70-130		%Rec	1	4/25/2020 3:02:51 PM	W68413
Surr: Toluene-d8	97.8	70-130		%Rec	1	4/25/2020 3:02:51 PM	W68413

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Intera, Inc. **Client Sample ID:** RAILMW05
Project: COA Rail Yards **Collection Date:** 4/23/2020 1:17:00 PM
Lab ID: 2004A60-006 **Matrix:** AQUEOUS **Received Date:** 4/23/2020 4:38:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA 200.8: DISSOLVED METALS						Analyst: **bcv**	
Copper	ND	0.0010		mg/L	1	4/29/2020 5:29:23 PM	B68526
Lead	ND	0.00050		mg/L	1	4/29/2020 5:29:23 PM	B68526
EPA METHOD 200.7: DISSOLVED METALS						Analyst: **pmf**	
Barium	0.076	0.0020		mg/L	1	4/27/2020 7:18:49 PM	A68449
Chromium	ND	0.0060		mg/L	1	4/27/2020 7:18:49 PM	A68449
Iron	ND	0.020		mg/L	1	4/27/2020 7:18:49 PM	A68449
Manganese	0.47	0.0020	*	mg/L	1	4/27/2020 7:18:49 PM	A68449
Zinc	0.041	0.010		mg/L	1	4/27/2020 7:18:49 PM	A68449
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **DJF**	
Gasoline Range Organics (GRO)	ND	0.050		mg/L	1	4/25/2020 3:31:19 PM	GW6841
Surr: BFB	99.2	70-130		%Rec	1	4/25/2020 3:31:19 PM	GW6841
EPA METHOD 8011/504.1: EDB						Analyst: **CLP**	
1,2-Dibromoethane	ND	0.0093		µg/L	1	4/28/2020 1:29:34 PM	52123
NOTES:							
No trip blank was included with work order							
EPA METHOD 8015M/D: DIESEL RANGE						Analyst: **BRM**	
Diesel Range Organics (DRO)	ND	1.0		mg/L	1	4/29/2020 3:30:00 PM	52139
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	4/29/2020 3:30:00 PM	52139
Surr: DNOP	102	70-130		%Rec	1	4/29/2020 3:30:00 PM	52139
EPA METHOD 8310: PAHS						Analyst: **TOM**	
Naphthalene	ND	3.0		µg/L	1	4/29/2020 3:14:23 PM	52095
1-Methylnaphthalene	ND	3.0		µg/L	1	4/29/2020 3:14:23 PM	52095
2-Methylnaphthalene	ND	3.0		µg/L	1	4/29/2020 3:14:23 PM	52095
Acenaphthylene	ND	3.0		µg/L	1	4/29/2020 3:14:23 PM	52095
Acenaphthene	ND	3.0		µg/L	1	4/29/2020 3:14:23 PM	52095
Fluorene	ND	0.80		µg/L	1	4/29/2020 3:14:23 PM	52095
Phenanthrene	ND	0.60		µg/L	1	4/29/2020 3:14:23 PM	52095
Anthracene	ND	0.60		µg/L	1	4/29/2020 3:14:23 PM	52095
Fluoranthene	ND	0.40		µg/L	1	4/29/2020 3:14:23 PM	52095
Pyrene	ND	0.40		µg/L	1	4/29/2020 3:14:23 PM	52095
Benz(a)anthracene	ND	0.070		µg/L	1	4/29/2020 3:14:23 PM	52095
Chrysene	ND	0.20		µg/L	1	4/29/2020 3:14:23 PM	52095
Benzo(b)fluoranthene	ND	0.10		µg/L	1	4/29/2020 3:14:23 PM	52095
Benzo(k)fluoranthene	ND	0.070		µg/L	1	4/29/2020 3:14:23 PM	52095
Benzo(a)pyrene	ND	0.070		µg/L	1	4/29/2020 3:14:23 PM	52095
Dibenz(a,h)anthracene	ND	0.12		µg/L	1	4/29/2020 3:14:23 PM	52095
Benzo(g,h,i)perylene	ND	0.12		µg/L	1	4/29/2020 3:14:23 PM	52095

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Intera, Inc. **Client Sample ID:** RAILMW05
Project: COA Rail Yards **Collection Date:** 4/23/2020 1:17:00 PM
Lab ID: 2004A60-006 **Matrix:** AQUEOUS **Received Date:** 4/23/2020 4:38:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8310: PAHS						Analyst: **TOM**	
Indeno(1,2,3-cd)pyrene	ND	0.25		µg/L	1	4/29/2020 3:14:23 PM	52095
Surr: Benzo(e)pyrene	63.3	43.5-108		%Rec	1	4/29/2020 3:14:23 PM	52095
EPA METHOD 8260B: VOLATILES						Analyst: **DJF**	
Benzene	ND	1.0		µg/L	1	4/25/2020 3:31:19 PM	W68413
Toluene	ND	1.0		µg/L	1	4/25/2020 3:31:19 PM	W68413
Ethylbenzene	ND	1.0		µg/L	1	4/25/2020 3:31:19 PM	W68413
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	4/25/2020 3:31:19 PM	W68413
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	4/25/2020 3:31:19 PM	W68413
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	4/25/2020 3:31:19 PM	W68413
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	4/25/2020 3:31:19 PM	W68413
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	4/25/2020 3:31:19 PM	W68413
Naphthalene	ND	2.0		µg/L	1	4/25/2020 3:31:19 PM	W68413
1-Methylnaphthalene	ND	4.0		µg/L	1	4/25/2020 3:31:19 PM	W68413
2-Methylnaphthalene	ND	4.0		µg/L	1	4/25/2020 3:31:19 PM	W68413
Acetone	ND	10		µg/L	1	4/25/2020 3:31:19 PM	W68413
Bromobenzene	ND	1.0		µg/L	1	4/25/2020 3:31:19 PM	W68413
Bromodichloromethane	ND	1.0		µg/L	1	4/25/2020 3:31:19 PM	W68413
Bromoform	ND	1.0		µg/L	1	4/25/2020 3:31:19 PM	W68413
Bromomethane	ND	3.0		µg/L	1	4/25/2020 3:31:19 PM	W68413
2-Butanone	ND	10		µg/L	1	4/25/2020 3:31:19 PM	W68413
Carbon disulfide	ND	10		µg/L	1	4/25/2020 3:31:19 PM	W68413
Carbon Tetrachloride	ND	1.0		µg/L	1	4/25/2020 3:31:19 PM	W68413
Chlorobenzene	ND	1.0		µg/L	1	4/25/2020 3:31:19 PM	W68413
Chloroethane	ND	2.0		µg/L	1	4/25/2020 3:31:19 PM	W68413
Chloroform	ND	1.0		µg/L	1	4/25/2020 3:31:19 PM	W68413
Chloromethane	ND	3.0		µg/L	1	4/25/2020 3:31:19 PM	W68413
2-Chlorotoluene	ND	1.0		µg/L	1	4/25/2020 3:31:19 PM	W68413
4-Chlorotoluene	ND	1.0		µg/L	1	4/25/2020 3:31:19 PM	W68413
cis-1,2-DCE	ND	1.0		µg/L	1	4/25/2020 3:31:19 PM	W68413
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	4/25/2020 3:31:19 PM	W68413
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	4/25/2020 3:31:19 PM	W68413
Dibromochloromethane	ND	1.0		µg/L	1	4/25/2020 3:31:19 PM	W68413
Dibromomethane	ND	1.0		µg/L	1	4/25/2020 3:31:19 PM	W68413
1,2-Dichlorobenzene	ND	1.0		µg/L	1	4/25/2020 3:31:19 PM	W68413
1,3-Dichlorobenzene	ND	1.0		µg/L	1	4/25/2020 3:31:19 PM	W68413
1,4-Dichlorobenzene	ND	1.0		µg/L	1	4/25/2020 3:31:19 PM	W68413
Dichlorodifluoromethane	ND	1.0		µg/L	1	4/25/2020 3:31:19 PM	W68413
1,1-Dichloroethane	ND	1.0		µg/L	1	4/25/2020 3:31:19 PM	W68413
1,1-Dichloroethene	ND	1.0		µg/L	1	4/25/2020 3:31:19 PM	W68413

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Intera, Inc.
Client Sample ID: RAILMW05
Project: COA Rail Yards
Collection Date: 4/23/2020 1:17:00 PM
Lab ID: 2004A60-006 **Matrix:** AQUEOUS **Received Date:** 4/23/2020 4:38:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **DJF**	
1,2-Dichloropropane	ND	1.0		µg/L	1	4/25/2020 3:31:19 PM	W68413
1,3-Dichloropropane	ND	1.0		µg/L	1	4/25/2020 3:31:19 PM	W68413
2,2-Dichloropropane	ND	2.0		µg/L	1	4/25/2020 3:31:19 PM	W68413
1,1-Dichloropropene	ND	1.0		µg/L	1	4/25/2020 3:31:19 PM	W68413
Hexachlorobutadiene	ND	1.0		µg/L	1	4/25/2020 3:31:19 PM	W68413
2-Hexanone	ND	10		µg/L	1	4/25/2020 3:31:19 PM	W68413
Isopropylbenzene	ND	1.0		µg/L	1	4/25/2020 3:31:19 PM	W68413
4-Isopropyltoluene	ND	1.0		µg/L	1	4/25/2020 3:31:19 PM	W68413
4-Methyl-2-pentanone	ND	10		µg/L	1	4/25/2020 3:31:19 PM	W68413
Methylene Chloride	ND	3.0		µg/L	1	4/25/2020 3:31:19 PM	W68413
n-Butylbenzene	ND	3.0		µg/L	1	4/25/2020 3:31:19 PM	W68413
n-Propylbenzene	ND	1.0		µg/L	1	4/25/2020 3:31:19 PM	W68413
sec-Butylbenzene	ND	1.0		µg/L	1	4/25/2020 3:31:19 PM	W68413
Styrene	ND	1.0		µg/L	1	4/25/2020 3:31:19 PM	W68413
tert-Butylbenzene	ND	1.0		µg/L	1	4/25/2020 3:31:19 PM	W68413
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	4/25/2020 3:31:19 PM	W68413
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	4/25/2020 3:31:19 PM	W68413
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	4/25/2020 3:31:19 PM	W68413
trans-1,2-DCE	ND	1.0		µg/L	1	4/25/2020 3:31:19 PM	W68413
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	4/25/2020 3:31:19 PM	W68413
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	4/25/2020 3:31:19 PM	W68413
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	4/25/2020 3:31:19 PM	W68413
1,1,1-Trichloroethane	ND	1.0		µg/L	1	4/25/2020 3:31:19 PM	W68413
1,1,2-Trichloroethane	ND	1.0		µg/L	1	4/25/2020 3:31:19 PM	W68413
Trichloroethene (TCE)	ND	1.0		µg/L	1	4/25/2020 3:31:19 PM	W68413
Trichlorofluoromethane	ND	1.0		µg/L	1	4/25/2020 3:31:19 PM	W68413
1,2,3-Trichloropropane	ND	2.0		µg/L	1	4/25/2020 3:31:19 PM	W68413
Vinyl chloride	ND	1.0		µg/L	1	4/25/2020 3:31:19 PM	W68413
Xylenes, Total	ND	1.5		µg/L	1	4/25/2020 3:31:19 PM	W68413
Surr: 1,2-Dichloroethane-d4	91.0	70-130		%Rec	1	4/25/2020 3:31:19 PM	W68413
Surr: 4-Bromofluorobenzene	99.0	70-130		%Rec	1	4/25/2020 3:31:19 PM	W68413
Surr: Dibromofluoromethane	97.8	70-130		%Rec	1	4/25/2020 3:31:19 PM	W68413
Surr: Toluene-d8	96.3	70-130		%Rec	1	4/25/2020 3:31:19 PM	W68413

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Intera, Inc. **Client Sample ID:** RAILMW11
Project: COA Rail Yards **Collection Date:** 4/23/2020 2:16:00 PM
Lab ID: 2004A60-007 **Matrix:** AQUEOUS **Received Date:** 4/23/2020 4:38:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA 200.8: DISSOLVED METALS						Analyst: **bcv**	
Copper	ND	0.0010		mg/L	1	4/29/2020 5:31:59 PM	B68526
Lead	0.00053	0.00050		mg/L	1	4/29/2020 5:31:59 PM	B68526
EPA METHOD 200.7: DISSOLVED METALS						Analyst: **pmf**	
Barium	0.079	0.0020		mg/L	1	4/27/2020 7:21:33 PM	A68449
Chromium	ND	0.0060		mg/L	1	4/27/2020 7:21:33 PM	A68449
Iron	0.087	0.020		mg/L	1	4/27/2020 7:21:33 PM	A68449
Manganese	0.20	0.0020	*	mg/L	1	4/27/2020 7:21:33 PM	A68449
Zinc	0.021	0.010		mg/L	1	4/27/2020 7:21:33 PM	A68449
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **DJF**	
Gasoline Range Organics (GRO)	0.11	0.050		mg/L	1	4/25/2020 3:59:50 PM	GW6841
Surr: BFB	101	70-130		%Rec	1	4/25/2020 3:59:50 PM	GW6841
EPA METHOD 8011/504.1: EDB						Analyst: **CLP**	
1,2-Dibromoethane	ND	0.0094		µg/L	1	4/28/2020 1:44:41 PM	52123
NOTES:							
No trip blank was included with work order							
EPA METHOD 8015M/D: DIESEL RANGE						Analyst: **BRM**	
Diesel Range Organics (DRO)	ND	1.0		mg/L	1	4/29/2020 3:54:25 PM	52139
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	4/29/2020 3:54:25 PM	52139
Surr: DNOP	99.5	70-130		%Rec	1	4/29/2020 3:54:25 PM	52139
EPA METHOD 8310: PAHS						Analyst: **TOM**	
Naphthalene	ND	3.0		µg/L	1	4/29/2020 3:39:53 PM	52095
1-Methylnaphthalene	ND	3.0		µg/L	1	4/29/2020 3:39:53 PM	52095
2-Methylnaphthalene	ND	3.0		µg/L	1	4/29/2020 3:39:53 PM	52095
Acenaphthylene	ND	3.0		µg/L	1	4/29/2020 3:39:53 PM	52095
Acenaphthene	ND	3.0		µg/L	1	4/29/2020 3:39:53 PM	52095
Fluorene	ND	0.80		µg/L	1	4/29/2020 3:39:53 PM	52095
Phenanthrene	ND	0.60		µg/L	1	4/29/2020 3:39:53 PM	52095
Anthracene	ND	0.60		µg/L	1	4/29/2020 3:39:53 PM	52095
Fluoranthene	ND	0.40		µg/L	1	4/29/2020 3:39:53 PM	52095
Pyrene	ND	0.40		µg/L	1	4/29/2020 3:39:53 PM	52095
Benz(a)anthracene	ND	0.070		µg/L	1	4/29/2020 3:39:53 PM	52095
Chrysene	ND	0.20		µg/L	1	4/29/2020 3:39:53 PM	52095
Benzo(b)fluoranthene	ND	0.10		µg/L	1	4/29/2020 3:39:53 PM	52095
Benzo(k)fluoranthene	ND	0.070		µg/L	1	4/29/2020 3:39:53 PM	52095
Benzo(a)pyrene	ND	0.070		µg/L	1	4/29/2020 3:39:53 PM	52095
Dibenz(a,h)anthracene	ND	0.12		µg/L	1	4/29/2020 3:39:53 PM	52095
Benzo(g,h,i)perylene	ND	0.12		µg/L	1	4/29/2020 3:39:53 PM	52095

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Intera, Inc. **Client Sample ID:** RAILMW11
Project: COA Rail Yards **Collection Date:** 4/23/2020 2:16:00 PM
Lab ID: 2004A60-007 **Matrix:** AQUEOUS **Received Date:** 4/23/2020 4:38:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8310: PAHS						Analyst: **TOM**	
Indeno(1,2,3-cd)pyrene	ND	0.25		µg/L	1	4/29/2020 3:39:53 PM	52095
Surr: Benzo(e)pyrene	127	43.5-108	S	%Rec	1	4/29/2020 3:39:53 PM	52095
EPA METHOD 8260B: VOLATILES						Analyst: **DJF**	
Benzene	ND	1.0		µg/L	1	4/25/2020 3:59:50 PM	W68413
Toluene	ND	1.0		µg/L	1	4/25/2020 3:59:50 PM	W68413
Ethylbenzene	ND	1.0		µg/L	1	4/25/2020 3:59:50 PM	W68413
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	4/25/2020 3:59:50 PM	W68413
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	4/25/2020 3:59:50 PM	W68413
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	4/25/2020 3:59:50 PM	W68413
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	4/25/2020 3:59:50 PM	W68413
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	4/25/2020 3:59:50 PM	W68413
Naphthalene	2.5	2.0		µg/L	1	4/25/2020 3:59:50 PM	W68413
1-Methylnaphthalene	ND	4.0		µg/L	1	4/25/2020 3:59:50 PM	W68413
2-Methylnaphthalene	ND	4.0		µg/L	1	4/25/2020 3:59:50 PM	W68413
Acetone	ND	10		µg/L	1	4/25/2020 3:59:50 PM	W68413
Bromobenzene	ND	1.0		µg/L	1	4/25/2020 3:59:50 PM	W68413
Bromodichloromethane	ND	1.0		µg/L	1	4/25/2020 3:59:50 PM	W68413
Bromoform	ND	1.0		µg/L	1	4/25/2020 3:59:50 PM	W68413
Bromomethane	ND	3.0		µg/L	1	4/25/2020 3:59:50 PM	W68413
2-Butanone	ND	10		µg/L	1	4/25/2020 3:59:50 PM	W68413
Carbon disulfide	ND	10		µg/L	1	4/25/2020 3:59:50 PM	W68413
Carbon Tetrachloride	ND	1.0		µg/L	1	4/25/2020 3:59:50 PM	W68413
Chlorobenzene	ND	1.0		µg/L	1	4/25/2020 3:59:50 PM	W68413
Chloroethane	ND	2.0		µg/L	1	4/25/2020 3:59:50 PM	W68413
Chloroform	ND	1.0		µg/L	1	4/25/2020 3:59:50 PM	W68413
Chloromethane	ND	3.0		µg/L	1	4/25/2020 3:59:50 PM	W68413
2-Chlorotoluene	ND	1.0		µg/L	1	4/25/2020 3:59:50 PM	W68413
4-Chlorotoluene	ND	1.0		µg/L	1	4/25/2020 3:59:50 PM	W68413
cis-1,2-DCE	ND	1.0		µg/L	1	4/25/2020 3:59:50 PM	W68413
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	4/25/2020 3:59:50 PM	W68413
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	4/25/2020 3:59:50 PM	W68413
Dibromochloromethane	ND	1.0		µg/L	1	4/25/2020 3:59:50 PM	W68413
Dibromomethane	ND	1.0		µg/L	1	4/25/2020 3:59:50 PM	W68413
1,2-Dichlorobenzene	ND	1.0		µg/L	1	4/25/2020 3:59:50 PM	W68413
1,3-Dichlorobenzene	ND	1.0		µg/L	1	4/25/2020 3:59:50 PM	W68413
1,4-Dichlorobenzene	ND	1.0		µg/L	1	4/25/2020 3:59:50 PM	W68413
Dichlorodifluoromethane	ND	1.0		µg/L	1	4/25/2020 3:59:50 PM	W68413
1,1-Dichloroethane	ND	1.0		µg/L	1	4/25/2020 3:59:50 PM	W68413
1,1-Dichloroethene	ND	1.0		µg/L	1	4/25/2020 3:59:50 PM	W68413

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Intera, Inc. **Client Sample ID:** RAILMW11
Project: COA Rail Yards **Collection Date:** 4/23/2020 2:16:00 PM
Lab ID: 2004A60-007 **Matrix:** AQUEOUS **Received Date:** 4/23/2020 4:38:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **DJF**	
1,2-Dichloropropane	ND	1.0		µg/L	1	4/25/2020 3:59:50 PM	W68413
1,3-Dichloropropane	ND	1.0		µg/L	1	4/25/2020 3:59:50 PM	W68413
2,2-Dichloropropane	ND	2.0		µg/L	1	4/25/2020 3:59:50 PM	W68413
1,1-Dichloropropene	ND	1.0		µg/L	1	4/25/2020 3:59:50 PM	W68413
Hexachlorobutadiene	ND	1.0		µg/L	1	4/25/2020 3:59:50 PM	W68413
2-Hexanone	ND	10		µg/L	1	4/25/2020 3:59:50 PM	W68413
Isopropylbenzene	2.0	1.0		µg/L	1	4/25/2020 3:59:50 PM	W68413
4-Isopropyltoluene	ND	1.0		µg/L	1	4/25/2020 3:59:50 PM	W68413
4-Methyl-2-pentanone	ND	10		µg/L	1	4/25/2020 3:59:50 PM	W68413
Methylene Chloride	ND	3.0		µg/L	1	4/25/2020 3:59:50 PM	W68413
n-Butylbenzene	ND	3.0		µg/L	1	4/25/2020 3:59:50 PM	W68413
n-Propylbenzene	5.2	1.0		µg/L	1	4/25/2020 3:59:50 PM	W68413
sec-Butylbenzene	ND	1.0		µg/L	1	4/25/2020 3:59:50 PM	W68413
Styrene	ND	1.0		µg/L	1	4/25/2020 3:59:50 PM	W68413
tert-Butylbenzene	ND	1.0		µg/L	1	4/25/2020 3:59:50 PM	W68413
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	4/25/2020 3:59:50 PM	W68413
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	4/25/2020 3:59:50 PM	W68413
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	4/25/2020 3:59:50 PM	W68413
trans-1,2-DCE	ND	1.0		µg/L	1	4/25/2020 3:59:50 PM	W68413
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	4/25/2020 3:59:50 PM	W68413
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	4/25/2020 3:59:50 PM	W68413
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	4/25/2020 3:59:50 PM	W68413
1,1,1-Trichloroethane	ND	1.0		µg/L	1	4/25/2020 3:59:50 PM	W68413
1,1,2-Trichloroethane	ND	1.0		µg/L	1	4/25/2020 3:59:50 PM	W68413
Trichloroethene (TCE)	ND	1.0		µg/L	1	4/25/2020 3:59:50 PM	W68413
Trichlorofluoromethane	ND	1.0		µg/L	1	4/25/2020 3:59:50 PM	W68413
1,2,3-Trichloropropane	ND	2.0		µg/L	1	4/25/2020 3:59:50 PM	W68413
Vinyl chloride	ND	1.0		µg/L	1	4/25/2020 3:59:50 PM	W68413
Xylenes, Total	ND	1.5		µg/L	1	4/25/2020 3:59:50 PM	W68413
Surr: 1,2-Dichloroethane-d4	92.5	70-130		%Rec	1	4/25/2020 3:59:50 PM	W68413
Surr: 4-Bromofluorobenzene	103	70-130		%Rec	1	4/25/2020 3:59:50 PM	W68413
Surr: Dibromofluoromethane	96.8	70-130		%Rec	1	4/25/2020 3:59:50 PM	W68413
Surr: Toluene-d8	97.0	70-130		%Rec	1	4/25/2020 3:59:50 PM	W68413

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Intera, Inc. **Client Sample ID:** RAILMW10
Project: COA Rail Yards **Collection Date:** 4/23/2020 3:40:00 PM
Lab ID: 2004A60-008 **Matrix:** AQUEOUS **Received Date:** 4/23/2020 4:38:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA 200.8: DISSOLVED METALS						Analyst: **bcv**	
Copper	ND	0.0010		mg/L	1	4/29/2020 5:34:35 PM	B68526
Lead	ND	0.00050		mg/L	1	4/29/2020 5:34:35 PM	B68526
EPA METHOD 200.7: DISSOLVED METALS						Analyst: **pmf**	
Barium	0.053	0.0020		mg/L	1	4/27/2020 7:24:11 PM	A68449
Chromium	ND	0.0060		mg/L	1	4/27/2020 7:24:11 PM	A68449
Iron	ND	0.020		mg/L	1	4/27/2020 7:24:11 PM	A68449
Manganese	0.18	0.0020	*	mg/L	1	4/27/2020 7:24:11 PM	A68449
Zinc	0.029	0.010		mg/L	1	4/27/2020 7:24:11 PM	A68449
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **DJF**	
Gasoline Range Organics (GRO)	ND	0.050		mg/L	1	4/25/2020 4:28:21 PM	GW6841
Surr: BFB	99.6	70-130		%Rec	1	4/25/2020 4:28:21 PM	GW6841
EPA METHOD 8011/504.1: EDB						Analyst: **CLP**	
1,2-Dibromoethane	ND	0.0094		µg/L	1	4/28/2020 1:59:48 PM	52123

NOTES:
No trip blank was included with work order

EPA METHOD 8015M/D: DIESEL RANGE						Analyst: **BRM**	
Diesel Range Organics (DRO)	ND	1.0		mg/L	1	4/29/2020 4:18:48 PM	52139
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	4/29/2020 4:18:48 PM	52139
Surr: DNOP	101	70-130		%Rec	1	4/29/2020 4:18:48 PM	52139
EPA METHOD 8310: PAHS						Analyst: **TOM**	
Naphthalene	ND	3.6		µg/L	1	5/4/2020 9:37:38 AM	52187
1-Methylnaphthalene	ND	3.6		µg/L	1	5/4/2020 9:37:38 AM	52187
2-Methylnaphthalene	ND	3.6		µg/L	1	5/4/2020 9:37:38 AM	52187
Acenaphthylene	ND	3.6		µg/L	1	5/4/2020 9:37:38 AM	52187
Acenaphthene	ND	3.6		µg/L	1	5/4/2020 9:37:38 AM	52187
Fluorene	ND	0.96		µg/L	1	5/4/2020 9:37:38 AM	52187
Phenanthrene	ND	0.72		µg/L	1	5/4/2020 9:37:38 AM	52187
Anthracene	ND	0.72		µg/L	1	5/4/2020 9:37:38 AM	52187
Fluoranthene	ND	0.48		µg/L	1	5/4/2020 9:37:38 AM	52187
Pyrene	ND	0.48		µg/L	1	5/4/2020 9:37:38 AM	52187
Benz(a)anthracene	ND	0.084		µg/L	1	5/4/2020 9:37:38 AM	52187
Chrysene	ND	0.24		µg/L	1	5/4/2020 9:37:38 AM	52187
Benzo(b)fluoranthene	ND	0.12		µg/L	1	5/4/2020 9:37:38 AM	52187
Benzo(k)fluoranthene	ND	0.084		µg/L	1	5/4/2020 9:37:38 AM	52187
Benzo(a)pyrene	ND	0.084		µg/L	1	5/4/2020 9:37:38 AM	52187
Dibenz(a,h)anthracene	ND	0.15		µg/L	1	5/4/2020 9:37:38 AM	52187
Benzo(g,h,i)perylene	ND	0.15		µg/L	1	5/4/2020 9:37:38 AM	52187

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Intera, Inc. **Client Sample ID:** RAILMW10
Project: COA Rail Yards **Collection Date:** 4/23/2020 3:40:00 PM
Lab ID: 2004A60-008 **Matrix:** AQUEOUS **Received Date:** 4/23/2020 4:38:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8310: PAHS						Analyst: **TOM**	
Indeno(1,2,3-cd)pyrene	ND	0.30		µg/L	1	5/4/2020 9:37:38 AM	52187
Surr: Benzo(e)pyrene	64.7	43.5-108		%Rec	1	5/4/2020 9:37:38 AM	52187
EPA METHOD 8260B: VOLATILES						Analyst: **DJF**	
Benzene	ND	1.0		µg/L	1	4/25/2020 4:28:21 PM	W68413
Toluene	ND	1.0		µg/L	1	4/25/2020 4:28:21 PM	W68413
Ethylbenzene	ND	1.0		µg/L	1	4/25/2020 4:28:21 PM	W68413
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	4/25/2020 4:28:21 PM	W68413
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	4/25/2020 4:28:21 PM	W68413
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	4/25/2020 4:28:21 PM	W68413
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	4/25/2020 4:28:21 PM	W68413
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	4/25/2020 4:28:21 PM	W68413
Naphthalene	ND	2.0		µg/L	1	4/25/2020 4:28:21 PM	W68413
1-Methylnaphthalene	ND	4.0		µg/L	1	4/25/2020 4:28:21 PM	W68413
2-Methylnaphthalene	ND	4.0		µg/L	1	4/25/2020 4:28:21 PM	W68413
Acetone	ND	10		µg/L	1	4/25/2020 4:28:21 PM	W68413
Bromobenzene	ND	1.0		µg/L	1	4/25/2020 4:28:21 PM	W68413
Bromodichloromethane	ND	1.0		µg/L	1	4/25/2020 4:28:21 PM	W68413
Bromoform	ND	1.0		µg/L	1	4/25/2020 4:28:21 PM	W68413
Bromomethane	ND	3.0		µg/L	1	4/25/2020 4:28:21 PM	W68413
2-Butanone	ND	10		µg/L	1	4/25/2020 4:28:21 PM	W68413
Carbon disulfide	ND	10		µg/L	1	4/25/2020 4:28:21 PM	W68413
Carbon Tetrachloride	ND	1.0		µg/L	1	4/25/2020 4:28:21 PM	W68413
Chlorobenzene	ND	1.0		µg/L	1	4/25/2020 4:28:21 PM	W68413
Chloroethane	ND	2.0		µg/L	1	4/25/2020 4:28:21 PM	W68413
Chloroform	ND	1.0		µg/L	1	4/25/2020 4:28:21 PM	W68413
Chloromethane	ND	3.0		µg/L	1	4/25/2020 4:28:21 PM	W68413
2-Chlorotoluene	ND	1.0		µg/L	1	4/25/2020 4:28:21 PM	W68413
4-Chlorotoluene	ND	1.0		µg/L	1	4/25/2020 4:28:21 PM	W68413
cis-1,2-DCE	ND	1.0		µg/L	1	4/25/2020 4:28:21 PM	W68413
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	4/25/2020 4:28:21 PM	W68413
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	4/25/2020 4:28:21 PM	W68413
Dibromochloromethane	ND	1.0		µg/L	1	4/25/2020 4:28:21 PM	W68413
Dibromomethane	ND	1.0		µg/L	1	4/25/2020 4:28:21 PM	W68413
1,2-Dichlorobenzene	ND	1.0		µg/L	1	4/25/2020 4:28:21 PM	W68413
1,3-Dichlorobenzene	ND	1.0		µg/L	1	4/25/2020 4:28:21 PM	W68413
1,4-Dichlorobenzene	ND	1.0		µg/L	1	4/25/2020 4:28:21 PM	W68413
Dichlorodifluoromethane	ND	1.0		µg/L	1	4/25/2020 4:28:21 PM	W68413
1,1-Dichloroethane	ND	1.0		µg/L	1	4/25/2020 4:28:21 PM	W68413
1,1-Dichloroethene	ND	1.0		µg/L	1	4/25/2020 4:28:21 PM	W68413

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

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PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Intera, Inc. **Client Sample ID:** RAILMW10
Project: COA Rail Yards **Collection Date:** 4/23/2020 3:40:00 PM
Lab ID: 2004A60-008 **Matrix:** AQUEOUS **Received Date:** 4/23/2020 4:38:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **DJF**	
1,2-Dichloropropane	ND	1.0		µg/L	1	4/25/2020 4:28:21 PM	W68413
1,3-Dichloropropane	ND	1.0		µg/L	1	4/25/2020 4:28:21 PM	W68413
2,2-Dichloropropane	ND	2.0		µg/L	1	4/25/2020 4:28:21 PM	W68413
1,1-Dichloropropene	ND	1.0		µg/L	1	4/25/2020 4:28:21 PM	W68413
Hexachlorobutadiene	ND	1.0		µg/L	1	4/25/2020 4:28:21 PM	W68413
2-Hexanone	ND	10		µg/L	1	4/25/2020 4:28:21 PM	W68413
Isopropylbenzene	ND	1.0		µg/L	1	4/25/2020 4:28:21 PM	W68413
4-Isopropyltoluene	ND	1.0		µg/L	1	4/25/2020 4:28:21 PM	W68413
4-Methyl-2-pentanone	ND	10		µg/L	1	4/25/2020 4:28:21 PM	W68413
Methylene Chloride	ND	3.0		µg/L	1	4/25/2020 4:28:21 PM	W68413
n-Butylbenzene	ND	3.0		µg/L	1	4/25/2020 4:28:21 PM	W68413
n-Propylbenzene	ND	1.0		µg/L	1	4/25/2020 4:28:21 PM	W68413
sec-Butylbenzene	ND	1.0		µg/L	1	4/25/2020 4:28:21 PM	W68413
Styrene	ND	1.0		µg/L	1	4/25/2020 4:28:21 PM	W68413
tert-Butylbenzene	ND	1.0		µg/L	1	4/25/2020 4:28:21 PM	W68413
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	4/25/2020 4:28:21 PM	W68413
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	4/25/2020 4:28:21 PM	W68413
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	4/25/2020 4:28:21 PM	W68413
trans-1,2-DCE	ND	1.0		µg/L	1	4/25/2020 4:28:21 PM	W68413
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	4/25/2020 4:28:21 PM	W68413
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	4/25/2020 4:28:21 PM	W68413
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	4/25/2020 4:28:21 PM	W68413
1,1,1-Trichloroethane	ND	1.0		µg/L	1	4/25/2020 4:28:21 PM	W68413
1,1,2-Trichloroethane	ND	1.0		µg/L	1	4/25/2020 4:28:21 PM	W68413
Trichloroethene (TCE)	ND	1.0		µg/L	1	4/25/2020 4:28:21 PM	W68413
Trichlorofluoromethane	ND	1.0		µg/L	1	4/25/2020 4:28:21 PM	W68413
1,2,3-Trichloropropane	ND	2.0		µg/L	1	4/25/2020 4:28:21 PM	W68413
Vinyl chloride	ND	1.0		µg/L	1	4/25/2020 4:28:21 PM	W68413
Xylenes, Total	ND	1.5		µg/L	1	4/25/2020 4:28:21 PM	W68413
Surr: 1,2-Dichloroethane-d4	95.1	70-130		%Rec	1	4/25/2020 4:28:21 PM	W68413
Surr: 4-Bromofluorobenzene	99.7	70-130		%Rec	1	4/25/2020 4:28:21 PM	W68413
Surr: Dibromofluoromethane	99.6	70-130		%Rec	1	4/25/2020 4:28:21 PM	W68413
Surr: Toluene-d8	96.2	70-130		%Rec	1	4/25/2020 4:28:21 PM	W68413

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
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QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2004A60**
06-May-20

Client: Intera, Inc.
Project: COA Rail Yards

Sample ID: **MB-A**	SampType: **MBLK**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **PBW**	Batch ID: **A68449**	RunNo: **68449**
Prep Date:	Analysis Date: **4/27/2020**	SeqNo: **2368369** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.0020								
Chromium	ND	0.0060								
Iron	ND	0.020								
Manganese	ND	0.0020								
Zinc	ND	0.010								

Sample ID: **LLLCS-A**	SampType: **LCSLL**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **BatchQC**	Batch ID: **A68449**	RunNo: **68449**
Prep Date:	Analysis Date: **4/27/2020**	SeqNo: **2368373** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.0020	0.002000	0	94.6	50	150			
Chromium	ND	0.0060	0.006000	0	99.4	50	150			
Iron	ND	0.020	0.02000	0	87.9	50	150			
Manganese	ND	0.0020	0.002000	0	95.8	50	150			
Zinc	ND	0.010	0.01000	0	90.9	50	150			

Sample ID: **LCS-A**	SampType: **LCS**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **A68449**	RunNo: **68449**
Prep Date:	Analysis Date: **4/27/2020**	SeqNo: **2368375** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.44	0.0020	0.5000	0	88.8	85	115			
Chromium	0.43	0.0060	0.5000	0	86.5	85	115			
Iron	0.48	0.020	0.5000	0	96.0	85	115			
Manganese	0.46	0.0020	0.5000	0	91.3	85	115			
Zinc	0.43	0.010	0.5000	0	85.9	85	115			

Sample ID: **MB-A**	SampType: **MBLK**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **PBW**	Batch ID: **A68450**	RunNo: **68450**
Prep Date:	Analysis Date: **4/28/2020**	SeqNo: **2368467** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chromium	ND	0.0060								
Iron	ND	0.020								

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2004A60**
06-May-20

Client: Intera, Inc.
Project: COA Rail Yards

Sample ID: **LLLCS-A**	SampType: **LCSLL**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **BatchQC**	Batch ID: **A68450**	RunNo: **68450**
Prep Date:	Analysis Date: **4/28/2020**	SeqNo: **2368469** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chromium	ND	0.0060	0.006000	0	95.8	50	150			
Iron	ND	0.020	0.02000	0	93.8	50	150			

Sample ID: **LCS**	SampType: **LCS**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **A68450**	RunNo: **68450**
Prep Date:	Analysis Date: **4/28/2020**	SeqNo: **2368479** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chromium	0.46	0.0060	0.5000	0	91.9	85	115			
Iron	0.50	0.020	0.5000	0	99.5	85	115			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
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E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2004A60**
06-May-20

Client: Intera, Inc.
Project: COA Rail Yards

Sample ID: **MB** SampType: **MBLK** TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **PBW** Batch ID: **B68526** RunNo: **68526**
Prep Date: Analysis Date: **4/29/2020** SeqNo: **2371038** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Copper	ND	0.0010								
Lead	ND	0.00050								

Sample ID: **LLLCS** SampType: **LCSLL** TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **BatchQC** Batch ID: **B68526** RunNo: **68526**
Prep Date: Analysis Date: **4/29/2020** SeqNo: **2371039** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Copper	ND	0.0010	0.001000	0	97.0	50	150			
Lead	0.00050	0.00050	0.0005000	0	100	50	150			

Sample ID: **LCS** SampType: **LCS** TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **LCSW** Batch ID: **B68526** RunNo: **68526**
Prep Date: Analysis Date: **4/29/2020** SeqNo: **2371040** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Copper	0.024	0.0010	0.02500	0	96.7	85	115			
Lead	0.012	0.00050	0.01250	0	96.9	85	115			

Sample ID: **2004A60-001EMSLL** SampType: **MS** TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **RAILMW08** Batch ID: **B68526** RunNo: **68526**
Prep Date: Analysis Date: **4/29/2020** SeqNo: **2371042** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Copper	0.024	0.0010	0.02500	0.0007778	91.7	70	130			
Lead	0.011	0.00050	0.01250	0	85.1	70	130			

Sample ID: **2004A60-001EMSDL** SampType: **MSD** TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **RAILMW08** Batch ID: **B68526** RunNo: **68526**
Prep Date: Analysis Date: **4/29/2020** SeqNo: **2371043** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Copper	0.024	0.0010	0.02500	0.0007778	94.4	70	130	2.81	20	
Lead	0.011	0.00050	0.01250	0	86.6	70	130	1.74	20	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
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H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2004A60**
06-May-20

Client: Intera, Inc.
Project: COA Rail Yards

Sample ID: **MB-52123**	SampType: **MBLK**	TestCode: **EPA Method 8011/504.1: EDB**
Client ID: **PBW**	Batch ID: **52123**	RunNo: **68492**
Prep Date: **4/28/2020**	Analysis Date: **4/28/2020**	SeqNo: **2369970** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2-Dibromoethane	ND	0.010								

Sample ID: **LCS-52123**	SampType: **LCS**	TestCode: **EPA Method 8011/504.1: EDB**
Client ID: **LCSW**	Batch ID: **52123**	RunNo: **68492**
Prep Date: **4/28/2020**	Analysis Date: **4/28/2020**	SeqNo: **2369971** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2-Dibromoethane	0.12	0.010	0.1000	0	117	70	130			

Sample ID: **2004A60-003BMS**	SampType: **MS**	TestCode: **EPA Method 8011/504.1: EDB**
Client ID: **RAILMW02**	Batch ID: **52123**	RunNo: **68492**
Prep Date: **4/28/2020**	Analysis Date: **4/28/2020**	SeqNo: **2369996** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2-Dibromoethane	0.097	0.0093	0.09333	0	104	65	135			

Sample ID: **2004A60-003BMSD**	SampType: **MSD**	TestCode: **EPA Method 8011/504.1: EDB**
Client ID: **RAILMW02**	Batch ID: **52123**	RunNo: **68492**
Prep Date: **4/28/2020**	Analysis Date: **4/28/2020**	SeqNo: **2369997** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2-Dibromoethane	0.10	0.0094	0.09434	0	106	65	135	2.59	20	

Sample ID: **MB-52123**	SampType: **MBLK**	TestCode: **EPA Method 8011/504.1: EDB**
Client ID: **PBW**	Batch ID: **52123**	RunNo: **68492**
Prep Date: **4/28/2020**	Analysis Date: **4/28/2020**	SeqNo: **2369999** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2-Dibromoethane	ND	0.010								

NOTES:
No trip blank was included with work order
No trip blank was included with work order

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
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QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2004A60**
06-May-20

Client: Intera, Inc.
Project: COA Rail Yards

Sample ID: **2004A60-001CMS** SampType: **MS** TestCode: **EPA Method 8015M/D: Diesel Range**
Client ID: **RAILMW08** Batch ID: **52139** RunNo: **68535**
Prep Date: **4/28/2020** Analysis Date: **4/29/2020** SeqNo: **2371369** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	5.0	1.0	5.000	0	99.7	70	130			
Surr: DNOP	0.48		0.5000		96.2	70	130			

Sample ID: **2004A60-001CMSD** SampType: **MSD** TestCode: **EPA Method 8015M/D: Diesel Range**
Client ID: **RAILMW08** Batch ID: **52139** RunNo: **68535**
Prep Date: **4/28/2020** Analysis Date: **4/29/2020** SeqNo: **2371370** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	4.8	1.0	5.000	0	96.8	70	130	2.96	20	
Surr: DNOP	0.46		0.5000		92.6	70	130	0	0	

Sample ID: **LCS-52139** SampType: **LCS** TestCode: **EPA Method 8015M/D: Diesel Range**
Client ID: **LCSW** Batch ID: **52139** RunNo: **68535**
Prep Date: **4/28/2020** Analysis Date: **4/29/2020** SeqNo: **2371388** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	5.3	1.0	5.000	0	106	70	130			
Surr: DNOP	0.48		0.5000		96.3	70	130			

Sample ID: **MB-52139** SampType: **MBLK** TestCode: **EPA Method 8015M/D: Diesel Range**
Client ID: **PBW** Batch ID: **52139** RunNo: **68535**
Prep Date: **4/28/2020** Analysis Date: **4/29/2020** SeqNo: **2371389** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	1.0								
Motor Oil Range Organics (MRO)	ND	5.0								
Surr: DNOP	0.92		1.000		92.2	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2004A60**
06-May-20

Client: Intera, Inc.
Project: COA Rail Yards

Sample ID: **mb1**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **W68413**	RunNo: **68413**
Prep Date:	Analysis Date: **4/25/2020**	SeqNo: **2366850** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Methyl tert-butyl ether (MTBE)	ND	1.0								
1,2,4-Trimethylbenzene	ND	1.0								
1,3,5-Trimethylbenzene	ND	1.0								
1,2-Dichloroethane (EDC)	ND	1.0								
1,2-Dibromoethane (EDB)	ND	1.0								
Naphthalene	ND	2.0								
1-Methylnaphthalene	ND	4.0								
2-Methylnaphthalene	ND	4.0								
Acetone	ND	10								
Bromobenzene	ND	1.0								
Bromodichloromethane	ND	1.0								
Bromoform	ND	1.0								
Bromomethane	ND	3.0								
2-Butanone	ND	10								
Carbon disulfide	ND	10								
Carbon Tetrachloride	ND	1.0								
Chlorobenzene	ND	1.0								
Chloroethane	ND	2.0								
Chloroform	ND	1.0								
Chloromethane	ND	3.0								
2-Chlorotoluene	ND	1.0								
4-Chlorotoluene	ND	1.0								
cis-1,2-DCE	ND	1.0								
cis-1,3-Dichloropropene	ND	1.0								
1,2-Dibromo-3-chloropropane	ND	2.0								
Dibromochloromethane	ND	1.0								
Dibromomethane	ND	1.0								
1,2-Dichlorobenzene	ND	1.0								
1,3-Dichlorobenzene	ND	1.0								
1,4-Dichlorobenzene	ND	1.0								
Dichlorodifluoromethane	ND	1.0								
1,1-Dichloroethane	ND	1.0								
1,1-Dichloroethene	ND	1.0								
1,2-Dichloropropane	ND	1.0								
1,3-Dichloropropane	ND	1.0								
2,2-Dichloropropane	ND	2.0								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2004A60**

06-May-20

Client: Intera, Inc.

Project: COA Rail Yards

Sample ID: **mb1**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **W68413**	RunNo: **68413**
Prep Date:	Analysis Date: **4/25/2020**	SeqNo: **2366850** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1-Dichloropropene	ND	1.0								
Hexachlorobutadiene	ND	1.0								
2-Hexanone	ND	10								
Isopropylbenzene	ND	1.0								
4-Isopropyltoluene	ND	1.0								
4-Methyl-2-pentanone	ND	10								
Methylene Chloride	ND	3.0								
n-Butylbenzene	ND	3.0								
n-Propylbenzene	ND	1.0								
sec-Butylbenzene	ND	1.0								
Styrene	ND	1.0								
tert-Butylbenzene	ND	1.0								
1,1,1,2-Tetrachloroethane	ND	1.0								
1,1,2,2-Tetrachloroethane	ND	2.0								
Tetrachloroethene (PCE)	ND	1.0								
trans-1,2-DCE	ND	1.0								
trans-1,3-Dichloropropene	ND	1.0								
1,2,3-Trichlorobenzene	ND	1.0								
1,2,4-Trichlorobenzene	ND	1.0								
1,1,1-Trichloroethane	ND	1.0								
1,1,2-Trichloroethane	ND	1.0								
Trichloroethene (TCE)	ND	1.0								
Trichlorofluoromethane	ND	1.0								
1,2,3-Trichloropropane	ND	2.0								
Vinyl chloride	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	9.3		10.00		93.3	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		100	70	130			
Surr: Dibromofluoromethane	9.8		10.00		98.0	70	130			
Surr: Toluene-d8	9.6		10.00		95.6	70	130			

Sample ID: **100ng lcs**	SampType: **LCS**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **LCSW**	Batch ID: **W68413**	RunNo: **68413**
Prep Date:	Analysis Date: **4/25/2020**	SeqNo: **2366851** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	20	1.0	20.00	0	97.8	70	130			
Toluene	22	1.0	20.00	0	108	70	130			
Chlorobenzene	23	1.0	20.00	0	114	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2004A60**

06-May-20

Client: Intera, Inc.

Project: COA Rail Yards

Sample ID: **100ng lcs** SampType: **LCS** TestCode: **EPA Method 8260B: VOLATILES**

Client ID: **LCSW** Batch ID: **W68413** RunNo: **68413**

Prep Date: Analysis Date: **4/25/2020** SeqNo: **2366851** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1-Dichloroethene	21	1.0	20.00	0	107	70	130			
Trichloroethene (TCE)	19	1.0	20.00	0	95.1	70	130			
Surr: 1,2-Dichloroethane-d4	9.2		10.00		92.1	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		99.8	70	130			
Surr: Dibromofluoromethane	9.8		10.00		98.0	70	130			
Surr: Toluene-d8	9.8		10.00		97.8	70	130			

Sample ID: **2004a60-001a ms** SampType: **MS** TestCode: **EPA Method 8260B: VOLATILES**

Client ID: **RAILMW08** Batch ID: **W68413** RunNo: **68413**

Prep Date: Analysis Date: **4/25/2020** SeqNo: **2366855** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	19	1.0	20.00	0	95.4	70	130			
Toluene	21	1.0	20.00	0	104	70	130			
Chlorobenzene	22	1.0	20.00	0	112	70	130			
1,1-Dichloroethene	20	1.0	20.00	0	101	70	130			
Trichloroethene (TCE)	19	1.0	20.00	0	92.6	70	130			
Surr: 1,2-Dichloroethane-d4	8.8		10.00		88.3	70	130			
Surr: 4-Bromofluorobenzene	9.8		10.00		98.4	70	130			
Surr: Dibromofluoromethane	10		10.00		99.9	70	130			
Surr: Toluene-d8	9.7		10.00		96.8	70	130			

Sample ID: **2004a60-001a msd** SampType: **MSD** TestCode: **EPA Method 8260B: VOLATILES**

Client ID: **RAILMW08** Batch ID: **W68413** RunNo: **68413**

Prep Date: Analysis Date: **4/25/2020** SeqNo: **2366856** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	18	1.0	20.00	0	89.8	70	130	6.12	20	
Toluene	20	1.0	20.00	0	101	70	130	3.14	20	
Chlorobenzene	21	1.0	20.00	0	107	70	130	4.32	20	
1,1-Dichloroethene	19	1.0	20.00	0	95.3	70	130	5.75	20	
Trichloroethene (TCE)	18	1.0	20.00	0	89.7	70	130	3.13	20	
Surr: 1,2-Dichloroethane-d4	9.2		10.00		91.8	70	130	0	0	
Surr: 4-Bromofluorobenzene	9.9		10.00		99.4	70	130	0	0	
Surr: Dibromofluoromethane	9.5		10.00		94.6	70	130	0	0	
Surr: Toluene-d8	9.7		10.00		96.8	70	130	0	0	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2004A60**

06-May-20

Client: Intera, Inc.

Project: COA Rail Yards

Sample ID: **MB-52095**	SampType: **MBLK**	TestCode: **EPA Method 8310: PAHs**
Client ID: **PBW**	Batch ID: **52095**	RunNo: **68458**
Prep Date: **4/27/2020**	Analysis Date: **4/28/2020**	SeqNo: **2369419** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Naphthalene	ND	3.0								
1-Methylnaphthalene	ND	3.0								
2-Methylnaphthalene	ND	3.0								
Acenaphthylene	ND	3.0								
Acenaphthene	ND	3.0								
Fluorene	ND	0.80								
Phenanthrene	ND	0.60								
Anthracene	ND	0.60								
Fluoranthene	ND	0.40								
Pyrene	ND	0.40								
Benz(a)anthracene	ND	0.070								
Chrysene	ND	0.20								
Benzo(b)fluoranthene	ND	0.10								
Benzo(k)fluoranthene	ND	0.070								
Benzo(a)pyrene	ND	0.070								
Dibenz(a,h)anthracene	ND	0.12								
Benzo(g,h,i)perylene	ND	0.12								
Indeno(1,2,3-cd)pyrene	ND	0.25								
Surr: Benzo(e)pyrene	10		20.00		50.0	43.5	108			

Sample ID: **LCS-52095**	SampType: **LCS**	TestCode: **EPA Method 8310: PAHs**
Client ID: **LCSW**	Batch ID: **52095**	RunNo: **68458**
Prep Date: **4/27/2020**	Analysis Date: **4/28/2020**	SeqNo: **2369420** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Naphthalene	36	3.0	80.00	0	45.4	34	92.6			
1-Methylnaphthalene	38	3.0	80.20	0	47.1	35.4	95.3			
2-Methylnaphthalene	38	3.0	80.00	0	46.9	33.7	95.3			
Acenaphthylene	38	3.0	80.20	0	46.8	32.1	112			
Acenaphthene	38	3.0	80.00	0	47.2	38.5	103			
Fluorene	3.6	0.80	8.020	0	45.5	35	111			
Phenanthrene	2.0	0.60	4.020	0	50.7	35.4	112			
Anthracene	2.1	0.60	4.020	0	51.7	36.7	116			
Fluoranthene	4.4	0.40	8.020	0	54.7	26.8	121			
Pyrene	4.2	0.40	8.020	0	52.7	37.8	117			
Benz(a)anthracene	0.44	0.070	0.8020	0	54.9	36.1	122			
Chrysene	2.2	0.20	4.020	0	54.0	37.3	118			
Benzo(b)fluoranthene	0.54	0.10	1.002	0	53.9	35.6	120			
Benzo(k)fluoranthene	0.27	0.070	0.5000	0	54.0	36.2	118			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2004A60**
06-May-20

Client: Intera, Inc.
Project: COA Rail Yards

Sample ID: **LCS-52095**	SampType: **LCS**	TestCode: **EPA Method 8310: PAHs**
Client ID: **LCSW**	Batch ID: **52095**	RunNo: **68458**
Prep Date: **4/27/2020**	Analysis Date: **4/28/2020**	SeqNo: **2369420** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzo(a)pyrene	0.26	0.070	0.5020	0	51.8	37.3	115			
Dibenz(a,h)anthracene	0.52	0.12	1.002	0	51.9	32.7	125			
Benzo(g,h,i)perylene	0.52	0.12	1.000	0	52.0	34.8	123			
Indeno(1,2,3-cd)pyrene	1.1	0.25	2.004	0	52.9	33.3	123			
Surr: Benzo(e)pyrene	11		20.00		55.7	43.5	108			

Sample ID: **MB-52095**	SampType: **MBLK**	TestCode: **EPA Method 8310: PAHs**
Client ID: **PBW**	Batch ID: **52095**	RunNo: **68458**
Prep Date: **4/27/2020**	Analysis Date: **4/28/2020**	SeqNo: **2370355** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Naphthalene	ND	3.0								
1-Methylnaphthalene	ND	3.0								
2-Methylnaphthalene	ND	3.0								
Acenaphthylene	ND	3.0								
Acenaphthene	ND	3.0								
Fluorene	ND	0.80								
Phenanthrene	ND	0.60								
Anthracene	ND	0.60								
Fluoranthene	ND	0.40								
Pyrene	ND	0.40								
Benz(a)anthracene	ND	0.070								
Chrysene	ND	0.20								
Benzo(b)fluoranthene	ND	0.10								
Benzo(k)fluoranthene	ND	0.070								
Benzo(a)pyrene	ND	0.070								
Dibenz(a,h)anthracene	ND	0.12								
Benzo(g,h,i)perylene	ND	0.12								
Indeno(1,2,3-cd)pyrene	ND	0.25								
Surr: Benzo(e)pyrene	9.9		20.00		49.7	43.5	108			

Sample ID: **MB-52187**	SampType: **MBLK**	TestCode: **EPA Method 8310: PAHs**
Client ID: **PBW**	Batch ID: **52187**	RunNo: **68607**
Prep Date: **4/30/2020**	Analysis Date: **5/4/2020**	SeqNo: **2375014** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Naphthalene	ND	3.0								
1-Methylnaphthalene	ND	3.0								
2-Methylnaphthalene	ND	3.0								
Acenaphthylene	ND	3.0								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2004A60**
06-May-20

Client: Intera, Inc.
Project: COA Rail Yards

Sample ID: **MB-52187**	SampType: **MBLK**	TestCode: **EPA Method 8310: PAHs**
Client ID: **PBW**	Batch ID: **52187**	RunNo: **68607**
Prep Date: **4/30/2020**	Analysis Date: **5/4/2020**	SeqNo: **2375014** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	ND	3.0								
Fluorene	ND	0.80								
Phenanthrene	ND	0.60								
Anthracene	ND	0.60								
Fluoranthene	ND	0.40								
Pyrene	ND	0.40								
Benz(a)anthracene	ND	0.070								
Chrysene	ND	0.20								
Benzo(b)fluoranthene	ND	0.10								
Benzo(k)fluoranthene	ND	0.070								
Benzo(a)pyrene	ND	0.070								
Dibenz(a,h)anthracene	ND	0.12								
Benzo(g,h,i)perylene	ND	0.12								
Indeno(1,2,3-cd)pyrene	ND	0.25								
Surr: Benzo(e)pyrene	14		20.00		71.6	43.5	108			

Sample ID: **LCS-52187**	SampType: **LCS**	TestCode: **EPA Method 8310: PAHs**
Client ID: **LCSW**	Batch ID: **52187**	RunNo: **68607**
Prep Date: **4/30/2020**	Analysis Date: **5/4/2020**	SeqNo: **2375015** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Naphthalene	43	3.0	80.00	0	54.3	34	92.6			
1-Methylnaphthalene	44	3.0	80.20	0	54.8	35.4	95.3			
2-Methylnaphthalene	44	3.0	80.00	0	54.4	33.7	95.3			
Acenaphthylene	44	3.0	80.20	0	54.4	32.1	112			
Acenaphthene	44	3.0	80.00	0	55.2	38.5	103			
Fluorene	4.3	0.80	8.020	0	53.7	35	111			
Phenanthrene	2.3	0.60	4.020	0	57.5	35.4	112			
Anthracene	2.3	0.60	4.020	0	58.2	36.7	116			
Fluoranthene	4.8	0.40	8.020	0	59.9	26.8	121			
Pyrene	4.8	0.40	8.020	0	60.1	37.8	117			
Benz(a)anthracene	0.51	0.070	0.8020	0	63.6	36.1	122			
Chrysene	2.4	0.20	4.020	0	60.7	37.3	118			
Benzo(b)fluoranthene	0.62	0.10	1.002	0	61.9	35.6	120			
Benzo(k)fluoranthene	0.33	0.070	0.5000	0	66.0	36.2	118			
Benzo(a)pyrene	0.32	0.070	0.5020	0	63.7	37.3	115			
Dibenz(a,h)anthracene	0.63	0.12	1.002	0	62.9	32.7	125			
Benzo(g,h,i)perylene	0.63	0.12	1.000	0	63.0	34.8	123			
Indeno(1,2,3-cd)pyrene	1.2	0.25	2.004	0	60.4	33.3	123			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2004A60**
06-May-20

Client: Intera, Inc.
Project: COA Rail Yards

Sample ID: **LCS-52187**	SampType: **LCS**	TestCode: **EPA Method 8310: PAHs**
Client ID: **LCSW**	Batch ID: **52187**	RunNo: **68607**
Prep Date: **4/30/2020**	Analysis Date: **5/4/2020**	SeqNo: **2375015** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: Benzo(e)pyrene	12		20.00		62.0	43.5	108			

Sample ID: **MB-52187**	SampType: **MBLK**	TestCode: **EPA Method 8310: PAHs**
Client ID: **PBW**	Batch ID: **52187**	RunNo: **68607**
Prep Date: **4/30/2020**	Analysis Date: **5/4/2020**	SeqNo: **2375060** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Naphthalene	ND	3.0								
1-Methylnaphthalene	ND	3.0								
2-Methylnaphthalene	ND	3.0								
Acenaphthylene	ND	3.0								
Acenaphthene	ND	3.0								
Fluorene	ND	0.80								
Phenanthrene	ND	0.60								
Anthracene	ND	0.60								
Fluoranthene	ND	0.40								
Pyrene	ND	0.40								
Benz(a)anthracene	ND	0.070								
Chrysene	ND	0.20								
Benzo(b)fluoranthene	ND	0.10								
Benzo(k)fluoranthene	ND	0.070								
Benzo(a)pyrene	ND	0.070								
Dibenz(a,h)anthracene	ND	0.12								
Benzo(g,h,i)perylene	ND	0.12								
Indeno(1,2,3-cd)pyrene	ND	0.25								
Surr: Benzo(e)pyrene	14		20.00		69.6	43.5	108			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2004A60**

06-May-20

Client: Intera, Inc.

Project: COA Rail Yards

Sample ID: **mb1**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBW**	Batch ID: **GW68413**	RunNo: **68413**
Prep Date:	Analysis Date: **4/25/2020**	SeqNo: **2366900** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	0.050								
Surr: BFB	9.8		10.00		98.0	70	130			

Sample ID: **2.5ug gro lcs**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSW**	Batch ID: **GW68413**	RunNo: **68413**
Prep Date:	Analysis Date: **4/25/2020**	SeqNo: **2366901** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	0.47	0.050	0.5000	0	94.7	70	130			
Surr: BFB	9.8		10.00		97.9	70	130			

Sample ID: **2004a60-002a ms**	SampType: **MS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **RAILMW07**	Batch ID: **GW68413**	RunNo: **68413**
Prep Date:	Analysis Date: **4/25/2020**	SeqNo: **2366905** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	0.47	0.050	0.5000	0	94.2	70	130			
Surr: BFB	10		10.00		101	70	130			

Sample ID: **2004a60-002a msd**	SampType: **MSD**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **RAILMW07**	Batch ID: **GW68413**	RunNo: **68413**
Prep Date:	Analysis Date: **4/25/2020**	SeqNo: **2366906** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	0.44	0.050	0.5000	0	87.4	70	130	7.53	20	
Surr: BFB	9.7		10.00		97.3	70	130	0	0	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: INT | Work Order Number: 2004A60 | RcptNo: 1

Received By: Leah Baca 4/23/2020 4:38:00 PM Leah Baca
Completed By: Desiree Dominguez 4/24/2020 11:08:05 AM DD
Reviewed By: LB 4/24/20

Chain of Custody

1. Is Chain of Custody sufficiently complete?	Yes ☑	No ☐	Not Present ☐
2. How was the sample delivered?	Client		

Log In

3. Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
4. Were all samples received at a temperature of >0° C to 6.0°C	Yes ☑	No ☐	NA ☐
5. Sample(s) in proper container(s)?	Yes ☑	No ☐	
6. Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
7. Are samples (except VOA and ONG) properly preserved?	Yes ☑	No ☐	
8. Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
9. Received at least 1 vial with headspace <1/4" for AQ VOA?	Yes ☑	No ☐	NA ☐
10. Were any sample containers received broken?	Yes ☐	No ☑	
11. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ☑	No ☐	# of preserved bottles checked for pH: 8 (<2 or >12 unless noted)
12. Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	Adjusted? NO
13. Is it clear what analyses were requested?	Yes ☑	No ☐	
14. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes ☑	No ☐	Checked by: SPA 4/24/20

Special Handling (if applicable)

15. Was client notified of all discrepancies with this order?	Yes ☐	No ☐	NA ☑

Person Notified: _____ Date: _____
By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person
Regarding: _____
Client Instructions: _____

16. Additional remarks:

17. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.2	Good	Not Present			

Chain-of-Custody Record

Client: Intera Inc

Mailing Address: 6000 Uptown Blvd NE Suite 220
Albuquerque NM 87110

Phone #: 505-246-1600

email or Fax#: JTracy@intera.com

QA/QC Package:
☒ Standard ☐ Level 4 (Full Validation)

Accreditation: ☐ Az Compliance
☐ NELAC ☐ Other

☐ EDD (Type)

Turn-Around Time:
☒ Standard ☐ Rush

Project Name: COA Rail Yards

Project #:

Project Manager: Joe Tracy

Sampler: Konrad Clark

On Ice: ☒ Yes ☐ No

# of Coolers: 1

Cooler Temp(including CF): 5.4 + 0 = 5.4 (°C)

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 2004A60	BTEX / MTBE / TMB's (8021)	TPH:8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	Cl, F, Br, NO_3, NO_2, PO_4, SO_4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)	Dissolved Metals 6010C/200.7	6020/200.8				
4/22/20	1126	H2O	RAILMW08	VOA Amber 1 Liter HDPE	HCL NA2S2O4 HNO3	-001		X		X	X			X			X	X				
4/23/20	0750	H2O	RAILMW07			-002		X		X	X			X			X	X				
4/23/20	1020	H2O	RAILMW02			-003		X		X	X			X			X	X				
4/23/20	1119	H2O	RAILMW03			-004		X		X	X			X			X	X				
4/23/20	1219	H2O	RAILMW04			-005		X		X	X			X			X	X				
4/23/20	1317	H2O	RAILMW05			-006		X		X	X			X			X	X				
4/23/20	1416	H2O	RAILMW11			-007		X		X	X			X			X	X				
4/23/20	1540	H2O	RAILMW10			-008		X		X	X			X			X	X				

Date	Time	Relinquished by:	Received by:	Via:	Date	Time
4/23/20	1638			CPC	4/23/20	1638
Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time

Remarks: Dissolved metals
Barium, Chromium, Copper, Iron, Lead, Manganese & Zink

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

May 04, 2020

Joseph Tracy

Intera, Inc.
6000 Uptown Boulevard, NE Suite 220
Albuquerque, NM 87110
TEL: (505) 246-1600
FAX: (505) 246-2600

RE: COA Rail Yards OrderNo.: 2004A57

Dear Joseph Tracy:

Hall Environmental Analysis Laboratory received 1 sample(s) on 4/24/2020 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0901

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Intera, Inc. **Client Sample ID:** RAILMW06
Project: COA Rail Yards **Collection Date:** 4/24/2020 8:06:00 AM
Lab ID: 2004A57-001 **Matrix:** AQUEOUS **Received Date:** 4/24/2020 10:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA 200.8: DISSOLVED METALS						Analyst: **bcv**	
Copper	0.0011	0.0010		mg/L	1	4/28/2020 12:41:53 PM	A68476
Lead	ND	0.00050		mg/L	1	4/28/2020 12:41:53 PM	A68476
EPA METHOD 200.7: DISSOLVED METALS						Analyst: **pmf**	
Barium	0.052	0.0020		mg/L	1	4/27/2020 6:53:16 PM	A68449
Chromium	ND	0.0060		mg/L	1	4/28/2020 3:32:06 AM	A68450
Iron	ND	0.020		mg/L	1	4/27/2020 6:53:16 PM	A68449
Manganese	0.59	0.0020	*	mg/L	1	4/27/2020 6:53:16 PM	A68449
Zinc	0.026	0.010		mg/L	1	4/27/2020 6:53:16 PM	A68449
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **DJF**	
Gasoline Range Organics (GRO)	ND	0.050		mg/L	1	4/25/2020 3:15:34 AM	GW6840
Surr: BFB	94.9	70-130		%Rec	1	4/25/2020 3:15:34 AM	GW6840
EPA METHOD 8011/504.1: EDB						Analyst: **CLP**	
1,2-Dibromoethane	ND	0.0092		µg/L	1	4/28/2020 11:13:09 AM	52123
NOTES:							
No trip blank was included with work order							
EPA METHOD 8015M/D: DIESEL RANGE						Analyst: **BRM**	
Diesel Range Organics (DRO)	ND	1.0		mg/L	1	4/27/2020 8:22:24 PM	52065
Surr: DNOP	121	70-130		%Rec	1	4/27/2020 8:22:24 PM	52065
EPA METHOD 8310: PAHS						Analyst: **TOM**	
Naphthalene	ND	3.0		µg/L	1	4/29/2020 1:06:47 PM	52095
1-Methylnaphthalene	ND	3.0		µg/L	1	4/29/2020 1:06:47 PM	52095
2-Methylnaphthalene	ND	3.0		µg/L	1	4/29/2020 1:06:47 PM	52095
Acenaphthylene	ND	3.0		µg/L	1	4/29/2020 1:06:47 PM	52095
Acenaphthene	ND	3.0		µg/L	1	4/29/2020 1:06:47 PM	52095
Fluorene	ND	0.80		µg/L	1	4/29/2020 1:06:47 PM	52095
Phenanthrene	ND	0.60		µg/L	1	4/29/2020 1:06:47 PM	52095
Anthracene	ND	0.60		µg/L	1	4/29/2020 1:06:47 PM	52095
Fluoranthene	ND	0.40		µg/L	1	4/29/2020 1:06:47 PM	52095
Pyrene	ND	0.40		µg/L	1	4/29/2020 1:06:47 PM	52095
Benz(a)anthracene	ND	0.070		µg/L	1	4/29/2020 1:06:47 PM	52095
Chrysene	ND	0.20		µg/L	1	4/29/2020 1:06:47 PM	52095
Benzo(b)fluoranthene	ND	0.10		µg/L	1	4/29/2020 1:06:47 PM	52095
Benzo(k)fluoranthene	ND	0.070		µg/L	1	4/29/2020 1:06:47 PM	52095
Benzo(a)pyrene	ND	0.070		µg/L	1	4/29/2020 1:06:47 PM	52095
Dibenz(a,h)anthracene	ND	0.12		µg/L	1	4/29/2020 1:06:47 PM	52095
Benzo(g,h,i)perylene	ND	0.12		µg/L	1	4/29/2020 1:06:47 PM	52095
Indeno(1,2,3-cd)pyrene	ND	0.25		µg/L	1	4/29/2020 1:06:47 PM	52095

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Intera, Inc. **Client Sample ID:** RAILMW06
Project: COA Rail Yards **Collection Date:** 4/24/2020 8:06:00 AM
Lab ID: 2004A57-001 **Matrix:** AQUEOUS **Received Date:** 4/24/2020 10:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8310: PAHS						Analyst: **TOM**	
Surr: Benzo(e)pyrene	61.0	43.5-108		%Rec	1	4/29/2020 1:06:47 PM	52095
EPA METHOD 8260B: VOLATILES						Analyst: **DJF**	
Benzene	ND	1.0		µg/L	1	4/25/2020 3:15:34 AM	W68408
Toluene	ND	1.0		µg/L	1	4/25/2020 3:15:34 AM	W68408
Ethylbenzene	ND	1.0		µg/L	1	4/25/2020 3:15:34 AM	W68408
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	4/25/2020 3:15:34 AM	W68408
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	4/25/2020 3:15:34 AM	W68408
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	4/25/2020 3:15:34 AM	W68408
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	4/25/2020 3:15:34 AM	W68408
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	4/25/2020 3:15:34 AM	W68408
Naphthalene	ND	2.0		µg/L	1	4/25/2020 3:15:34 AM	W68408
1-Methylnaphthalene	ND	4.0		µg/L	1	4/25/2020 3:15:34 AM	W68408
2-Methylnaphthalene	ND	4.0		µg/L	1	4/25/2020 3:15:34 AM	W68408
Acetone	ND	10		µg/L	1	4/25/2020 3:15:34 AM	W68408
Bromobenzene	ND	1.0		µg/L	1	4/25/2020 3:15:34 AM	W68408
Bromodichloromethane	ND	1.0		µg/L	1	4/25/2020 3:15:34 AM	W68408
Bromoform	ND	1.0		µg/L	1	4/25/2020 3:15:34 AM	W68408
Bromomethane	ND	3.0		µg/L	1	4/25/2020 3:15:34 AM	W68408
2-Butanone	ND	10		µg/L	1	4/25/2020 3:15:34 AM	W68408
Carbon disulfide	ND	10		µg/L	1	4/25/2020 3:15:34 AM	W68408
Carbon Tetrachloride	ND	1.0		µg/L	1	4/25/2020 3:15:34 AM	W68408
Chlorobenzene	ND	1.0		µg/L	1	4/25/2020 3:15:34 AM	W68408
Chloroethane	ND	2.0		µg/L	1	4/25/2020 3:15:34 AM	W68408
Chloroform	ND	1.0		µg/L	1	4/25/2020 3:15:34 AM	W68408
Chloromethane	ND	3.0		µg/L	1	4/25/2020 3:15:34 AM	W68408
2-Chlorotoluene	ND	1.0		µg/L	1	4/25/2020 3:15:34 AM	W68408
4-Chlorotoluene	ND	1.0		µg/L	1	4/25/2020 3:15:34 AM	W68408
cis-1,2-DCE	ND	1.0		µg/L	1	4/25/2020 3:15:34 AM	W68408
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	4/25/2020 3:15:34 AM	W68408
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	4/25/2020 3:15:34 AM	W68408
Dibromochloromethane	ND	1.0		µg/L	1	4/25/2020 3:15:34 AM	W68408
Dibromomethane	ND	1.0		µg/L	1	4/25/2020 3:15:34 AM	W68408
1,2-Dichlorobenzene	ND	1.0		µg/L	1	4/25/2020 3:15:34 AM	W68408
1,3-Dichlorobenzene	ND	1.0		µg/L	1	4/25/2020 3:15:34 AM	W68408
1,4-Dichlorobenzene	ND	1.0		µg/L	1	4/25/2020 3:15:34 AM	W68408
Dichlorodifluoromethane	ND	1.0		µg/L	1	4/25/2020 3:15:34 AM	W68408
1,1-Dichloroethane	ND	1.0		µg/L	1	4/25/2020 3:15:34 AM	W68408
1,1-Dichloroethene	ND	1.0		µg/L	1	4/25/2020 3:15:34 AM	W68408
1,2-Dichloropropane	ND	1.0		µg/L	1	4/25/2020 3:15:34 AM	W68408

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Intera, Inc.
Client Sample ID: RAILMW06
Project: COA Rail Yards
Collection Date: 4/24/2020 8:06:00 AM
Lab ID: 2004A57-001 **Matrix:** AQUEOUS **Received Date:** 4/24/2020 10:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **DJF**	
1,3-Dichloropropane	ND	1.0		µg/L	1	4/25/2020 3:15:34 AM	W68408
2,2-Dichloropropane	ND	2.0		µg/L	1	4/25/2020 3:15:34 AM	W68408
1,1-Dichloropropene	ND	1.0		µg/L	1	4/25/2020 3:15:34 AM	W68408
Hexachlorobutadiene	ND	1.0		µg/L	1	4/25/2020 3:15:34 AM	W68408
2-Hexanone	ND	10		µg/L	1	4/25/2020 3:15:34 AM	W68408
Isopropylbenzene	ND	1.0		µg/L	1	4/25/2020 3:15:34 AM	W68408
4-Isopropyltoluene	ND	1.0		µg/L	1	4/25/2020 3:15:34 AM	W68408
4-Methyl-2-pentanone	ND	10		µg/L	1	4/25/2020 3:15:34 AM	W68408
Methylene Chloride	ND	3.0		µg/L	1	4/25/2020 3:15:34 AM	W68408
n-Butylbenzene	ND	3.0		µg/L	1	4/25/2020 3:15:34 AM	W68408
n-Propylbenzene	ND	1.0		µg/L	1	4/25/2020 3:15:34 AM	W68408
sec-Butylbenzene	ND	1.0		µg/L	1	4/25/2020 3:15:34 AM	W68408
Styrene	ND	1.0		µg/L	1	4/25/2020 3:15:34 AM	W68408
tert-Butylbenzene	ND	1.0		µg/L	1	4/25/2020 3:15:34 AM	W68408
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	4/25/2020 3:15:34 AM	W68408
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	4/25/2020 3:15:34 AM	W68408
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	4/25/2020 3:15:34 AM	W68408
trans-1,2-DCE	ND	1.0		µg/L	1	4/25/2020 3:15:34 AM	W68408
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	4/25/2020 3:15:34 AM	W68408
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	4/25/2020 3:15:34 AM	W68408
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	4/25/2020 3:15:34 AM	W68408
1,1,1-Trichloroethane	ND	1.0		µg/L	1	4/25/2020 3:15:34 AM	W68408
1,1,2-Trichloroethane	ND	1.0		µg/L	1	4/25/2020 3:15:34 AM	W68408
Trichloroethene (TCE)	ND	1.0		µg/L	1	4/25/2020 3:15:34 AM	W68408
Trichlorofluoromethane	ND	1.0		µg/L	1	4/25/2020 3:15:34 AM	W68408
1,2,3-Trichloropropane	ND	2.0		µg/L	1	4/25/2020 3:15:34 AM	W68408
Vinyl chloride	ND	1.0		µg/L	1	4/25/2020 3:15:34 AM	W68408
Xylenes, Total	ND	1.5		µg/L	1	4/25/2020 3:15:34 AM	W68408
Surr: 1,2-Dichloroethane-d4	90.6	70-130		%Rec	1	4/25/2020 3:15:34 AM	W68408
Surr: 4-Bromofluorobenzene	98.6	70-130		%Rec	1	4/25/2020 3:15:34 AM	W68408
Surr: Dibromofluoromethane	99.2	70-130		%Rec	1	4/25/2020 3:15:34 AM	W68408
Surr: Toluene-d8	97.8	70-130		%Rec	1	4/25/2020 3:15:34 AM	W68408

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2004A57**
04-May-20

Client: Intera, Inc.
Project: COA Rail Yards

Sample ID: **MB-A**	SampType: **MBLK**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **PBW**	Batch ID: **A68449**	RunNo: **68449**
Prep Date:	Analysis Date: **4/27/2020**	SeqNo: **2368369** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.0020								
Iron	ND	0.020								
Manganese	ND	0.0020								
Zinc	ND	0.010								

Sample ID: **LLLCS-A**	SampType: **LCSLL**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **BatchQC**	Batch ID: **A68449**	RunNo: **68449**
Prep Date:	Analysis Date: **4/27/2020**	SeqNo: **2368373** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.0020	0.002000	0	94.6	50	150			
Iron	ND	0.020	0.02000	0	87.9	50	150			
Manganese	ND	0.0020	0.002000	0	95.8	50	150			
Zinc	ND	0.010	0.01000	0	90.9	50	150			

Sample ID: **LCS-A**	SampType: **LCS**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **A68449**	RunNo: **68449**
Prep Date:	Analysis Date: **4/27/2020**	SeqNo: **2368375** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.44	0.0020	0.5000	0	88.8	85	115			
Iron	0.48	0.020	0.5000	0	96.0	85	115			
Manganese	0.46	0.0020	0.5000	0	91.3	85	115			
Zinc	0.43	0.010	0.5000	0	85.9	85	115			

Sample ID: **MB-A**	SampType: **MBLK**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **PBW**	Batch ID: **A68450**	RunNo: **68450**
Prep Date:	Analysis Date: **4/28/2020**	SeqNo: **2368467** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chromium	ND	0.0060								

Sample ID: **LLLCS-A**	SampType: **LCSLL**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **BatchQC**	Batch ID: **A68450**	RunNo: **68450**
Prep Date:	Analysis Date: **4/28/2020**	SeqNo: **2368469** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chromium	ND	0.0060	0.006000	0	95.8	50	150			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2004A57**
04-May-20

Client: Intera, Inc.
Project: COA Rail Yards

Sample ID: **LCS**	SampType: **LCS**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **A68450**	RunNo: **68450**
Prep Date:	Analysis Date: **4/28/2020**	SeqNo: **2368479** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chromium	0.46	0.0060	0.5000	0	91.9	85	115			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2004A57**
04-May-20

Client: Intera, Inc.
Project: COA Rail Yards

Sample ID: **MB**	SampType: **MBLK**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **PBW**	Batch ID: **A68476**	RunNo: **68476**
Prep Date:	Analysis Date: **4/28/2020**	SeqNo: **2369553** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Copper	ND	0.0010								
Lead	ND	0.00050								

Sample ID: **LLLCS**	SampType: **LCSLL**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **BatchQC**	Batch ID: **A68476**	RunNo: **68476**
Prep Date:	Analysis Date: **4/28/2020**	SeqNo: **2369554** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Copper	ND	0.0010	0.001000	0	93.7	50	150			
Lead	ND	0.00050	0.0005000	0	96.9	50	150			

Sample ID: **LCS**	SampType: **LCS**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **A68476**	RunNo: **68476**
Prep Date:	Analysis Date: **4/28/2020**	SeqNo: **2369555** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Copper	0.024	0.0010	0.02500	0	94.2	85	115			
Lead	0.012	0.00050	0.01250	0	93.7	85	115			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2004A57**
04-May-20

Client: Intera, Inc.
Project: COA Rail Yards

Sample ID: **MB-52123**	SampType: **MBLK**	TestCode: **EPA Method 8011/504.1: EDB**
Client ID: **PBW**	Batch ID: **52123**	RunNo: **68492**
Prep Date: **4/28/2020**	Analysis Date: **4/28/2020**	SeqNo: **2369970** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2-Dibromoethane	ND	0.010								

Sample ID: **LCS-52123**	SampType: **LCS**	TestCode: **EPA Method 8011/504.1: EDB**
Client ID: **LCSW**	Batch ID: **52123**	RunNo: **68492**
Prep Date: **4/28/2020**	Analysis Date: **4/28/2020**	SeqNo: **2369971** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2-Dibromoethane	0.12	0.010	0.1000	0	117	70	130			

Sample ID: **MB-52123**	SampType: **MBLK**	TestCode: **EPA Method 8011/504.1: EDB**
Client ID: **PBW**	Batch ID: **52123**	RunNo: **68492**
Prep Date: **4/28/2020**	Analysis Date: **4/28/2020**	SeqNo: **2369999** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2-Dibromoethane	ND	0.010								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2004A57**
04-May-20

Client: Intera, Inc.
Project: COA Rail Yards

Sample ID: **LCS-52065** SampType: **LCS** TestCode: **EPA Method 8015M/D: Diesel Range**
Client ID: **LCSW** Batch ID: **52065** RunNo: **68435**
Prep Date: ***4/24/2020*** Analysis Date: ***4/27/2020*** SeqNo: **2368094** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	5.4	1.0	5.000	0	108	70	130			
Surr: DNOP	0.55		0.5000		110	70	130			

Sample ID: **MB-52065** SampType: **MBLK** TestCode: **EPA Method 8015M/D: Diesel Range**
Client ID: **PBW** Batch ID: **52065** RunNo: **68435**
Prep Date: ***4/24/2020*** Analysis Date: ***4/27/2020*** SeqNo: **2368095** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	1.0								
Surr: DNOP	1.1		1.000		111	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2004A57**
04-May-20

Client: Intera, Inc.
Project: COA Rail Yards

Sample ID: **mb1**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **W68408**	RunNo: **68408**
Prep Date:	Analysis Date: **4/24/2020**	SeqNo: **2366709** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Methyl tert-butyl ether (MTBE)	ND	1.0								
1,2,4-Trimethylbenzene	ND	1.0								
1,3,5-Trimethylbenzene	ND	1.0								
1,2-Dichloroethane (EDC)	ND	1.0								
1,2-Dibromoethane (EDB)	ND	1.0								
Naphthalene	ND	2.0								
1-Methylnaphthalene	ND	4.0								
2-Methylnaphthalene	ND	4.0								
Acetone	ND	10								
Bromobenzene	ND	1.0								
Bromodichloromethane	ND	1.0								
Bromoform	ND	1.0								
Bromomethane	ND	3.0								
2-Butanone	ND	10								
Carbon disulfide	ND	10								
Carbon Tetrachloride	ND	1.0								
Chlorobenzene	ND	1.0								
Chloroethane	ND	2.0								
Chloroform	ND	1.0								
Chloromethane	ND	3.0								
2-Chlorotoluene	ND	1.0								
4-Chlorotoluene	ND	1.0								
cis-1,2-DCE	ND	1.0								
cis-1,3-Dichloropropene	ND	1.0								
1,2-Dibromo-3-chloropropane	ND	2.0								
Dibromochloromethane	ND	1.0								
Dibromomethane	ND	1.0								
1,2-Dichlorobenzene	ND	1.0								
1,3-Dichlorobenzene	ND	1.0								
1,4-Dichlorobenzene	ND	1.0								
Dichlorodifluoromethane	ND	1.0								
1,1-Dichloroethane	ND	1.0								
1,1-Dichloroethene	ND	1.0								
1,2-Dichloropropane	ND	1.0								
1,3-Dichloropropane	ND	1.0								
2,2-Dichloropropane	ND	2.0								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2004A57**

04-May-20

Client: Intera, Inc.

Project: COA Rail Yards

Sample ID: **mb1**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **W68408**	RunNo: **68408**
Prep Date:	Analysis Date: **4/24/2020**	SeqNo: **2366709** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1-Dichloropropene	ND	1.0								
Hexachlorobutadiene	ND	1.0								
2-Hexanone	ND	10								
Isopropylbenzene	ND	1.0								
4-Isopropyltoluene	ND	1.0								
4-Methyl-2-pentanone	ND	10								
Methylene Chloride	ND	3.0								
n-Butylbenzene	ND	3.0								
n-Propylbenzene	ND	1.0								
sec-Butylbenzene	ND	1.0								
Styrene	ND	1.0								
tert-Butylbenzene	ND	1.0								
1,1,1,2-Tetrachloroethane	ND	1.0								
1,1,2,2-Tetrachloroethane	ND	2.0								
Tetrachloroethene (PCE)	ND	1.0								
trans-1,2-DCE	ND	1.0								
trans-1,3-Dichloropropene	ND	1.0								
1,2,3-Trichlorobenzene	ND	1.0								
1,2,4-Trichlorobenzene	ND	1.0								
1,1,1-Trichloroethane	ND	1.0								
1,1,2-Trichloroethane	ND	1.0								
Trichloroethene (TCE)	ND	1.0								
Trichlorofluoromethane	ND	1.0								
1,2,3-Trichloropropane	ND	2.0								
Vinyl chloride	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	9.2		10.00		91.9	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		101	70	130			
Surr: Dibromofluoromethane	9.7		10.00		97.0	70	130			
Surr: Toluene-d8	10		10.00		99.6	70	130			

Sample ID: **100ng lcs**	SampType: **LCS**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **LCSW**	Batch ID: **W68408**	RunNo: **68408**
Prep Date:	Analysis Date: **4/24/2020**	SeqNo: **2366710** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	20	1.0	20.00	0	98.6	70	130			
Toluene	21	1.0	20.00	0	106	70	130			
Chlorobenzene	22	1.0	20.00	0	111	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2004A57**
04-May-20

Client: Intera, Inc.
Project: COA Rail Yards

Sample ID: **100ng lcs** SampType: **LCS** TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **LCSW** Batch ID: **W68408** RunNo: **68408**
Prep Date: Analysis Date: **4/24/2020** SeqNo: **2366710** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1-Dichloroethene	21	1.0	20.00	0	106	70	130			
Trichloroethene (TCE)	19	1.0	20.00	0	94.3	70	130			
Surr: 1,2-Dichloroethane-d4	9.3		10.00		93.0	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		101	70	130			
Surr: Dibromofluoromethane	9.5		10.00		95.3	70	130			
Surr: Toluene-d8	9.5		10.00		95.0	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2004A57**
04-May-20

Client: Intera, Inc.
Project: COA Rail Yards

Sample ID: **MB-52095**	SampType: **MBLK**	TestCode: **EPA Method 8310: PAHs**
Client ID: **PBW**	Batch ID: **52095**	RunNo: **68458**
Prep Date: **4/27/2020**	Analysis Date: **4/28/2020**	SeqNo: **2369419** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Naphthalene	ND	3.0								
1-Methylnaphthalene	ND	3.0								
2-Methylnaphthalene	ND	3.0								
Acenaphthylene	ND	3.0								
Acenaphthene	ND	3.0								
Fluorene	ND	0.80								
Phenanthrene	ND	0.60								
Anthracene	ND	0.60								
Fluoranthene	ND	0.40								
Pyrene	ND	0.40								
Benz(a)anthracene	ND	0.070								
Chrysene	ND	0.20								
Benzo(b)fluoranthene	ND	0.10								
Benzo(k)fluoranthene	ND	0.070								
Benzo(a)pyrene	ND	0.070								
Dibenz(a,h)anthracene	ND	0.12								
Benzo(g,h,i)perylene	ND	0.12								
Indeno(1,2,3-cd)pyrene	ND	0.25								
Surr: Benzo(e)pyrene	10		20.00		50.0	43.5	108			

Sample ID: **LCS-52095**	SampType: **LCS**	TestCode: **EPA Method 8310: PAHs**
Client ID: **LCSW**	Batch ID: **52095**	RunNo: **68458**
Prep Date: **4/27/2020**	Analysis Date: **4/28/2020**	SeqNo: **2369420** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Naphthalene	36	3.0	80.00	0	45.4	34	92.6			
1-Methylnaphthalene	38	3.0	80.20	0	47.1	35.4	95.3			
2-Methylnaphthalene	38	3.0	80.00	0	46.9	33.7	95.3			
Acenaphthylene	38	3.0	80.20	0	46.8	32.1	112			
Acenaphthene	38	3.0	80.00	0	47.2	38.5	103			
Fluorene	3.6	0.80	8.020	0	45.5	35	111			
Phenanthrene	2.0	0.60	4.020	0	50.7	35.4	112			
Anthracene	2.1	0.60	4.020	0	51.7	36.7	116			
Fluoranthene	4.4	0.40	8.020	0	54.7	26.8	121			
Pyrene	4.2	0.40	8.020	0	52.7	37.8	117			
Benz(a)anthracene	0.44	0.070	0.8020	0	54.9	36.1	122			
Chrysene	2.2	0.20	4.020	0	54.0	37.3	118			
Benzo(b)fluoranthene	0.54	0.10	1.002	0	53.9	35.6	120			
Benzo(k)fluoranthene	0.27	0.070	0.5000	0	54.0	36.2	118			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2004A57**
04-May-20

Client: Intera, Inc.
Project: COA Rail Yards

Sample ID: **LCS-52095** SampType: **LCS** TestCode: **EPA Method 8310: PAHs**
Client ID: **LCSW** Batch ID: **52095** RunNo: **68458**
Prep Date: **4/27/2020** Analysis Date: **4/28/2020** SeqNo: **2369420** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzo(a)pyrene	0.26	0.070	0.5020	0	51.8	37.3	115			
Dibenz(a,h)anthracene	0.52	0.12	1.002	0	51.9	32.7	125			
Benzo(g,h,i)perylene	0.52	0.12	1.000	0	52.0	34.8	123			
Indeno(1,2,3-cd)pyrene	1.1	0.25	2.004	0	52.9	33.3	123			
Surr: Benzo(e)pyrene	11		20.00		55.7	43.5	108			

Sample ID: **MB-52095** SampType: **MBLK** TestCode: **EPA Method 8310: PAHs**
Client ID: **PBW** Batch ID: **52095** RunNo: **68458**
Prep Date: **4/27/2020** Analysis Date: **4/28/2020** SeqNo: **2370355** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Naphthalene	ND	3.0								
1-Methylnaphthalene	ND	3.0								
2-Methylnaphthalene	ND	3.0								
Acenaphthylene	ND	3.0								
Acenaphthene	ND	3.0								
Fluorene	ND	0.80								
Phenanthrene	ND	0.60								
Anthracene	ND	0.60								
Fluoranthene	ND	0.40								
Pyrene	ND	0.40								
Benz(a)anthracene	ND	0.070								
Chrysene	ND	0.20								
Benzo(b)fluoranthene	ND	0.10								
Benzo(k)fluoranthene	ND	0.070								
Benzo(a)pyrene	ND	0.070								
Dibenz(a,h)anthracene	ND	0.12								
Benzo(g,h,i)perylene	ND	0.12								
Indeno(1,2,3-cd)pyrene	ND	0.25								
Surr: Benzo(e)pyrene	9.9		20.00		49.7	43.5	108			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2004A57**
04-May-20

Client: Intera, Inc.
Project: COA Rail Yards

Sample ID: **mb1**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBW**	Batch ID: **GW68408**	RunNo: **68408**
Prep Date:	Analysis Date: **4/24/2020**	SeqNo: **2366742** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	0.050								
Surr: BFB	9.9		10.00		98.9	70	130			

Sample ID: **2.5ug gro lcs**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSW**	Batch ID: **GW68408**	RunNo: **68408**
Prep Date:	Analysis Date: **4/24/2020**	SeqNo: **2366743** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	0.51	0.050	0.5000	0	101	70	130			
Surr: BFB	10		10.00		101	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: **INT** Work Order Number: **2004A57** RcptNo: 1

Received By: **Juan Rojas** **4/24/2020 10:05:00 AM** Juan Rojas

Completed By: **Desiree Dominguez** **4/24/2020 10:44:42 AM** DD

Reviewed By: LB 4/24/20

Chain of Custody

1. Is Chain of Custody sufficiently complete?	Yes ☑	No ☐	Not Present ☐
2. How was the sample delivered?	Client		

Log In

3. Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
4. Were all samples received at a temperature of >0° C to 6.0°C	Yes ☑	No ☐	NA ☐
5. Sample(s) in proper container(s)?	Yes ☑	No ☐	
6. Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
7. Are samples (except VOA and ONG) properly preserved?	Yes ☑	No ☐	
8. Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
9. Received at least 1 vial with headspace <1/4" for AQ VOA?	Yes ☑	No ☐	NA ☐
10. Were any sample containers received broken?	Yes ☐	No ☑	
11. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ☑	No ☐	
12. Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	
13. Is it clear what analyses were requested?	Yes ☑	No ☐	
14. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes ☑	No ☐	

# of preserved bottles checked for pH: 1 (<2 or >12 unless noted)

Adjusted? No

Checked by: SPA 4/24/20

Special Handling (if applicable)

15. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified: Date:

By Whom: Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding:

Client Instructions:

16. Additional remarks:

17. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.2	Good	Not Present			

Chain-of-Custody Record

Client: Intera Inc

Mailing Address: 6000 Uptown Blvd NE Suite 220
Albuquerque NM 87110

Phone #: 505-246-1600

email or Fax#: jtracy@intera.com

QA/QC Package:
☑ Standard ☐ Level 4 (Full Validation)

Accreditation: ☐ Az Compliance
☐ NELAC ☐ Other

☐ EDD (Type)

Turn-Around Time:
☑ Standard ☐ Rush

Project Name: COA Rail Yards

Project #:

Project Manager: Joe Tracy

Sampler: Conrad Clark

On Ice: ☑ Yes ☐ No

# of Coolers: 1

Cooler Temp (including CF): 1.1+0.1 = 1.2 (°C)

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 2004A57	BTEX / MTBE / TMB's (8021)	TPH:8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	Cl, F, Br, NO_3, NO_2, PO_4, SO_4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)	Dissolved Metals
4/24/20	0806	H2O	RAILMW06	VOA Number from HOPE	HCL Na2S2O4 H2SO4	-001		X		X	X			X			X

Analysis Request

Remarks:
Dissolved Metals 6010C/200.7/6020/200.8
Barium, Chromium, Copper, Iron, Lead, Manganese, Zinc

Date	Time	Relinquished by:	Received by:	Via:	Date	Time
4/24/20	0955			COC	4/24/20	10:05
Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

APPENDIX D

Laboratory Analytical Reports – Soil Vapor

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

July 30, 2018

Ken Ziegler

City of Albuquerque
1 Civic Plaza, Room 3023
Albuquerque, NM 87103
TEL:
FAX

RE: COA Q03 2018 VP_07_19_2018 OrderNo.: 1807A94

Dear Ken Ziegler:

Hall Environmental Analysis Laboratory received 14 sample(s) on 7/19/2018 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0901

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
Acetone	67-64-1	58.10	2.50	5.94	16.9	40.2		2	WG1144023
Allyl chloride	107-05-1	76.53	0.400	1.25	ND	ND		2	WG1144023
Benzene	71-43-2	78.10	0.400	1.28	ND	ND		2	WG1144023
Benzyl Chloride	100-44-7	127	0.400	2.08	ND	ND		2	WG1144023
Bromodichloromethane	75-27-4	164	0.400	2.68	ND	ND		2	WG1144023
Bromoform	75-25-2	253	1.20	12.4	ND	ND		2	WG1144023
Bromomethane	74-83-9	94.90	0.400	1.55	ND	ND		2	WG1144023
1,3-Butadiene	106-99-0	54.10	4.00	8.85	ND	ND		2	WG1144023
Carbon disulfide	75-15-0	76.10	0.400	1.24	1.11	3.45		2	WG1144023
Carbon tetrachloride	56-23-5	154	0.400	2.52	ND	ND		2	WG1144023
Chlorobenzene	108-90-7	113	0.400	1.85	ND	ND		2	WG1144023
Chloroethane	75-00-3	64.50	0.400	1.06	ND	ND		2	WG1144023
Chloroform	67-66-3	119	0.400	1.95	ND	ND		2	WG1144023
Chloromethane	74-87-3	50.50	0.400	0.826	0.478	0.987		2	WG1144023
2-Chlorotoluene	95-49-8	126	0.400	2.06	ND	ND		2	WG1144023
Cyclohexane	110-82-7	84.20	0.400	1.38	ND	ND		2	WG1144023
Dibromochloromethane	124-48-1	208	0.400	3.40	ND	ND		2	WG1144023
1,2-Dibromoethane	106-93-4	188	0.400	3.08	ND	ND		2	WG1144023
1,2-Dichlorobenzene	95-50-1	147	0.400	2.40	ND	ND		2	WG1144023
1,3-Dichlorobenzene	541-73-1	147	0.400	2.40	ND	ND		2	WG1144023
1,4-Dichlorobenzene	106-46-7	147	0.400	2.40	ND	ND	J4	2	WG1144023
1,2-Dichloroethane	107-06-2	99	0.400	1.62	ND	ND		2	WG1144023
1,1-Dichloroethane	75-34-3	98	0.400	1.60	ND	ND		2	WG1144023
1,1-Dichloroethene	75-35-4	96.90	0.400	1.59	ND	ND		2	WG1144023
cis-1,2-Dichloroethene	156-59-2	96.90	0.400	1.59	ND	ND		2	WG1144023
trans-1,2-Dichloroethene	156-60-5	96.90	0.400	1.59	ND	ND		2	WG1144023
1,2-Dichloropropane	78-87-5	113	0.400	1.85	ND	ND		2	WG1144023
cis-1,3-Dichloropropene	10061-01-5	111	0.400	1.82	ND	ND		2	WG1144023
trans-1,3-Dichloropropene	10061-02-6	111	0.400	1.82	ND	ND		2	WG1144023
1,4-Dioxane	123-91-1	88.10	0.400	1.44	ND	ND		2	WG1144023
Ethanol	64-17-5	46.10	1.26	2.38	128	242	E	2	WG1144023
Ethylbenzene	100-41-4	106	0.400	1.73	ND	ND		2	WG1144023
4-Ethyltoluene	622-96-8	120	0.400	1.96	ND	ND		2	WG1144023
Trichlorofluoromethane	75-69-4	137.40	0.400	2.25	ND	ND		2	WG1144023
Dichlorodifluoromethane	75-71-8	120.92	0.400	1.98	ND	ND		2	WG1144023
1,1,2-Trichlorotrifluoroethane	76-13-1	187.40	0.400	3.07	ND	ND		2	WG1144023
1,2-Dichlorotetrafluoroethane	76-14-2	171	0.400	2.80	ND	ND		2	WG1144023
Heptane	142-82-5	100	0.400	1.64	ND	ND		2	WG1144023
Hexachloro-1,3-butadiene	87-68-3	261	1.26	13.5	ND	ND		2	WG1144023
n-Hexane	110-54-3	86.20	0.400	1.41	0.528	1.86		2	WG1144023
Isopropylbenzene	98-82-8	120.20	0.400	1.97	ND	ND		2	WG1144023
Methylene Chloride	75-09-2	84.90	0.400	1.39	1.23	4.27		2	WG1144023
Methyl Butyl Ketone	591-78-6	100	2.50	10.2	ND	ND		2	WG1144023
2-Butanone (MEK)	78-93-3	72.10	2.50	7.37	2.75	8.11		2	WG1144023
4-Methyl-2-pentanone (MIBK)	108-10-1	100.10	2.50	10.2	ND	ND		2	WG1144023
Methyl methacrylate	80-62-6	100.12	0.400	1.64	ND	ND		2	WG1144023
MTBE	1634-04-4	88.10	0.400	1.44	ND	ND		2	WG1144023
Naphthalene	91-20-3	128	1.26	6.60	ND	ND		2	WG1144023
2-Propanol	67-63-0	60.10	2.50	6.15	19.7	48.3		2	WG1144023
Propene	115-07-1	42.10	0.800	1.38	0.895	1.54		2	WG1144023
Styrene	100-42-5	104	0.400	1.70	ND	ND		2	WG1144023
1,1,2,2-Tetrachloroethane	79-34-5	168	0.400	2.75	ND	ND		2	WG1144023
Tetrachloroethylene	127-18-4	166	0.400	2.72	1.58	10.7		2	WG1144023
Tetrahydrofuran	109-99-9	72.10	0.400	1.18	1.55	4.57		2	WG1144023
Toluene	108-88-3	92.10	0.400	1.51	0.645	2.43		2	WG1144023
1,2,4-Trichlorobenzene	120-82-1	181	1.26	9.33	ND	ND		2	WG1144023

Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
1,1,1-Trichloroethane	71-55-6	133	0.400	2.18	0.885	4.82		2	WG1144023
1,1,2-Trichloroethane	79-00-5	133	0.400	2.18	ND	ND		2	WG1144023
Trichloroethylene	79-01-6	131	0.400	2.14	ND	ND		2	WG1144023
1,2,4-Trimethylbenzene	95-63-6	120	0.400	1.96	ND	ND		2	WG1144023
1,3,5-Trimethylbenzene	108-67-8	120	0.400	1.96	ND	ND		2	WG1144023
2,2,4-Trimethylpentane	540-84-1	114.22	0.400	1.87	ND	ND		2	WG1144023
Vinyl chloride	75-01-4	62.50	0.400	1.02	ND	ND		2	WG1144023
Vinyl Bromide	593-60-2	106.95	0.400	1.75	ND	ND		2	WG1144023
Vinyl acetate	108-05-4	86.10	0.400	1.41	ND	ND		2	WG1144023
m&p-Xylene	1330-20-7	106	0.800	3.47	ND	ND		2	WG1144023
o-Xylene	95-47-6	106	0.400	1.73	ND	ND		2	WG1144023
TPH (GC/MS) Low Fraction	8006-61-9	101	100	413	ND	ND		2	WG1144023
(S) 1,4-Bromofluorobenzene	*460-00-4*	*175*	*60.0-140*		*101*				WG1144023

Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
Acetone	67-64-1	58.10	2.50	5.94	42.6	101		2	WG1144023
Allyl chloride	107-05-1	76.53	0.400	1.25	ND	ND		2	WG1144023
Benzene	71-43-2	78.10	0.400	1.28	ND	ND		2	WG1144023
Benzyl Chloride	100-44-7	127	0.400	2.08	ND	ND		2	WG1144023
Bromodichloromethane	75-27-4	164	0.400	2.68	ND	ND		2	WG1144023
Bromoform	75-25-2	253	1.20	12.4	ND	ND		2	WG1144023
Bromomethane	74-83-9	94.90	0.400	1.55	ND	ND		2	WG1144023
1,3-Butadiene	106-99-0	54.10	4.00	8.85	ND	ND		2	WG1144023
Carbon disulfide	75-15-0	76.10	0.400	1.24	ND	ND		2	WG1144023
Carbon tetrachloride	56-23-5	154	0.400	2.52	ND	ND		2	WG1144023
Chlorobenzene	108-90-7	113	0.400	1.85	ND	ND		2	WG1144023
Chloroethane	75-00-3	64.50	0.400	1.06	ND	ND		2	WG1144023
Chloroform	67-66-3	119	0.400	1.95	ND	ND		2	WG1144023
Chloromethane	74-87-3	50.50	0.400	0.826	0.585	1.21		2	WG1144023
2-Chlorotoluene	95-49-8	126	0.400	2.06	ND	ND		2	WG1144023
Cyclohexane	110-82-7	84.20	0.400	1.38	ND	ND		2	WG1144023
Dibromochloromethane	124-48-1	208	0.400	3.40	ND	ND		2	WG1144023
1,2-Dibromoethane	106-93-4	188	0.400	3.08	ND	ND		2	WG1144023
1,2-Dichlorobenzene	95-50-1	147	0.400	2.40	ND	ND		2	WG1144023
1,3-Dichlorobenzene	541-73-1	147	0.400	2.40	ND	ND		2	WG1144023
1,4-Dichlorobenzene	106-46-7	147	0.400	2.40	ND	ND	J4	2	WG1144023
1,2-Dichloroethane	107-06-2	99	0.400	1.62	ND	ND		2	WG1144023
1,1-Dichloroethane	75-34-3	98	0.400	1.60	ND	ND		2	WG1144023
1,1-Dichloroethene	75-35-4	96.90	0.400	1.59	ND	ND		2	WG1144023
cis-1,2-Dichloroethene	156-59-2	96.90	0.400	1.59	ND	ND		2	WG1144023
trans-1,2-Dichloroethene	156-60-5	96.90	0.400	1.59	ND	ND		2	WG1144023
1,2-Dichloropropane	78-87-5	113	0.400	1.85	ND	ND		2	WG1144023
cis-1,3-Dichloropropene	10061-01-5	111	0.400	1.82	ND	ND		2	WG1144023
trans-1,3-Dichloropropene	10061-02-6	111	0.400	1.82	ND	ND		2	WG1144023
1,4-Dioxane	123-91-1	88.10	0.400	1.44	ND	ND		2	WG1144023
Ethanol	64-17-5	46.10	1.26	2.38	9.66	18.2		2	WG1144023
Ethylbenzene	100-41-4	106	0.400	1.73	ND	ND		2	WG1144023
4-Ethyltoluene	622-96-8	120	0.400	1.96	ND	ND		2	WG1144023
Trichlorofluoromethane	75-69-4	137.40	0.400	2.25	ND	ND		2	WG1144023
Dichlorodifluoromethane	75-71-8	120.92	0.400	1.98	0.402	1.99		2	WG1144023
1,1,2-Trichlorotrifluoroethane	76-13-1	187.40	0.400	3.07	ND	ND		2	WG1144023
1,2-Dichlorotetrafluoroethane	76-14-2	171	0.400	2.80	ND	ND		2	WG1144023
Heptane	142-82-5	100	0.400	1.64	ND	ND		2	WG1144023
Hexachloro-1,3-butadiene	87-68-3	261	1.26	13.5	ND	ND		2	WG1144023
n-Hexane	110-54-3	86.20	0.400	1.41	ND	ND		2	WG1144023
Isopropylbenzene	98-82-8	120.20	0.400	1.97	ND	ND		2	WG1144023
Methylene Chloride	75-09-2	84.90	0.400	1.39	1.03	3.59		2	WG1144023
Methyl Butyl Ketone	591-78-6	100	2.50	10.2	6.45	26.4		2	WG1144023
2-Butanone (MEK)	78-93-3	72.10	2.50	7.37	11.9	35.2		2	WG1144023
4-Methyl-2-pentanone (MIBK)	108-10-1	100.10	2.50	10.2	ND	ND		2	WG1144023
Methyl methacrylate	80-62-6	100.12	0.400	1.64	0.470	1.93		2	WG1144023
MTBE	1634-04-4	88.10	0.400	1.44	ND	ND		2	WG1144023
Naphthalene	91-20-3	128	1.26	6.60	ND	ND		2	WG1144023
2-Propanol	67-63-0	60.10	2.50	6.15	12.3	30.2		2	WG1144023
Propene	115-07-1	42.10	0.800	1.38	ND	ND		2	WG1144023
Styrene	100-42-5	104	0.400	1.70	ND	ND		2	WG1144023
1,1,2,2-Tetrachloroethane	79-34-5	168	0.400	2.75	ND	ND		2	WG1144023
Tetrachloroethylene	127-18-4	166	0.400	2.72	0.493	3.34		2	WG1144023
Tetrahydrofuran	109-99-9	72.10	0.400	1.18	0.777	2.29		2	WG1144023
Toluene	108-88-3	92.10	0.400	1.51	ND	ND		2	WG1144023
1,2,4-Trichlorobenzene	120-82-1	181	1.26	9.33	ND	ND		2	WG1144023

Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
1,1,1-Trichloroethane	71-55-6	133	0.400	2.18	11.3	61.6		2	WG1144023
1,1,2-Trichloroethane	79-00-5	133	0.400	2.18	ND	ND		2	WG1144023
Trichloroethylene	79-01-6	131	0.400	2.14	ND	ND		2	WG1144023
1,2,4-Trimethylbenzene	95-63-6	120	0.400	1.96	ND	ND		2	WG1144023
1,3,5-Trimethylbenzene	108-67-8	120	0.400	1.96	ND	ND		2	WG1144023
2,2,4-Trimethylpentane	540-84-1	114.22	0.400	1.87	ND	ND		2	WG1144023
Vinyl chloride	75-01-4	62.50	0.400	1.02	ND	ND		2	WG1144023
Vinyl Bromide	593-60-2	106.95	0.400	1.75	ND	ND		2	WG1144023
Vinyl acetate	108-05-4	86.10	0.400	1.41	ND	ND		2	WG1144023
m&p-Xylene	1330-20-7	106	0.800	3.47	ND	ND		2	WG1144023
o-Xylene	95-47-6	106	0.400	1.73	ND	ND		2	WG1144023
TPH (GC/MS) Low Fraction	8006-61-9	101	100	413	107	442		2	WG1144023
(S) 1,4-Bromofluorobenzene	*460-00-4*	*175*	*60.0-140*		*101*				WG1144023

Tc
Ss
Cn
Sr
Qc
Gl
Al
Sc

Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
Acetone	67-64-1	58.10	2.50	5.94	8.02	19.1		2	WG1144023
Allyl chloride	107-05-1	76.53	0.400	1.25	ND	ND		2	WG1144023
Benzene	71-43-2	78.10	0.400	1.28	ND	ND		2	WG1144023
Benzyl Chloride	100-44-7	127	0.400	2.08	ND	ND		2	WG1144023
Bromodichloromethane	75-27-4	164	0.400	2.68	ND	ND		2	WG1144023
Bromoform	75-25-2	253	1.20	12.4	ND	ND		2	WG1144023
Bromomethane	74-83-9	94.90	0.400	1.55	ND	ND		2	WG1144023
1,3-Butadiene	106-99-0	54.10	4.00	8.85	ND	ND		2	WG1144023
Carbon disulfide	75-15-0	76.10	0.400	1.24	ND	ND		2	WG1144023
Carbon tetrachloride	56-23-5	154	0.400	2.52	ND	ND		2	WG1144023
Chlorobenzene	108-90-7	113	0.400	1.85	ND	ND		2	WG1144023
Chloroethane	75-00-3	64.50	0.400	1.06	ND	ND		2	WG1144023
Chloroform	67-66-3	119	0.400	1.95	ND	ND		2	WG1144023
Chloromethane	74-87-3	50.50	0.400	0.826	ND	ND		2	WG1144023
2-Chlorotoluene	95-49-8	126	0.400	2.06	ND	ND		2	WG1144023
Cyclohexane	110-82-7	84.20	0.400	1.38	ND	ND		2	WG1144023
Dibromochloromethane	124-48-1	208	0.400	3.40	ND	ND		2	WG1144023
1,2-Dibromoethane	106-93-4	188	0.400	3.08	ND	ND		2	WG1144023
1,2-Dichlorobenzene	95-50-1	147	0.400	2.40	ND	ND		2	WG1144023
1,3-Dichlorobenzene	541-73-1	147	0.400	2.40	ND	ND		2	WG1144023
1,4-Dichlorobenzene	106-46-7	147	0.400	2.40	ND	ND	J4	2	WG1144023
1,2-Dichloroethane	107-06-2	99	0.400	1.62	ND	ND		2	WG1144023
1,1-Dichloroethane	75-34-3	98	0.400	1.60	ND	ND		2	WG1144023
1,1-Dichloroethene	75-35-4	96.90	0.400	1.59	ND	ND		2	WG1144023
cis-1,2-Dichloroethene	156-59-2	96.90	0.400	1.59	16.9	67.1		2	WG1144023
trans-1,2-Dichloroethene	156-60-5	96.90	0.400	1.59	ND	ND		2	WG1144023
1,2-Dichloropropane	78-87-5	113	0.400	1.85	ND	ND		2	WG1144023
cis-1,3-Dichloropropene	10061-01-5	111	0.400	1.82	ND	ND		2	WG1144023
trans-1,3-Dichloropropene	10061-02-6	111	0.400	1.82	ND	ND		2	WG1144023
1,4-Dioxane	123-91-1	88.10	0.400	1.44	ND	ND		2	WG1144023
Ethanol	64-17-5	46.10	1.26	2.38	10.1	19.1		2	WG1144023
Ethylbenzene	100-41-4	106	0.400	1.73	ND	ND		2	WG1144023
4-Ethyltoluene	622-96-8	120	0.400	1.96	0.455	2.24		2	WG1144023
Trichlorofluoromethane	75-69-4	137.40	0.400	2.25	ND	ND		2	WG1144023
Dichlorodifluoromethane	75-71-8	120.92	0.400	1.98	ND	ND		2	WG1144023
1,1,2-Trichlorotrifluoroethane	76-13-1	187.40	0.400	3.07	ND	ND		2	WG1144023
1,2-Dichlorotetrafluoroethane	76-14-2	171	0.400	2.80	ND	ND		2	WG1144023
Heptane	142-82-5	100	0.400	1.64	ND	ND		2	WG1144023
Hexachloro-1,3-butadiene	87-68-3	261	1.26	13.5	ND	ND		2	WG1144023
n-Hexane	110-54-3	86.20	0.400	1.41	ND	ND		2	WG1144023
Isopropylbenzene	98-82-8	120.20	0.400	1.97	ND	ND		2	WG1144023
Methylene Chloride	75-09-2	84.90	0.400	1.39	1.17	4.07		2	WG1144023
Methyl Butyl Ketone	591-78-6	100	2.50	10.2	ND	ND		2	WG1144023
2-Butanone (MEK)	78-93-3	72.10	2.50	7.37	ND	ND		2	WG1144023
4-Methyl-2-pentanone (MIBK)	108-10-1	100.10	2.50	10.2	ND	ND		2	WG1144023
Methyl methacrylate	80-62-6	100.12	0.400	1.64	ND	ND		2	WG1144023
MTBE	1634-04-4	88.10	0.400	1.44	ND	ND		2	WG1144023
Naphthalene	91-20-3	128	1.26	6.60	ND	ND		2	WG1144023
2-Propanol	67-63-0	60.10	2.50	6.15	ND	ND		2	WG1144023
Propene	115-07-1	42.10	0.800	1.38	ND	ND		2	WG1144023
Styrene	100-42-5	104	0.400	1.70	ND	ND		2	WG1144023
1,1,2,2-Tetrachloroethane	79-34-5	168	0.400	2.75	ND	ND		2	WG1144023
Tetrachloroethylene	127-18-4	166	0.400	2.72	4.47	30.4		2	WG1144023
Tetrahydrofuran	109-99-9	72.10	0.400	1.18	ND	ND		2	WG1144023
Toluene	108-88-3	92.10	0.400	1.51	0.574	2.16		2	WG1144023
1,2,4-Trichlorobenzene	120-82-1	181	1.26	9.33	ND	ND		2	WG1144023

SAMPLE RESULTS - 03

Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
1,1,1-Trichloroethane	71-55-6	133	0.400	2.18	0.642	3.49		2	WG1144023
1,1,2-Trichloroethane	79-00-5	133	0.400	2.18	ND	ND		2	WG1144023
Trichloroethylene	79-01-6	131	0.400	2.14	67.0	359		2	WG1144023
1,2,4-Trimethylbenzene	95-63-6	120	0.400	1.96	2.22	10.9		2	WG1144023
1,3,5-Trimethylbenzene	108-67-8	120	0.400	1.96	ND	ND		2	WG1144023
2,2,4-Trimethylpentane	540-84-1	114.22	0.400	1.87	ND	ND		2	WG1144023
Vinyl chloride	75-01-4	62.50	0.400	1.02	ND	ND		2	WG1144023
Vinyl Bromide	593-60-2	106.95	0.400	1.75	ND	ND		2	WG1144023
Vinyl acetate	108-05-4	86.10	0.400	1.41	ND	ND		2	WG1144023
m&p-Xylene	1330-20-7	106	0.800	3.47	1.41	6.09		2	WG1144023
o-Xylene	95-47-6	106	0.400	1.73	0.644	2.79		2	WG1144023
TPH (GC/MS) Low Fraction	8006-61-9	101	100	413	155	641		2	WG1144023
(S) 1,4-Bromofluorobenzene	*460-00-4*	*175*	*60.0-140*		*99.6*				WG1144023

Tc
Ss
Cn
Sr
Qc
Gl
Al
Sc

Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
Acetone	67-64-1	58.10	2.50	5.94	6.69	15.9		2	WG1144023
Allyl chloride	107-05-1	76.53	0.400	1.25	ND	ND		2	WG1144023
Benzene	71-43-2	78.10	0.400	1.28	ND	ND		2	WG1144023
Benzyl Chloride	100-44-7	127	0.400	2.08	ND	ND		2	WG1144023
Bromodichloromethane	75-27-4	164	0.400	2.68	ND	ND		2	WG1144023
Bromoform	75-25-2	253	1.20	12.4	ND	ND		2	WG1144023
Bromomethane	74-83-9	94.90	0.400	1.55	ND	ND		2	WG1144023
1,3-Butadiene	106-99-0	54.10	4.00	8.85	ND	ND		2	WG1144023
Carbon disulfide	75-15-0	76.10	0.400	1.24	ND	ND		2	WG1144023
Carbon tetrachloride	56-23-5	154	0.400	2.52	ND	ND		2	WG1144023
Chlorobenzene	108-90-7	113	0.400	1.85	ND	ND		2	WG1144023
Chloroethane	75-00-3	64.50	0.400	1.06	ND	ND		2	WG1144023
Chloroform	67-66-3	119	0.400	1.95	ND	ND		2	WG1144023
Chloromethane	74-87-3	50.50	0.400	0.826	ND	ND		2	WG1144023
2-Chlorotoluene	95-49-8	126	0.400	2.06	ND	ND		2	WG1144023
Cyclohexane	110-82-7	84.20	0.400	1.38	ND	ND		2	WG1144023
Dibromochloromethane	124-48-1	208	0.400	3.40	ND	ND		2	WG1144023
1,2-Dibromoethane	106-93-4	188	0.400	3.08	ND	ND		2	WG1144023
1,2-Dichlorobenzene	95-50-1	147	0.400	2.40	ND	ND		2	WG1144023
1,3-Dichlorobenzene	541-73-1	147	0.400	2.40	ND	ND		2	WG1144023
1,4-Dichlorobenzene	106-46-7	147	0.400	2.40	ND	ND	J4	2	WG1144023
1,2-Dichloroethane	107-06-2	99	0.400	1.62	ND	ND		2	WG1144023
1,1-Dichloroethane	75-34-3	98	0.400	1.60	ND	ND		2	WG1144023
1,1-Dichloroethene	75-35-4	96.90	0.400	1.59	ND	ND		2	WG1144023
cis-1,2-Dichloroethene	156-59-2	96.90	0.400	1.59	ND	ND		2	WG1144023
trans-1,2-Dichloroethene	156-60-5	96.90	0.400	1.59	ND	ND		2	WG1144023
1,2-Dichloropropane	78-87-5	113	0.400	1.85	ND	ND		2	WG1144023
cis-1,3-Dichloropropene	10061-01-5	111	0.400	1.82	ND	ND		2	WG1144023
trans-1,3-Dichloropropene	10061-02-6	111	0.400	1.82	ND	ND		2	WG1144023
1,4-Dioxane	123-91-1	88.10	0.400	1.44	ND	ND		2	WG1144023
Ethanol	64-17-5	46.10	1.26	2.38	9.09	17.1		2	WG1144023
Ethylbenzene	100-41-4	106	0.400	1.73	ND	ND		2	WG1144023
4-Ethyltoluene	622-96-8	120	0.400	1.96	ND	ND		2	WG1144023
Trichlorofluoromethane	75-69-4	137.40	0.400	2.25	ND	ND		2	WG1144023
Dichlorodifluoromethane	75-71-8	120.92	0.400	1.98	ND	ND		2	WG1144023
1,1,2-Trichlorotrifluoroethane	76-13-1	187.40	0.400	3.07	ND	ND		2	WG1144023
1,2-Dichlorotetrafluoroethane	76-14-2	171	0.400	2.80	ND	ND		2	WG1144023
Heptane	142-82-5	100	0.400	1.64	ND	ND		2	WG1144023
Hexachloro-1,3-butadiene	87-68-3	261	1.26	13.5	ND	ND		2	WG1144023
n-Hexane	110-54-3	86.20	0.400	1.41	0.507	1.79		2	WG1144023
Isopropylbenzene	98-82-8	120.20	0.400	1.97	ND	ND		2	WG1144023
Methylene Chloride	75-09-2	84.90	0.400	1.39	1.20	4.16		2	WG1144023
Methyl Butyl Ketone	591-78-6	100	2.50	10.2	ND	ND		2	WG1144023
2-Butanone (MEK)	78-93-3	72.10	2.50	7.37	ND	ND		2	WG1144023
4-Methyl-2-pentanone (MIBK)	108-10-1	100.10	2.50	10.2	ND	ND		2	WG1144023
Methyl methacrylate	80-62-6	100.12	0.400	1.64	ND	ND		2	WG1144023
MTBE	1634-04-4	88.10	0.400	1.44	ND	ND		2	WG1144023
Naphthalene	91-20-3	128	1.26	6.60	ND	ND		2	WG1144023
2-Propanol	67-63-0	60.10	2.50	6.15	ND	ND		2	WG1144023
Propene	115-07-1	42.10	0.800	1.38	ND	ND		2	WG1144023
Styrene	100-42-5	104	0.400	1.70	ND	ND		2	WG1144023
1,1,2,2-Tetrachloroethane	79-34-5	168	0.400	2.75	ND	ND		2	WG1144023
Tetrachloroethylene	127-18-4	166	0.400	2.72	0.710	4.82		2	WG1144023
Tetrahydrofuran	109-99-9	72.10	0.400	1.18	ND	ND		2	WG1144023
Toluene	108-88-3	92.10	0.400	1.51	ND	ND		2	WG1144023
1,2,4-Trichlorobenzene	120-82-1	181	1.26	9.33	ND	ND		2	WG1144023

Collected date/time: 07/19/18 10:29

L1011512

Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
1,1,1-Trichloroethane	71-55-6	133	0.400	2.18	ND	ND		2	WG1144023
1,1,2-Trichloroethane	79-00-5	133	0.400	2.18	ND	ND		2	WG1144023
Trichloroethylene	79-01-6	131	0.400	2.14	ND	ND		2	WG1144023
1,2,4-Trimethylbenzene	95-63-6	120	0.400	1.96	ND	ND		2	WG1144023
1,3,5-Trimethylbenzene	108-67-8	120	0.400	1.96	ND	ND		2	WG1144023
2,2,4-Trimethylpentane	540-84-1	114.22	0.400	1.87	ND	ND		2	WG1144023
Vinyl chloride	75-01-4	62.50	0.400	1.02	ND	ND		2	WG1144023
Vinyl Bromide	593-60-2	106.95	0.400	1.75	ND	ND		2	WG1144023
Vinyl acetate	108-05-4	86.10	0.400	1.41	ND	ND		2	WG1144023
m&p-Xylene	1330-20-7	106	0.800	3.47	ND	ND		2	WG1144023
o-Xylene	95-47-6	106	0.400	1.73	ND	ND		2	WG1144023
TPH (GC/MS) Low Fraction	8006-61-9	101	100	413	ND	ND		2	WG1144023
(S) 1,4-Bromofluorobenzene	*460-00-4*	*175*	*60.0-140*		*99.6*				WG1144023

Tc
Ss
Cn
Sr
Qc
Gl
Al
Sc

Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
Acetone	67-64-1	58.10	2.50	5.94	5.90	14.0		2	WG1144023
Allyl chloride	107-05-1	76.53	0.400	1.25	ND	ND		2	WG1144023
Benzene	71-43-2	78.10	0.400	1.28	ND	ND		2	WG1144023
Benzyl Chloride	100-44-7	127	0.400	2.08	ND	ND		2	WG1144023
Bromodichloromethane	75-27-4	164	0.400	2.68	ND	ND		2	WG1144023
Bromoform	75-25-2	253	1.20	12.4	ND	ND		2	WG1144023
Bromomethane	74-83-9	94.90	0.400	1.55	ND	ND		2	WG1144023
1,3-Butadiene	106-99-0	54.10	4.00	8.85	ND	ND		2	WG1144023
Carbon disulfide	75-15-0	76.10	0.400	1.24	ND	ND		2	WG1144023
Carbon tetrachloride	56-23-5	154	0.400	2.52	ND	ND		2	WG1144023
Chlorobenzene	108-90-7	113	0.400	1.85	ND	ND		2	WG1144023
Chloroethane	75-00-3	64.50	0.400	1.06	ND	ND		2	WG1144023
Chloroform	67-66-3	119	0.400	1.95	ND	ND		2	WG1144023
Chloromethane	74-87-3	50.50	0.400	0.826	ND	ND		2	WG1144023
2-Chlorotoluene	95-49-8	126	0.400	2.06	ND	ND		2	WG1144023
Cyclohexane	110-82-7	84.20	0.400	1.38	ND	ND		2	WG1144023
Dibromochloromethane	124-48-1	208	0.400	3.40	ND	ND		2	WG1144023
1,2-Dibromoethane	106-93-4	188	0.400	3.08	ND	ND		2	WG1144023
1,2-Dichlorobenzene	95-50-1	147	0.400	2.40	ND	ND		2	WG1144023
1,3-Dichlorobenzene	541-73-1	147	0.400	2.40	ND	ND		2	WG1144023
1,4-Dichlorobenzene	106-46-7	147	0.400	2.40	ND	ND	j4	2	WG1144023
1,2-Dichloroethane	107-06-2	99	0.400	1.62	ND	ND		2	WG1144023
1,1-Dichloroethane	75-34-3	98	0.400	1.60	ND	ND		2	WG1144023
1,1-Dichloroethene	75-35-4	96.90	0.400	1.59	ND	ND		2	WG1144023
cis-1,2-Dichloroethene	156-59-2	96.90	0.400	1.59	ND	ND		2	WG1144023
trans-1,2-Dichloroethene	156-60-5	96.90	0.400	1.59	ND	ND		2	WG1144023
1,2-Dichloropropane	78-87-5	113	0.400	1.85	ND	ND		2	WG1144023
cis-1,3-Dichloropropene	10061-01-5	111	0.400	1.82	ND	ND		2	WG1144023
trans-1,3-Dichloropropene	10061-02-6	111	0.400	1.82	ND	ND		2	WG1144023
1,4-Dioxane	123-91-1	88.10	0.400	1.44	ND	ND		2	WG1144023
Ethanol	64-17-5	46.10	1.26	2.38	17.7	33.3		2	WG1144023
Ethylbenzene	100-41-4	106	0.400	1.73	ND	ND		2	WG1144023
4-Ethyltoluene	622-96-8	120	0.400	1.96	ND	ND		2	WG1144023
Trichlorofluoromethane	75-69-4	137.40	0.400	2.25	ND	ND		2	WG1144023
Dichlorodifluoromethane	75-71-8	120.92	0.400	1.98	ND	ND		2	WG1144023
1,1,2-Trichlorotrifluoroethane	76-13-1	187.40	0.400	3.07	ND	ND		2	WG1144023
1,2-Dichlorotetrafluoroethane	76-14-2	171	0.400	2.80	ND	ND		2	WG1144023
Heptane	142-82-5	100	0.400	1.64	ND	ND		2	WG1144023
Hexachloro-1,3-butadiene	87-68-3	261	1.26	13.5	ND	ND		2	WG1144023
n-Hexane	110-54-3	86.20	0.400	1.41	ND	ND		2	WG1144023
Isopropylbenzene	98-82-8	120.20	0.400	1.97	ND	ND		2	WG1144023
Methylene Chloride	75-09-2	84.90	0.400	1.39	0.465	1.61		2	WG1144023
Methyl Butyl Ketone	591-78-6	100	2.50	10.2	ND	ND		2	WG1144023
2-Butanone (MEK)	78-93-3	72.10	2.50	7.37	ND	ND		2	WG1144023
4-Methyl-2-pentanone (MIBK)	108-10-1	100.10	2.50	10.2	ND	ND		2	WG1144023
Methyl methacrylate	80-62-6	100.12	0.400	1.64	ND	ND		2	WG1144023
MTBE	1634-04-4	88.10	0.400	1.44	ND	ND		2	WG1144023
Naphthalene	91-20-3	128	1.26	6.60	ND	ND		2	WG1144023
2-Propanol	67-63-0	60.10	2.50	6.15	ND	ND		2	WG1144023
Propene	115-07-1	42.10	0.800	1.38	ND	ND		2	WG1144023
Styrene	100-42-5	104	0.400	1.70	ND	ND		2	WG1144023
1,1,2,2-Tetrachloroethane	79-34-5	168	0.400	2.75	ND	ND		2	WG1144023
Tetrachloroethylene	127-18-4	166	0.400	2.72	1.58	10.7		2	WG1144023
Tetrahydrofuran	109-99-9	72.10	0.400	1.18	ND	ND		2	WG1144023
Toluene	108-88-3	92.10	0.400	1.51	ND	ND		2	WG1144023
1,2,4-Trichlorobenzene	120-82-1	181	1.26	9.33	ND	ND		2	WG1144023

Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
1,1,1-Trichloroethane	71-55-6	133	0.400	2.18	ND	ND		2	WG1144023
1,1,2-Trichloroethane	79-00-5	133	0.400	2.18	ND	ND		2	WG1144023
Trichloroethylene	79-01-6	131	0.400	2.14	ND	ND		2	WG1144023
1,2,4-Trimethylbenzene	95-63-6	120	0.400	1.96	1.26	6.18		2	WG1144023
1,3,5-Trimethylbenzene	108-67-8	120	0.400	1.96	0.490	2.40		2	WG1144023
2,2,4-Trimethylpentane	540-84-1	114.22	0.400	1.87	ND	ND		2	WG1144023
Vinyl chloride	75-01-4	62.50	0.400	1.02	ND	ND		2	WG1144023
Vinyl Bromide	593-60-2	106.95	0.400	1.75	ND	ND		2	WG1144023
Vinyl acetate	108-05-4	86.10	0.400	1.41	ND	ND		2	WG1144023
m&p-Xylene	1330-20-7	106	0.800	3.47	ND	ND		2	WG1144023
o-Xylene	95-47-6	106	0.400	1.73	ND	ND		2	WG1144023
TPH (GC/MS) Low Fraction	8006-61-9	101	100	413	112	461		2	WG1144023
(S) 1,4-Bromofluorobenzene	*460-00-4*	*175*	*60.0-140*		*101*				WG1144023

1 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
Acetone	67-64-1	58.10	2.50	5.94	56.8	135		2	WG1144023
Allyl chloride	107-05-1	76.53	0.400	1.25	ND	ND		2	WG1144023
Benzene	71-43-2	78.10	0.400	1.28	ND	ND		2	WG1144023
Benzyl Chloride	100-44-7	127	0.400	2.08	ND	ND		2	WG1144023
Bromodichloromethane	75-27-4	164	0.400	2.68	ND	ND		2	WG1144023
Bromoform	75-25-2	253	1.20	12.4	ND	ND		2	WG1144023
Bromomethane	74-83-9	94.90	0.400	1.55	ND	ND		2	WG1144023
1,3-Butadiene	106-99-0	54.10	4.00	8.85	ND	ND		2	WG1144023
Carbon disulfide	75-15-0	76.10	0.400	1.24	ND	ND		2	WG1144023
Carbon tetrachloride	56-23-5	154	0.400	2.52	ND	ND		2	WG1144023
Chlorobenzene	108-90-7	113	0.400	1.85	ND	ND		2	WG1144023
Chloroethane	75-00-3	64.50	0.400	1.06	ND	ND		2	WG1144023
Chloroform	67-66-3	119	0.400	1.95	ND	ND		2	WG1144023
Chloromethane	74-87-3	50.50	0.400	0.826	ND	ND		2	WG1144023
2-Chlorotoluene	95-49-8	126	0.400	2.06	ND	ND		2	WG1144023
Cyclohexane	110-82-7	84.20	0.400	1.38	ND	ND		2	WG1144023
Dibromochloromethane	124-48-1	208	0.400	3.40	ND	ND		2	WG1144023
1,2-Dibromoethane	106-93-4	188	0.400	3.08	ND	ND		2	WG1144023
1,2-Dichlorobenzene	95-50-1	147	0.400	2.40	ND	ND		2	WG1144023
1,3-Dichlorobenzene	541-73-1	147	0.400	2.40	ND	ND		2	WG1144023
1,4-Dichlorobenzene	106-46-7	147	0.400	2.40	ND	ND	J4	2	WG1144023
1,2-Dichloroethane	107-06-2	99	0.400	1.62	ND	ND		2	WG1144023
1,1-Dichloroethane	75-34-3	98	0.400	1.60	ND	ND		2	WG1144023
1,1-Dichloroethene	75-35-4	96.90	0.400	1.59	ND	ND		2	WG1144023
cis-1,2-Dichloroethene	156-59-2	96.90	0.400	1.59	ND	ND		2	WG1144023
trans-1,2-Dichloroethene	156-60-5	96.90	0.400	1.59	ND	ND		2	WG1144023
1,2-Dichloropropane	78-87-5	113	0.400	1.85	ND	ND		2	WG1144023
cis-1,3-Dichloropropene	10061-01-5	111	0.400	1.82	ND	ND		2	WG1144023
trans-1,3-Dichloropropene	10061-02-6	111	0.400	1.82	ND	ND		2	WG1144023
1,4-Dioxane	123-91-1	88.10	0.400	1.44	ND	ND		2	WG1144023
Ethanol	64-17-5	46.10	1.26	2.38	13.5	25.4		2	WG1144023
Ethylbenzene	100-41-4	106	0.400	1.73	ND	ND		2	WG1144023
4-Ethyltoluene	622-96-8	120	0.400	1.96	ND	ND		2	WG1144023
Trichlorofluoromethane	75-69-4	137.40	0.400	2.25	ND	ND		2	WG1144023
Dichlorodifluoromethane	75-71-8	120.92	0.400	1.98	ND	ND		2	WG1144023
1,1,2-Trichlorotrifluoroethane	76-13-1	187.40	0.400	3.07	ND	ND		2	WG1144023
1,2-Dichlorotetrafluoroethane	76-14-2	171	0.400	2.80	ND	ND		2	WG1144023
Heptane	142-82-5	100	0.400	1.64	ND	ND		2	WG1144023
Hexachloro-1,3-butadiene	87-68-3	261	1.26	13.5	ND	ND		2	WG1144023
n-Hexane	110-54-3	86.20	0.400	1.41	ND	ND		2	WG1144023
Isopropylbenzene	98-82-8	120.20	0.400	1.97	ND	ND		2	WG1144023
Methylene Chloride	75-09-2	84.90	0.400	1.39	0.476	1.65		2	WG1144023
Methyl Butyl Ketone	591-78-6	100	2.50	10.2	ND	ND		2	WG1144023
2-Butanone (MEK)	78-93-3	72.10	2.50	7.37	8.01	23.6		2	WG1144023
4-Methyl-2-pentanone (MIBK)	108-10-1	100.10	2.50	10.2	5.13	21.0		2	WG1144023
Methyl methacrylate	80-62-6	100.12	0.400	1.64	ND	ND		2	WG1144023
MTBE	1634-04-4	88.10	0.400	1.44	ND	ND		2	WG1144023
Naphthalene	91-20-3	128	1.26	6.60	5.08	26.6		2	WG1144023
2-Propanol	67-63-0	60.10	2.50	6.15	ND	ND		2	WG1144023
Propene	115-07-1	42.10	0.800	1.38	0.913	1.57		2	WG1144023
Styrene	100-42-5	104	0.400	1.70	ND	ND		2	WG1144023
1,1,2,2-Tetrachloroethane	79-34-5	168	0.400	2.75	ND	ND		2	WG1144023
Tetrachloroethylene	127-18-4	166	0.400	2.72	ND	ND		2	WG1144023
Tetrahydrofuran	109-99-9	72.10	0.400	1.18	2.42	7.14		2	WG1144023
Toluene	108-88-3	92.10	0.400	1.51	0.525	1.98		2	WG1144023
1,2,4-Trichlorobenzene	120-82-1	181	1.26	9.33	ND	ND		2	WG1144023

Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
1,1,1-Trichloroethane	71-55-6	133	0.400	2.18	ND	ND		2	WG1144023
1,1,2-Trichloroethane	79-00-5	133	0.400	2.18	ND	ND		2	WG1144023
Trichloroethylene	79-01-6	131	0.400	2.14	ND	ND		2	WG1144023
1,2,4-Trimethylbenzene	95-63-6	120	0.400	1.96	1.96	9.62		2	WG1144023
1,3,5-Trimethylbenzene	108-67-8	120	0.400	1.96	0.555	2.73		2	WG1144023
2,2,4-Trimethylpentane	540-84-1	114.22	0.400	1.87	ND	ND		2	WG1144023
Vinyl chloride	75-01-4	62.50	0.400	1.02	ND	ND		2	WG1144023
Vinyl Bromide	593-60-2	106.95	0.400	1.75	ND	ND		2	WG1144023
Vinyl acetate	108-05-4	86.10	0.400	1.41	ND	ND		2	WG1144023
m&p-Xylene	1330-20-7	106	0.800	3.47	ND	ND		2	WG1144023
o-Xylene	95-47-6	106	0.400	1.73	ND	ND		2	WG1144023
TPH (GC/MS) Low Fraction	8006-61-9	101	100	413	209	865		2	WG1144023
(S) 1,4-Bromofluorobenzene	*460-00-4*	*175*	*60.0-140*		*103*				WG1144023

Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
Acetone	67-64-1	58.10	2.50	5.94	8.78	20.9		2	WG1144023
Allyl chloride	107-05-1	76.53	0.400	1.25	ND	ND		2	WG1144023
Benzene	71-43-2	78.10	0.400	1.28	ND	ND		2	WG1144023
Benzyl Chloride	100-44-7	127	0.400	2.08	ND	ND		2	WG1144023
Bromodichloromethane	75-27-4	164	0.400	2.68	ND	ND		2	WG1144023
Bromoform	75-25-2	253	1.20	12.4	ND	ND		2	WG1144023
Bromomethane	74-83-9	94.90	0.400	1.55	ND	ND		2	WG1144023
1,3-Butadiene	106-99-0	54.10	4.00	8.85	ND	ND		2	WG1144023
Carbon disulfide	75-15-0	76.10	0.400	1.24	ND	ND		2	WG1144023
Carbon tetrachloride	56-23-5	154	0.400	2.52	ND	ND		2	WG1144023
Chlorobenzene	108-90-7	113	0.400	1.85	ND	ND		2	WG1144023
Chloroethane	75-00-3	64.50	0.400	1.06	ND	ND		2	WG1144023
Chloroform	67-66-3	119	0.400	1.95	ND	ND		2	WG1144023
Chloromethane	74-87-3	50.50	0.400	0.826	ND	ND		2	WG1144023
2-Chlorotoluene	95-49-8	126	0.400	2.06	ND	ND		2	WG1144023
Cyclohexane	110-82-7	84.20	0.400	1.38	0.570	1.96		2	WG1144023
Dibromochloromethane	124-48-1	208	0.400	3.40	ND	ND		2	WG1144023
1,2-Dibromoethane	106-93-4	188	0.400	3.08	ND	ND		2	WG1144023
1,2-Dichlorobenzene	95-50-1	147	0.400	2.40	ND	ND		2	WG1144023
1,3-Dichlorobenzene	541-73-1	147	0.400	2.40	ND	ND		2	WG1144023
1,4-Dichlorobenzene	106-46-7	147	0.400	2.40	ND	ND		2	WG1144023
1,2-Dichloroethane	107-06-2	99	0.400	1.62	ND	ND		2	WG1144023
1,1-Dichloroethane	75-34-3	98	0.400	1.60	ND	ND		2	WG1144023
1,1-Dichloroethene	75-35-4	96.90	0.400	1.59	ND	ND		2	WG1144023
cis-1,2-Dichloroethene	156-59-2	96.90	0.400	1.59	ND	ND		2	WG1144023
trans-1,2-Dichloroethene	156-60-5	96.90	0.400	1.59	ND	ND		2	WG1144023
1,2-Dichloropropane	78-87-5	113	0.400	1.85	ND	ND		2	WG1144023
cis-1,3-Dichloropropene	10061-01-5	111	0.400	1.82	ND	ND		2	WG1144023
trans-1,3-Dichloropropene	10061-02-6	111	0.400	1.82	ND	ND		2	WG1144023
1,4-Dioxane	123-91-1	88.10	0.400	1.44	ND	ND		2	WG1144023
Ethanol	64-17-5	46.10	1.25	2.38	7.05	13.3		2	WG1144023
Ethylbenzene	100-41-4	106	0.400	1.73	ND	ND		2	WG1144023
4-Ethyltoluene	622-96-8	120	0.400	1.96	ND	ND		2	WG1144023
Trichlorofluoromethane	75-69-4	137.40	0.400	2.25	0.434	2.44		2	WG1144023
Dichlorodifluoromethane	75-71-8	120.92	0.400	1.98	ND	ND		2	WG1144023
1,1,2-Trichlorotrifluoroethane	76-13-1	187.40	0.400	3.07	ND	ND		2	WG1144023
1,2-Dichlorotetrafluoroethane	76-14-2	171	0.400	2.80	ND	ND		2	WG1144023
Heptane	142-82-5	100	0.400	1.64	ND	ND		2	WG1144023
Hexachloro-1,3-butadiene	87-68-3	261	1.26	13.5	ND	ND		2	WG1144023
n-Hexane	110-54-3	86.20	0.400	1.41	ND	ND		2	WG1144023
Isopropylbenzene	98-82-8	120.20	0.400	1.97	ND	ND		2	WG1144023
Methylene Chloride	75-09-2	84.90	0.400	1.39	0.615	2.13		2	WG1144023
Methyl Butyl Ketone	591-78-6	100.	2.50	10.2	ND	ND		2	WG1144023
2-Butanone (MEK)	78-93-3	72.10	2.50	7.37	ND	ND		2	WG1144023
4-Methyl-2-pentanone (MIBK)	108-10-1	100.10	2.50	10.2	ND	ND		2	WG1144023
Methyl methacrylate	80-62-6	100.12	0.400	1.64	0.428	1.75		2	WG1144023
MTBE	1634-04-4	88.10	0.400	1.44	ND	ND		2	WG1144023
Naphthalene	91-20-3	128	1.26	6.60	ND	ND		2	WG1144023
2-Propanol	67-63-0	60.10	2.50	6.15	ND	ND		2	WG1144023
Propene	115-07-1	42.10	0.800	1.38	ND	ND		2	WG1144023
Styrene	100-42-5	104	0.400	1.70	ND	ND		2	WG1144023
1,1,2,2-Tetrachloroethane	79-34-5	168	0.400	2.75	ND	ND		2	WG1144023
Tetrachloroethylene	127-18-4	166	0.400	2.72	1.44	9.79		2	WG1144023
Tetrahydrofuran	109-99-9	72.10	0.400	1.18	ND	ND		2	WG1144023
Toluene	108-88-3	92.10	0.400	1.51	4.45	16.8		2	WG1144023
1,2,4-Trichlorobenzene	120-82-1	181	1.26	9.33	ND	ND		2	WG1144023

Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
1,1,1-Trichloroethane	71-55-6	133	0.400	2.18	15.9	86.2		2	WG1144023
1,1,2-Trichloroethane	79-00-5	133	0.400	2.18	ND	ND		2	WG1144023
Trichloroethylene	79-01-6	131	0.400	2.14	ND	ND		2	WG1144023
1,2,4-Trimethylbenzene	95-63-6	120	0.400	1.96	ND	ND		2	WG1144023
1,3,5-Trimethylbenzene	108-67-8	120	0.400	1.96	ND	ND		2	WG1144023
2,2,4-Trimethylpentane	540-84-1	114.22	0.400	1.87	ND	ND		2	WG1144023
Vinyl chloride	75-01-4	62.50	0.400	1.02	ND	ND		2	WG1144023
Vinyl Bromide	593-60-2	106.95	0.400	1.75	ND	ND		2	WG1144023
Vinyl acetate	108-05-4	86.10	0.400	1.41	ND	ND		2	WG1144023
m&p-Xylene	1330-20-7	106	0.800	3.47	0.884	3.83		2	WG1144023
o-Xylene	95-47-6	106	0.400	1.73	ND	ND		2	WG1144023
TPH (GC/MS) Low Fraction	8006-61-9	101	100	413	144	594		2	WG1144023
(S) 1,4-Bromofluorobenzene	*460-00-4*	*175*	*60.0-140*		*98.7*				WG1144023

1 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
Acetone	67-64-1	58.10	2.50	5.94	31.3	74.4		2	WG1144023
Allyl chloride	107-05-1	76.53	0.400	1.25	ND	ND		2	WG1144023
Benzene	71-43-2	78.10	0.400	1.28	0.797	2.55		2	WG1144023
Benzyl Chloride	100-44-7	127	0.400	2.08	ND	ND		2	WG1144023
Bromodichloromethane	75-27-4	164	0.400	2.68	ND	ND		2	WG1144023
Bromoform	75-25-2	253	1.20	12.4	ND	ND		2	WG1144023
Bromomethane	74-83-9	94.90	0.400	1.55	ND	ND		2	WG1144023
1,3-Butadiene	106-99-0	54.10	4.00	8.85	ND	ND		2	WG1144023
Carbon disulfide	75-15-0	76.10	0.400	1.24	0.447	1.39		2	WG1144023
Carbon tetrachloride	56-23-5	154	0.400	2.52	ND	ND		2	WG1144023
Chlorobenzene	108-90-7	113	0.400	1.85	ND	ND		2	WG1144023
Chloroethane	75-00-3	64.50	0.400	1.06	ND	ND		2	WG1144023
Chloroform	67-66-3	119	0.400	1.95	ND	ND		2	WG1144023
Chloromethane	74-87-3	50.50	0.400	0.826	0.716	1.48		2	WG1144023
2-Chlorotoluene	95-49-8	126	0.400	2.06	ND	ND		2	WG1144023
Cyclohexane	110-82-7	84.20	0.400	1.38	ND	ND		2	WG1144023
Dibromochloromethane	124-48-1	208	0.400	3.40	ND	ND		2	WG1144023
1,2-Dibromoethane	106-93-4	188	0.400	3.08	ND	ND		2	WG1144023
1,2-Dichlorobenzene	95-50-1	147	0.400	2.40	ND	ND		2	WG1144023
1,3-Dichlorobenzene	541-73-1	147	0.400	2.40	ND	ND		2	WG1144023
1,4-Dichlorobenzene	106-46-7	147	0.400	2.40	ND	ND	J4	2	WG1144023
1,2-Dichloroethane	107-06-2	99	0.400	1.62	ND	ND		2	WG1144023
1,1-Dichloroethane	75-34-3	98	0.400	1.60	ND	ND		2	WG1144023
1,1-Dichloroethene	75-35-4	96.90	0.400	1.59	ND	ND		2	WG1144023
cis-1,2-Dichloroethene	156-59-2	96.90	0.400	1.59	ND	ND		2	WG1144023
trans-1,2-Dichloroethene	156-60-5	96.90	0.400	1.59	ND	ND		2	WG1144023
1,2-Dichloropropane	78-87-5	113	0.400	1.85	ND	ND		2	WG1144023
cis-1,3-Dichloropropene	10061-01-5	111	0.400	1.82	ND	ND		2	WG1144023
trans-1,3-Dichloropropene	10061-02-6	111	0.400	1.82	ND	ND		2	WG1144023
1,4-Dioxane	123-91-1	88.10	0.400	1.44	ND	ND		2	WG1144023
Ethanol	64-17-5	46.10	1.26	2.38	37.0	69.7		2	WG1144023
Ethylbenzene	100-41-4	106	0.400	1.73	0.942	4.08		2	WG1144023
4-Ethyltoluene	622-96-8	120	0.400	1.96	ND	ND		2	WG1144023
Trichlorofluoromethane	75-69-4	137.40	0.400	2.25	ND	ND		2	WG1144023
Dichlorodifluoromethane	75-71-8	120.92	0.400	1.98	0.443	2.19		2	WG1144023
1,1,2-Trichlorotrifluoroethane	76-13-1	187.40	0.400	3.07	ND	ND		2	WG1144023
1,2-Dichlorotetrafluoroethane	76-14-2	171	0.400	2.80	ND	ND		2	WG1144023
Heptane	142-82-5	100	0.400	1.64	1.07	4.38		2	WG1144023
Hexachloro-1,3-butadiene	87-68-3	261	1.26	13.5	ND	ND		2	WG1144023
n-Hexane	110-54-3	86.20	0.400	1.41	2.99	10.5		2	WG1144023
Isopropylbenzene	98-82-8	120.20	0.400	1.97	ND	ND		2	WG1144023
Methylene Chloride	75-09-2	84.90	0.400	1.39	5.00	17.3		2	WG1144023
Methyl Butyl Ketone	591-78-6	100	2.50	10.2	ND	ND		2	WG1144023
2-Butanone (MEK)	78-93-3	72.10	2.50	7.37	5.16	15.2		2	WG1144023
4-Methyl-2-pentanone (MIBK)	108-10-1	100.10	2.50	10.2	ND	ND		2	WG1144023
Methyl methacrylate	80-62-6	100.12	0.400	1.64	ND	ND		2	WG1144023
MTBE	1634-04-4	88.10	0.400	1.44	ND	ND		2	WG1144023
Naphthalene	91-20-3	128	1.26	6.60	ND	ND		2	WG1144023
2-Propanol	67-63-0	60.10	2.50	6.15	6.03	14.8		2	WG1144023
Propene	115-07-1	42.10	0.800	1.38	11.6	20.0		2	WG1144023
Styrene	100-42-5	104	0.400	1.70	ND	ND		2	WG1144023
1,1,2,2-Tetrachloroethane	79-34-5	168	0.400	2.75	ND	ND		2	WG1144023
Tetrachloroethylene	127-18-4	166	0.400	2.72	12.4	84.4		2	WG1144023
Tetrahydrofuran	109-99-9	72.10	0.400	1.18	0.489	1.44		2	WG1144023
Toluene	108-88-3	92.10	0.400	1.51	1.60	6.03		2	WG1144023
1,2,4-Trichlorobenzene	120-82-1	181	1.26	9.33	ND	ND		2	WG1144023

Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
1,1,1-Trichloroethane	71-55-6	133	0.400	2.18	ND	ND		2	WG1144023
1,1,2-Trichloroethane	79-00-5	133	0.400	2.18	ND	ND		2	WG1144023
Trichloroethylene	79-01-6	131	0.400	2.14	0.687	3.68		2	WG1144023
1,2,4-Trimethylbenzene	95-63-6	120	0.400	1.96	0.629	3.09		2	WG1144023
1,3,5-Trimethylbenzene	108-67-8	120	0.400	1.96	ND	ND		2	WG1144023
2,2,4-Trimethylpentane	540-84-1	114.22	0.400	1.87	ND	ND		2	WG1144023
Vinyl chloride	75-01-4	62.50	0.400	1.02	ND	ND		2	WG1144023
Vinyl Bromide	593-60-2	106.95	0.400	1.75	ND	ND		2	WG1144023
Vinyl acetate	108-05-4	86.10	0.400	1.41	ND	ND		2	WG1144023
m&p-Xylene	1330-20-7	106	0.800	3.47	1.22	5.28		2	WG1144023
o-Xylene	95-47-6	106	0.400	1.73	0.499	2.17		2	WG1144023
TPH (GC/MS) Low Fraction	8006-61-9	101	100	413	114	472		2	WG1144023
(S) 1,4-Bromofluorobenzene	*460-00-4*	*175*	*60.0-140*		*100*				WG1144023

Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
Acetone	67-64-1	58.10	2.50	5.94	28.4	67.4		2	WG1144720
Allyl chloride	107-05-1	76.53	0.400	1.25	ND	ND		2	WG1144720
Benzene	71-43-2	78.10	0.400	1.28	ND	ND		2	WG1144720
Benzyl Chloride	100-44-7	127	0.400	2.08	ND	ND		2	WG1144720
Bromodichloromethane	75-27-4	164	0.400	2.68	ND	ND		2	WG1144720
Bromoform	75-25-2	253	1.20	12.4	ND	ND		2	WG1144720
Bromomethane	74-83-9	94.90	0.400	1.55	ND	ND		2	WG1144720
1,3-Butadiene	106-99-0	54.10	4.00	8.85	ND	ND		2	WG1144720
Carbon disulfide	75-15-0	76.10	0.400	1.24	ND	ND		2	WG1144720
Carbon tetrachloride	56-23-5	154	0.400	2.52	ND	ND		2	WG1144720
Chlorobenzene	108-90-7	113	0.400	1.85	ND	ND		2	WG1144720
Chloroethane	75-00-3	64.50	0.400	1.06	ND	ND		2	WG1144720
Chloroform	67-66-3	119	0.400	1.95	ND	ND		2	WG1144720
Chloromethane	74-87-3	50.50	0.400	0.826	0.447	0.922		2	WG1144720
2-Chlorotoluene	95-49-8	126	0.400	2.06	ND	ND		2	WG1144720
Cyclohexane	110-82-7	84.20	0.400	1.38	ND	ND		2	WG1144720
Dibromochloromethane	124-48-1	208	0.400	3.40	ND	ND		2	WG1144720
1,2-Dibromoethane	106-93-4	188	0.400	3.08	ND	ND		2	WG1144720
1,2-Dichlorobenzene	95-50-1	147	0.400	2.40	ND	ND		2	WG1144720
1,3-Dichlorobenzene	541-73-1	147	0.400	2.40	ND	ND		2	WG1144720
1,4-Dichlorobenzene	106-46-7	147	0.400	2.40	ND	ND		2	WG1144720
1,2-Dichloroethane	107-06-2	99	0.400	1.62	ND	ND		2	WG1144720
1,1-Dichloroethane	75-34-3	98	0.400	1.60	ND	ND		2	WG1144720
1,1-Dichloroethene	75-35-4	96.90	0.400	1.59	ND	ND		2	WG1144720
cis-1,2-Dichloroethene	156-59-2	96.90	0.400	1.59	ND	ND		2	WG1144720
trans-1,2-Dichloroethene	156-60-5	96.90	0.400	1.59	ND	ND		2	WG1144720
1,2-Dichloropropane	78-87-5	113	0.400	1.85	ND	ND		2	WG1144720
cis-1,3-Dichloropropene	10061-01-5	111	0.400	1.82	ND	ND		2	WG1144720
trans-1,3-Dichloropropene	10061-02-6	111	0.400	1.82	ND	ND		2	WG1144720
1,4-Dioxane	123-91-1	88.10	0.400	1.44	1.06	3.81		2	WG1144720
Ethanol	64-17-5	46.10	1.26	2.38	29.5	55.6		2	WG1144720
Ethylbenzene	100-41-4	106	0.400	1.73	ND	ND		2	WG1144720
4-Ethyltoluene	622-96-8	120	0.400	1.96	ND	ND		2	WG1144720
Trichlorofluoromethane	75-69-4	137.40	0.400	2.25	ND	ND		2	WG1144720
Dichlorodifluoromethane	75-71-8	120.92	0.400	1.98	ND	ND		2	WG1144720
1,1,2-Trichlorotrifluoroethane	76-13-1	187.40	0.400	3.07	ND	ND		2	WG1144720
1,2-Dichlorotetrafluoroethane	76-14-2	171	0.400	2.80	ND	ND		2	WG1144720
Heptane	142-82-5	100	0.400	1.64	ND	ND		2	WG1144720
Hexachloro-1,3-butadiene	87-68-3	261	1.26	13.5	ND	ND		2	WG1144720
n-Hexane	110-54-3	86.20	0.400	1.41	ND	1.41		2	WG1144720
Isopropylbenzene	98-82-8	120.20	0.400	1.97	ND	ND		2	WG1144720
Methylene Chloride	75-09-2	84.90	0.400	1.39	1.37	4.76		2	WG1144720
Methyl Butyl Ketone	591-78-6	100	2.50	10.2	ND	ND		2	WG1144720
2-Butanone (MEK)	78-93-3	72.10	2.50	7.37	3.31	9.76		2	WG1144720
4-Methyl-2-pentanone (MIBK)	108-10-1	100.10	2.50	10.2	ND	ND		2	WG1144720
Methyl methacrylate	80-62-6	100.12	0.400	1.64	ND	ND		2	WG1144720
MTBE	1634-04-4	88.10	0.400	1.44	ND	ND		2	WG1144720
Naphthalene	91-20-3	128	1.26	6.60	ND	ND		2	WG1144720
2-Propanol	67-63-0	60.10	2.50	6.15	2.68	6.58		2	WG1144720
Propene	115-07-1	42.10	0.800	1.38	1.15	1.98		2	WG1144720
Styrene	100-42-5	104	0.400	1.70	ND	ND		2	WG1144720
1,1,2,2-Tetrachloroethane	79-34-5	168	0.400	2.75	ND	ND		2	WG1144720
Tetrachloroethylene	127-18-4	166	0.400	2.72	0.824	5.60		2	WG1144720
Tetrahydrofuran	109-99-9	72.10	0.400	1.18	0.768	2.27		2	WG1144720
Toluene	108-88-3	92.10	0.400	1.51	ND	ND		2	WG1144720
1,2,4-Trichlorobenzene	120-82-1	181	1.26	9.33	ND	ND		2	WG1144720

Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
1,1,1-Trichloroethane	71-55-6	133	0.400	2.18	3.92	21.3		2	WG1144720
1,1,2-Trichloroethane	79-00-5	133	0.400	2.18	ND	ND		2	WG1144720
Trichloroethylene	79-01-6	131	0.400	2.14	ND	ND		2	WG1144720
1,2,4-Trimethylbenzene	95-63-6	120	0.400	1.96	1.18	5.79		2	WG1144720
1,3,5-Trimethylbenzene	108-67-8	120	0.400	1.96	ND	ND		2	WG1144720
2,2,4-Trimethylpentane	540-84-1	114.22	0.400	1.87	ND	ND		2	WG1144720
Vinyl chloride	75-01-4	62.50	0.400	1.02	ND	ND		2	WG1144720
Vinyl Bromide	593-60-2	106.95	0.400	1.75	ND	ND		2	WG1144720
Vinyl acetate	108-05-4	86.10	0.400	1.41	ND	ND		2	WG1144720
m&p-Xylene	1330-20-7	106	0.800	3.47	ND	ND		2	WG1144720
o-Xylene	95-47-6	106	0.400	1.73	ND	ND		2	WG1144720
TPH (GC/MS) Low Fraction	8006-61-9	101	100	413	108	448		2	WG1144720
(S) 1,4-Bromofluorobenzene	*460-00-4*	*175*	*60.0-140*		*90.5*				WG1144720

2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
Acetone	67-64-1	58.10	2.50	5.94	12.5	29.7		2	WG1144138
Allyl chloride	107-05-1	76.53	0.400	1.25	ND	ND		2	WG1144138
Benzene	71-43-2	78.10	0.400	1.28	ND	ND		2	WG1144138
Benzyl Chloride	100-44-7	127	0.400	2.08	ND	ND		2	WG1144138
Bromodichloromethane	75-27-4	164	0.400	2.68	ND	ND		2	WG1144138
Bromoform	75-25-2	253	1.20	12.4	ND	ND		2	WG1144138
Bromomethane	74-83-9	94.90	0.400	1.55	ND	ND		2	WG1144138
1,3-Butadiene	106-99-0	54.10	4.00	8.85	ND	ND		2	WG1144138
Carbon disulfide	75-15-0	76.10	0.400	1.24	0.427	1.33		2	WG1144138
Carbon tetrachloride	56-23-5	154	0.400	2.52	ND	ND		2	WG1144138
Chlorobenzene	108-90-7	113	0.400	1.85	ND	ND		2	WG1144138
Chloroethane	75-00-3	64.50	0.400	1.06	ND	ND		2	WG1144138
Chloroform	67-66-3	119	0.400	1.95	0.484	2.36		2	WG1144138
Chloromethane	74-87-3	50.50	0.400	0.826	0.784	1.62		2	WG1144138
2-Chlorotoluene	95-49-8	126	0.400	2.06	ND	ND		2	WG1144138
Cyclohexane	110-82-7	84.20	0.400	1.38	ND	ND		2	WG1144138
Dibromochloromethane	124-48-1	208	0.400	3.40	ND	ND		2	WG1144138
1,2-Dibromoethane	106-93-4	188	0.400	3.08	ND	ND		2	WG1144138
1,2-Dichlorobenzene	95-50-1	147	0.400	2.40	ND	ND		2	WG1144138
1,3-Dichlorobenzene	541-73-1	147	0.400	2.40	ND	ND		2	WG1144138
1,4-Dichlorobenzene	106-46-7	147	0.400	2.40	ND	ND		2	WG1144138
1,2-Dichloroethane	107-06-2	99	0.400	1.62	ND	ND		2	WG1144138
1,1-Dichloroethane	75-34-3	98	0.400	1.60	ND	ND		2	WG1144138
1,1-Dichloroethene	75-35-4	96.90	0.400	1.59	ND	ND		2	WG1144138
cis-1,2-Dichloroethene	156-59-2	96.90	0.400	1.59	ND	ND		2	WG1144138
trans-1,2-Dichloroethene	156-60-5	96.90	0.400	1.59	ND	ND		2	WG1144138
1,2-Dichloropropane	78-87-5	113	0.400	1.85	ND	ND		2	WG1144138
cis-1,3-Dichloropropene	10061-01-5	111	0.400	1.82	ND	ND		2	WG1144138
trans-1,3-Dichloropropene	10061-02-6	111	0.400	1.82	ND	ND		2	WG1144138
1,4-Dioxane	123-91-1	88.10	0.400	1.44	ND	ND		2	WG1144138
Ethanol	64-17-5	46.10	1.26	2.38	7.47	14.1		2	WG1144138
Ethylbenzene	100-41-4	106	0.400	1.73	ND	ND		2	WG1144138
4-Ethyltoluene	622-96-8	120	0.400	1.96	ND	ND		2	WG1144138
Trichlorofluoromethane	75-69-4	137.40	0.400	2.25	ND	ND		2	WG1144138
Dichlorodifluoromethane	75-71-8	120.92	0.400	1.98	ND	ND		2	WG1144138
1,1,2-Trichlorotrifluoroethane	76-13-1	187.40	0.400	3.07	ND	ND		2	WG1144138
1,2-Dichlorotetrafluoroethane	76-14-2	171	0.400	2.80	ND	ND		2	WG1144138
Heptane	142-82-5	100	0.400	1.64	ND	ND		2	WG1144138
Hexachloro-1,3-butadiene	87-68-3	261	1.26	13.5	ND	ND		2	WG1144138
n-Hexane	110-54-3	86.20	0.400	1.41	ND	ND		2	WG1144138
Isopropylbenzene	98-82-8	120.20	0.400	1.97	ND	ND		2	WG1144138
Methylene Chloride	75-09-2	84.90	0.400	1.39	ND	ND		2	WG1144138
Methyl Butyl Ketone	591-78-6	100	2.50	10.2	ND	ND		2	WG1144138
2-Butanone (MEK)	78-93-3	72.10	2.50	7.37	ND	ND		2	WG1144138
4-Methyl-2-pentanone (MIBK)	108-10-1	100.10	2.50	10.2	ND	ND		2	WG1144138
Methyl methacrylate	80-62-6	100.12	0.400	1.64	ND	ND		2	WG1144138
MTBE	1634-04-4	88.10	0.400	1.44	ND	ND		2	WG1144138
Naphthalene	91-20-3	128	1.26	6.60	2.22	11.6		2	WG1144138
2-Propanol	67-63-0	60.10	2.50	6.15	4.41	10.8		2	WG1144138
Propene	115-07-1	42.10	0.800	1.38	2.12	3.66		2	WG1144138
Styrene	100-42-5	104	0.400	1.70	ND	ND		2	WG1144138
1,1,2,2-Tetrachloroethane	79-34-5	168	0.400	2.75	ND	ND		2	WG1144138
Tetrachloroethylene	127-18-4	166	0.400	2.72	0.957	6.50		2	WG1144138
Tetrahydrofuran	109-99-9	72.10	0.400	1.18	ND	ND		2	WG1144138
Toluene	108-88-3	92.10	0.400	1.51	0.527	1.98		2	WG1144138
1,2,4-Trichlorobenzene	120-82-1	181	1.26	9.33	ND	ND		2	WG1144138

Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
1,1,1-Trichloroethane	71-55-6	133	0.400	2.18	11.8	64.0		2	WG1144138
1,1,2-Trichloroethane	79-00-5	133	0.400	2.18	ND	ND		2	WG1144138
Trichloroethylene	79-01-6	131	0.400	2.14	ND	ND		2	WG1144138
1,2,4-Trimethylbenzene	95-63-6	120	0.400	1.96	ND	ND		2	WG1144138
1,3,5-Trimethylbenzene	108-67-8	120	0.400	1.96	ND	ND		2	WG1144138
2,2,4-Trimethylpentane	540-84-1	114.22	0.400	1.87	ND	ND		2	WG1144138
Vinyl chloride	75-01-4	62.50	0.400	1.02	ND	ND		2	WG1144138
Vinyl Bromide	593-60-2	106.95	0.400	1.75	ND	ND		2	WG1144138
Vinyl acetate	108-05-4	86.10	0.400	1.41	ND	ND		2	WG1144138
m&p-Xylene	1330-20-7	106	0.800	3.47	ND	ND		2	WG1144138
o-Xylene	95-47-6	106	0.400	1.73	ND	ND		2	WG1144138
TPH (GC/MS) Low Fraction	8006-61-9	101	100	413	ND	ND		2	WG1144138
(S) 1,4-Bromofluorobenzene	*460-00-4*	*175*	*60.0-140*		*98.1*				WG1144138

1 Tc
2 Ss
3 Cn
4 Sr
5 Qc
6 Gl
7 Al
8 Sc

Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
Acetone	67-64-1	58.10	2.50	5.94	6.27	14.9		2	WG1144139
Allyl chloride	107-05-1	76.53	0.400	1.25	ND	ND		2	WG1144139
Benzene	71-43-2	78.10	0.400	1.28	ND	ND		2	WG1144138
Benzyl Chloride	100-44-7	127	0.400	2.08	ND	ND		2	WG1144138
Bromodichloromethane	75-27-4	164	0.400	2.68	ND	ND		2	WG1144139
Bromoform	75-25-2	253	1.20	12.4	ND	ND		2	WG1144138
Bromomethane	74-83-9	94.90	0.400	1.55	ND	ND		2	WG1144138
1,3-Butadiene	106-99-0	54.10	4.00	8.85	ND	ND		2	WG1144138
Carbon disulfide	75-15-0	76.10	0.400	1.24	0.452	1.41		2	WG1144139
Carbon tetrachloride	56-23-5	154	0.400	2.52	ND	ND		2	WG1144138
Chlorobenzene	108-90-7	113	0.400	1.85	ND	ND		2	WG1144139
Chloroethane	75-00-3	64.50	0.400	1.06	ND	ND		2	WG1144138
Chloroform	67-66-3	119	0.400	1.95	ND	ND		2	WG1144138
Chloromethane	74-87-3	50.50	0.400	0.826	ND	ND		2	WG1144138
2-Chlorotoluene	95-49-8	126	0.400	2.06	ND	ND		2	WG1144138
Cyclohexane	110-82-7	84.20	0.400	1.38	ND	ND		2	WG1144138
Dibromochloromethane	124-48-1	208	0.400	3.40	ND	ND		2	WG1144138
1,2-Dibromoethane	106-93-4	188	0.400	3.08	ND	ND		2	WG1144138
1,2-Dichlorobenzene	95-50-1	147	0.400	2.40	ND	ND		2	WG1144138
1,3-Dichlorobenzene	541-73-1	147	0.400	2.40	ND	ND		2	WG1144138
1,4-Dichlorobenzene	106-46-7	147	0.400	2.40	ND	ND		2	WG1144139
1,2-Dichloroethane	107-06-2	99	0.400	1.62	ND	ND		2	WG1144138
1,1-Dichloroethane	75-34-3	98	0.400	1.60	ND	ND		2	WG1144139
1,1-Dichloroethene	75-35-4	96.90	0.400	1.59	ND	ND		2	WG1144139
cis-1,2-Dichloroethene	156-59-2	96.90	0.400	1.59	ND	ND		2	WG1144139
trans-1,2-Dichloroethene	156-60-5	96.90	0.400	1.59	ND	ND		2	WG1144138
1,2-Dichloropropane	78-87-5	113	0.400	1.85	ND	ND		2	WG1144139
cis-1,3-Dichloropropene	10061-01-5	111	0.400	1.82	ND	ND		2	WG1144138
trans-1,3-Dichloropropene	10061-02-6	111	0.400	1.82	ND	ND		2	WG1144139
1,4-Dioxane	123-91-1	88.10	0.400	1.44	ND	ND		2	WG1144139
Ethanol	64-17-5	46.10	1.26	2.38	2.69	5.06		2	WG1144138
Ethylbenzene	100-41-4	106	0.400	1.73	ND	ND		2	WG1144138
4-Ethyltoluene	622-96-8	120	0.400	1.96	ND	ND		2	WG1144139
Trichlorofluoromethane	75-69-4	137.40	0.400	2.25	ND	ND		2	WG1144138
Dichlorodifluoromethane	75-71-8	120.92	0.400	1.98	ND	ND		2	WG1144139
1,1,2-Trichlorotrifluoroethane	76-13-1	187.40	0.400	3.07	ND	ND		2	WG1144138
1,2-Dichlorotetrafluoroethane	76-14-2	171	0.400	2.80	ND	ND		2	WG1144139
Heptane	142-82-5	100	0.400	1.64	ND	ND		2	WG1144138
Hexachloro-1,3-butadiene	87-68-3	261	1.26	13.5	ND	ND		2	WG1144139
n-Hexane	110-54-3	86.20	0.400	1.41	ND	1.41		2	WG1144138
Isopropylbenzene	98-82-8	120.20	0.400	1.97	ND	ND		2	WG1144139
Methylene Chloride	75-09-2	84.90	0.400	1.39	0.975	3.39		2	WG1144138
Methyl Butyl Ketone	591-78-6	100	2.50	10.2	ND	ND		2	WG1144138
2-Butanone (MEK)	78-93-3	72.10	2.50	7.37	ND	ND		2	WG1144138
4-Methyl-2-pentanone (MIBK)	108-10-1	100.10	2.50	10.2	ND	ND		2	WG1144138
Methyl methacrylate	80-62-6	100.12	0.400	1.64	ND	ND		2	WG1144138
MTBE	1634-04-4	88.10	0.400	1.44	ND	ND		2	WG1144138
Naphthalene	91-20-3	128	1.26	6.60	ND	ND		2	WG1144138
2-Propanol	67-63-0	60.10	2.50	6.15	ND	ND		2	WG1144138
Propene	115-07-1	42.10	0.800	1.38	ND	ND		2	WG1144138
Styrene	100-42-5	104	0.400	1.70	ND	ND		2	WG1144138
1,1,2,2-Tetrachloroethane	79-34-5	168	0.400	2.75	ND	ND		2	WG1144138
Tetrachloroethylene	127-18-4	166	0.400	2.72	ND	ND		2	WG1144138
Tetrahydrofuran	109-99-9	72.10	0.400	1.18	ND	ND		2	WG1144138
Toluene	108-88-3	92.10	0.400	1.51	ND	ND		2	WG1144138
1,2,4-Trichlorobenzene	120-82-1	181	1.26	9.33	ND	ND		2	WG1144138

Tc
Ss
Cn
Sr
Qc
Gl
Al
Sc

Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
1,1,1-Trichloroethane	71-55-6	133	0.400	2.18	4.53	24.7		2	WG1144138
1,1,2-Trichloroethane	79-00-5	133	0.400	2.18	ND	ND		2	WG1144138
Trichloroethylene	79-01-6	131	0.400	2.14	ND	ND		2	WG1144138
1,2,4-Trimethylbenzene	95-63-6	120	0.400	1.96	ND	ND		2	WG1144138
1,3,5-Trimethylbenzene	108-67-8	120	0.400	1.96	ND	ND		2	WG1144138
2,2,4-Trimethylpentane	540-84-1	114.22	0.400	1.87	ND	ND		2	WG1144138
Vinyl chloride	75-01-4	62.50	0.400	1.02	ND	ND		2	WG1144138
Vinyl Bromide	593-60-2	106.95	0.400	1.75	ND	ND		2	WG1144138
Vinyl acetate	108-05-4	86.10	0.400	1.41	ND	ND		2	WG1144138
m&p-Xylene	1330-20-7	106	0.800	3.47	ND	ND		2	WG1144138
o-Xylene	95-47-6	106	0.400	1.73	ND	ND		2	WG1144138
TPH (GC/MS) Low Fraction	8006-61-9	101	100	413	ND	ND		2	WG1144138
(S) 1,4-Bromofluorobenzene	*460-00-4*	*175*	*60.0-140*		*97.7*				WG1144138

Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
Acetone	67-64-1	58.10	2.50	5.94	33.0	78.4		2	WG1144138
Allyl chloride	107-05-1	76.53	0.400	1.25	ND	ND		2	WG1144138
Benzene	71-43-2	78.10	0.400	1.28	ND	ND		2	WG1144138
Benzyl Chloride	100-44-7	127	0.400	2.08	ND	ND		2	WG1144138
Bromodichloromethane	75-27-4	164	0.400	2.68	ND	ND		2	WG1144138
Bromoform	75-25-2	253	1.20	12.4	ND	ND		2	WG1144138
Bromomethane	74-83-9	94.90	0.400	1.55	ND	ND		2	WG1144138
1,3-Butadiene	106-99-0	54.10	4.00	8.85	ND	ND		2	WG1144138
Carbon disulfide	75-15-0	76.10	0.400	1.24	ND	ND		2	WG1144138
Carbon tetrachloride	56-23-5	154	0.400	2.52	ND	ND		2	WG1144138
Chlorobenzene	108-90-7	113	0.400	1.85	ND	ND		2	WG1144138
Chloroethane	75-00-3	64.50	0.400	1.06	ND	ND		2	WG1144138
Chloroform	67-66-3	119	0.400	1.95	ND	ND		2	WG1144138
Chloromethane	74-87-3	50.50	0.400	0.826	0.678	1.40		2	WG1144138
2-Chlorotoluene	95-49-8	126	0.400	2.06	ND	ND		2	WG1144138
Cyclohexane	110-82-7	84.20	0.400	1.38	ND	ND		2	WG1144138
Dibromochloromethane	124-48-1	208	0.400	3.40	ND	ND		2	WG1144138
1,2-Dibromoethane	106-93-4	188	0.400	3.08	ND	ND		2	WG1144138
1,2-Dichlorobenzene	95-50-1	147	0.400	2.40	ND	ND		2	WG1144138
1,3-Dichlorobenzene	541-73-1	147	0.400	2.40	ND	ND		2	WG1144138
1,4-Dichlorobenzene	106-46-7	147	0.400	2.40	ND	ND		2	WG1144138
1,2-Dichloroethane	107-06-2	99	0.400	1.62	ND	ND		2	WG1144138
1,1-Dichloroethane	75-34-3	98	0.400	1.60	ND	ND		2	WG1144138
1,1-Dichloroethene	75-35-4	96.90	0.400	1.59	ND	ND		2	WG1144138
cis-1,2-Dichloroethene	156-59-2	96.90	0.400	1.59	ND	ND		2	WG1144138
trans-1,2-Dichloroethene	156-60-5	96.90	0.400	1.59	ND	ND		2	WG1144138
1,2-Dichloropropane	78-87-5	113	0.400	1.85	ND	ND		2	WG1144138
cis-1,3-Dichloropropene	10061-01-5	111	0.400	1.82	ND	ND		2	WG1144138
trans-1,3-Dichloropropene	10061-02-6	111	0.400	1.82	ND	ND		2	WG1144138
1,4-Dioxane	123-91-1	88.10	0.400	1.44	ND	ND		2	WG1144138
Ethanol	64-17-5	46.10	1.26	2.38	13.9	26.3		2	WG1144138
Ethylbenzene	100-41-4	106	0.400	1.73	ND	ND		2	WG1144138
4-Ethyltoluene	622-96-8	120	0.400	1.96	ND	ND		2	WG1144138
Trichlorofluoromethane	75-69-4	137.40	0.400	2.25	ND	ND		2	WG1144138
Dichlorodifluoromethane	75-71-8	120.92	0.400	1.98	ND	ND		2	WG1144138
1,1,2-Trichlorotrifluoroethane	76-13-1	187.40	0.400	3.07	ND	ND		2	WG1144138
1,2-Dichlorotetrafluoroethane	76-14-2	171	0.400	2.80	ND	ND		2	WG1144138
Heptane	142-82-5	100	0.400	1.64	0.572	2.34		2	WG1144138
Hexachloro-1,3-butadiene	87-68-3	261	1.26	13.5	ND	ND		2	WG1144138
n-Hexane	110-54-3	86.20	0.400	1.41	2.15	7.57		2	WG1144138
Isopropylbenzene	98-82-8	120.20	0.400	1.97	ND	ND		2	WG1144138
Methylene Chloride	75-09-2	84.90	0.400	1.39	0.438	1.52		2	WG1144138
Methyl Butyl Ketone	591-78-6	100	2.50	10.2	ND	ND		2	WG1144138
2-Butanone (MEK)	78-93-3	72.10	2.50	7.37	3.95	11.7		2	WG1144138
4-Methyl-2-pentanone (MIBK)	108-10-1	100.10	2.50	10.2	ND	ND		2	WG1144138
Methyl methacrylate	80-62-6	100.12	0.400	1.64	ND	ND		2	WG1144138
MTBE	1634-04-4	88.10	0.400	1.44	ND	ND		2	WG1144138
Naphthalene	91-20-3	128	1.26	6.60	ND	ND		2	WG1144138
2-Propanol	67-63-0	60.10	2.50	6.15	ND	ND		2	WG1144138
Propene	115-07-1	42.10	0.800	1.38	44.2	76.1		2	WG1144138
Styrene	100-42-5	104	0.400	1.70	ND	ND		2	WG1144138
1,1,2,2-Tetrachloroethane	79-34-5	168	0.400	2.75	ND	ND		2	WG1144138
Tetrachloroethylene	127-18-4	166	0.400	2.72	0.451	3.06		2	WG1144138
Tetrahydrofuran	109-99-9	72.10	0.400	1.18	0.547	1.61		2	WG1144138
Toluene	108-88-3	92.10	0.400	1.51	0.497	1.87		2	WG1144138
1,2,4-Trichlorobenzene	120-82-1	181	1.26	9.33	ND	ND		2	WG1144138

Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
1,1,1-Trichloroethane	71-55-6	133	0.400	2.18	0.475	2.58		2	WG1144138
1,1,2-Trichloroethane	79-00-5	133	0.400	2.18	ND	ND		2	WG1144138
Trichloroethylene	79-01-6	131	0.400	2.14	0.804	4.31		2	WG1144138
1,2,4-Trimethylbenzene	95-63-6	120	0.400	1.96	0.405	1.99		2	WG1144138
1,3,5-Trimethylbenzene	108-67-8	120	0.400	1.96	ND	ND		2	WG1144138
2,2,4-Trimethylpentane	540-84-1	114.22	0.400	1.87	ND	ND		2	WG1144138
Vinyl chloride	75-01-4	62.50	0.400	1.02	ND	ND		2	WG1144138
Vinyl Bromide	593-60-2	106.95	0.400	1.75	ND	ND		2	WG1144138
Vinyl acetate	108-05-4	86.10	0.400	1.41	ND	ND		2	WG1144138
m&p-Xylene	1330-20-7	106	0.800	3.47	ND	ND		2	WG1144138
o-Xylene	95-47-6	106	0.400	1.73	ND	ND		2	WG1144138
TPH (GC/MS) Low Fraction	8006-61-9	101	100	413	ND	ND		2	WG1144138
(S) 1,4-Bromofluorobenzene	*460-00-4*	*175*	*60.0-140*		*98.1*				WG1144138

Tc
Ss
Cn
Sr
Qc
Gl
Al
Sc

Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
Acetone	67-64-1	58.10	2.50	5.94	5.10	12.1		2	WG1144138
Allyl chloride	107-05-1	76.53	0.400	1.25	ND	ND		2	WG1144138
Benzene	71-43-2	78.10	0.400	1.28	ND	ND		2	WG1144138
Benzyl Chloride	100-44-7	127	0.400	2.08	ND	ND		2	WG1144138
Bromodichloromethane	75-27-4	164	0.400	2.68	ND	ND		2	WG1144138
Bromoform	75-25-2	253	1.20	12.4	ND	ND		2	WG1144138
Bromomethane	74-83-9	94.90	0.400	1.55	ND	ND		2	WG1144138
1,3-Butadiene	106-99-0	54.10	4.00	8.85	ND	ND		2	WG1144138
Carbon disulfide	75-15-0	76.10	0.400	1.24	ND	ND		2	WG1144138
Carbon tetrachloride	56-23-5	154	0.400	2.52	ND	ND		2	WG1144138
Chlorobenzene	108-90-7	113	0.400	1.85	ND	ND		2	WG1144138
Chloroethane	75-00-3	64.50	0.400	1.06	ND	ND		2	WG1144138
Chloroform	67-66-3	119	0.400	1.95	ND	ND		2	WG1144138
Chloromethane	74-87-3	50.50	0.400	0.826	ND	ND		2	WG1144138
2-Chlorotoluene	95-49-8	126	0.400	2.06	ND	ND		2	WG1144138
Cyclohexane	110-82-7	84.20	0.400	1.38	ND	ND		2	WG1144138
Dibromochloromethane	124-48-1	208	0.400	3.40	ND	ND		2	WG1144138
1,2-Dibromoethane	106-93-4	188	0.400	3.08	ND	ND		2	WG1144138
1,2-Dichlorobenzene	95-50-1	147	0.400	2.40	ND	ND		2	WG1144138
1,3-Dichlorobenzene	541-73-1	147	0.400	2.40	ND	ND		2	WG1144138
1,4-Dichlorobenzene	106-46-7	147	0.400	2.40	ND	ND		2	WG1144138
1,2-Dichloroethane	107-06-2	99	0.400	1.62	ND	ND		2	WG1144138
1,1-Dichloroethane	75-34-3	98	0.400	1.60	ND	ND		2	WG1144138
1,1-Dichloroethene	75-35-4	96.90	0.400	1.59	ND	ND		2	WG1144138
cis-1,2-Dichloroethene	156-59-2	96.90	0.400	1.59	ND	ND		2	WG1144138
trans-1,2-Dichloroethene	156-60-5	96.90	0.400	1.59	ND	ND		2	WG1144138
1,2-Dichloropropane	78-87-5	113	0.400	1.85	ND	ND		2	WG1144138
cis-1,3-Dichloropropene	10061-01-5	111	0.400	1.82	ND	ND		2	WG1144138
trans-1,3-Dichloropropene	10061-02-6	111	0.400	1.82	ND	ND		2	WG1144138
1,4-Dioxane	123-91-1	88.10	0.400	1.44	ND	ND		2	WG1144138
Ethanol	64-17-5	46.10	1.26	2.38	15.3	28.9		2	WG1144138
Ethylbenzene	100-41-4	106	0.400	1.73	ND	ND		2	WG1144138
4-Ethyltoluene	622-96-8	120	0.400	1.96	ND	ND		2	WG1144138
Trichlorofluoromethane	75-69-4	137.40	0.400	2.25	ND	ND		2	WG1144138
Dichlorodifluoromethane	75-71-8	120.92	0.400	1.98	ND	ND		2	WG1144138
1,1,2-Trichlorotrifluoroethane	76-13-1	187.40	0.400	3.07	ND	ND		2	WG1144138
1,2-Dichlorotetrafluoroethane	76-14-2	171	0.400	2.80	ND	ND		2	WG1144138
Heptane	142-82-5	100	0.400	1.64	ND	ND		2	WG1144138
Hexachloro-1,3-butadiene	87-68-3	261	1.26	13.5	ND	ND		2	WG1144138
n-Hexane	110-54-3	86.20	0.400	1.41	0.848	2.99		2	WG1144138
Isopropylbenzene	98-82-8	120.20	0.400	1.97	ND	ND		2	WG1144138
Methylene Chloride	75-09-2	84.90	0.400	1.39	0.940	3.26		2	WG1144138
Methyl Butyl Ketone	591-78-6	100	2.50	10.2	ND	ND		2	WG1144138
2-Butanone (MEK)	78-93-3	72.10	2.50	7.37	ND	ND		2	WG1144138
4-Methyl-2-pentanone (MIBK)	108-10-1	100.10	2.50	10.2	ND	ND		2	WG1144138
Methyl methacrylate	80-62-6	100.12	0.400	1.64	ND	ND		2	WG1144138
MTBE	1634-04-4	88.10	0.400	1.44	ND	ND		2	WG1144138
Naphthalene	91-20-3	128	1.26	6.60	ND	ND		2	WG1144138
2-Propanol	67-63-0	60.10	2.50	6.15	ND	ND		2	WG1144138
Propene	115-07-1	42.10	0.800	1.38	ND	ND		2	WG1144138
Styrene	100-42-5	104	0.400	1.70	ND	ND		2	WG1144138
1,1,2,2-Tetrachloroethane	79-34-5	168	0.400	2.75	ND	ND		2	WG1144138
Tetrachloroethylene	127-18-4	166	0.400	2.72	ND	ND		2	WG1144138
Tetrahydrofuran	109-99-9	72.10	0.400	1.18	ND	ND		2	WG1144138
Toluene	108-88-3	92.10	0.400	1.51	ND	ND		2	WG1144138
1,2,4-Trichlorobenzene	120-82-1	181	1.26	9.33	ND	ND		2	WG1144138

Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
1,1,1-Trichloroethane	71-55-6	133	0.400	2.18	ND	ND		2	WG1144138
1,1,2-Trichloroethane	79-00-5	133	0.400	2.18	ND	ND		2	WG1144138
Trichloroethylene	79-01-6	131	0.400	2.14	ND	ND		2	WG1144139
1,2,4-Trimethylbenzene	95-63-6	120	0.400	1.96	ND	ND		2	WG1144138
1,3,5-Trimethylbenzene	108-67-8	120	0.400	1.96	ND	ND		2	WG1144138
2,2,4-Trimethylpentane	540-84-1	114.22	0.400	1.87	ND	ND		2	WG1144138
Vinyl chloride	75-01-4	62.50	0.400	1.02	ND	ND		2	WG1144139
Vinyl Bromide	593-60-2	106.95	0.400	1.75	ND	ND		2	WG1144138
Vinyl acetate	108-05-4	86.10	0.400	1.41	ND	ND		2	WG1144139
m&p-Xylene	1330-20-7	106	0.800	3.47	ND	ND		2	WG1144138
o-Xylene	95-47-6	106	0.400	1.73	ND	ND		2	WG1144139
TPH (GC/MS) Low Fraction	8006-61-9	101	100	413	ND	ND		2	WG1144138
(S) 1,4-Bromofluorobenzene	*460-00-4*	*175*	*60.0-140*		*95.5*				WG1144139

1 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
Acetone	67-64-1	58.10	2.50	5.94	8.44	20.1		2	WG1144138
Allyl chloride	107-05-1	76.53	0.400	1.25	ND	ND		2	WG1144138
Benzene	71-43-2	78.10	0.400	1.28	ND	ND		2	WG1144138
Benzyl Chloride	100-44-7	127	0.400	2.08	ND	ND		2	WG1144138
Bromodichloromethane	75-27-4	164	0.400	2.68	ND	ND		2	WG1144138
Bromoform	75-25-2	253	1.20	12.4	ND	ND		2	WG1144138
Bromomethane	74-83-9	94.90	0.400	1.55	ND	ND		2	WG1144138
1,3-Butadiene	106-99-0	54.10	4.00	8.85	ND	ND		2	WG1144138
Carbon disulfide	75-15-0	76.10	0.400	1.24	ND	ND		2	WG1144138
Carbon tetrachloride	56-23-5	154	0.400	2.52	7.23	45.5		2	WG1144138
Chlorobenzene	108-90-7	113	0.400	1.85	ND	ND		2	WG1144138
Chloroethane	75-00-3	64.50	0.400	1.06	ND	ND		2	WG1144138
Chloroform	67-66-3	119	0.400	1.95	ND	ND		2	WG1144138
Chloromethane	74-87-3	50.50	0.400	0.826	ND	ND		2	WG1144138
2-Chlorotoluene	95-49-8	126	0.400	2.06	ND	ND		2	WG1144138
Cyclohexane	110-82-7	84.20	0.400	1.38	ND	ND		2	WG1144138
Dibromochloromethane	124-48-1	208	0.400	3.40	ND	ND		2	WG1144138
1,2-Dibromoethane	106-93-4	188	0.400	3.08	ND	ND		2	WG1144138
1,2-Dichlorobenzene	95-50-1	147	0.400	2.40	ND	ND		2	WG1144138
1,3-Dichlorobenzene	541-73-1	147	0.400	2.40	ND	ND		2	WG1144138
1,4-Dichlorobenzene	106-46-7	147	0.400	2.40	ND	ND		2	WG1144138
1,2-Dichloroethane	107-06-2	99	0.400	1.62	ND	ND		2	WG1144138
1,1-Dichloroethane	75-34-3	98	0.400	1.60	ND	ND		2	WG1144138
1,1-Dichloroethene	75-35-4	96.90	0.400	1.59	ND	ND		2	WG1144138
cis-1,2-Dichloroethene	156-59-2	96.90	0.400	1.59	1.12	4.43		2	WG1144138
trans-1,2-Dichloroethene	156-60-5	96.90	0.400	1.59	ND	ND		2	WG1144138
1,2-Dichloropropane	78-87-5	113	0.400	1.85	ND	ND		2	WG1144138
cis-1,3-Dichloropropene	10061-01-5	111	0.400	1.82	ND	ND		2	WG1144138
trans-1,3-Dichloropropene	10061-02-6	111	0.400	1.82	ND	ND		2	WG1144138
1,4-Dioxane	123-91-1	88.10	0.400	1.44	ND	ND		2	WG1144138
Ethanol	64-17-5	46.10	1.26	2.38	12.5	23.6		2	WG1144138
Ethylbenzene	100-41-4	106	0.400	1.73	ND	ND		2	WG1144138
4-Ethyltoluene	622-96-8	120	0.400	1.96	ND	ND		2	WG1144138
Trichlorofluoromethane	75-69-4	137.40	0.400	2.25	ND	ND		2	WG1144138
Dichlorodifluoromethane	75-71-8	120.92	0.400	1.98	ND	ND		2	WG1144138
1,1,2-Trichlorotrifluoroethane	76-13-1	187.40	0.400	3.07	ND	ND		2	WG1144138
1,2-Dichlorotetrafluoroethane	76-14-2	171	0.400	2.80	ND	ND		2	WG1144138
Heptane	142-82-5	100	0.400	1.64	ND	ND		2	WG1144138
Hexachloro-1,3-butadiene	87-68-3	261	1.26	13.5	ND	ND		2	WG1144138
n-Hexane	110-54-3	86.20	0.400	1.41	ND	ND		2	WG1144138
Isopropylbenzene	98-82-8	120.20	0.400	1.97	ND	ND		2	WG1144138
Methylene Chloride	75-09-2	84.90	0.400	1.39	0.522	1.81		2	WG1144138
Methyl Butyl Ketone	591-78-6	100	2.50	10.2	ND	ND		2	WG1144138
2-Butanone (MEK)	78-93-3	72.10	2.50	7.37	ND	ND		2	WG1144138
4-Methyl-2-pentanone (MIBK)	108-10-1	100.10	2.50	10.2	ND	ND		2	WG1144138
Methyl methacrylate	80-62-6	100.12	0.400	1.64	ND	ND		2	WG1144138
MTBE	1634-04-4	88.10	0.400	1.44	ND	ND		2	WG1144138
Naphthalene	91-20-3	128	1.26	6.60	3.41	17.9		2	WG1144138
2-Propanol	67-63-0	60.10	2.50	6.15	5.47	13.4		2	WG1144138
Propene	115-07-1	42.10	0.800	1.38	ND	ND		2	WG1144138
Styrene	100-42-5	104	0.400	1.70	ND	ND		2	WG1144138
1,1,2,2-Tetrachloroethane	79-34-5	168	0.400	2.75	ND	ND		2	WG1144138
Tetrachloroethylene	127-18-4	166	0.400	2.72	ND	ND		2	WG1144138
Tetrahydrofuran	109-99-9	72.10	0.400	1.18	ND	ND		2	WG1144138
Toluene	108-88-3	92.10	0.400	1.51	6.76	25.5		2	WG1144138
1,2,4-Trichlorobenzene	120-82-1	181	1.26	9.33	ND	ND		2	WG1144138

Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
1,1,1-Trichloroethane	71-55-6	133	0.400	2.18	3.11	16.9		2	WG1144138
1,1,2-Trichloroethane	79-00-5	133	0.400	2.18	ND	ND		2	WG1144138
Trichloroethylene	79-01-6	131	0.400	2.14	8.03	43.0		2	WG1144138
1,2,4-Trimethylbenzene	95-63-6	120	0.400	1.96	1.12	5.52		2	WG1144138
1,3,5-Trimethylbenzene	108-67-8	120	0.400	1.96	0.736	3.61		2	WG1144138
2,2,4-Trimethylpentane	540-84-1	114.22	0.400	1.87	ND	ND		2	WG1144138
Vinyl chloride	75-01-4	62.50	0.400	1.02	ND	ND		2	WG1144138
Vinyl Bromide	593-60-2	106.95	0.400	1.75	ND	ND		2	WG1144138
Vinyl acetate	108-05-4	86.10	0.400	1.41	ND	ND		2	WG1144138
m&p-Xylene	1330-20-7	106	0.800	3.47	ND	ND		2	WG1144138
o-Xylene	95-47-6	106	0.400	1.73	ND	ND		2	WG1144138
TPH (GC/MS) Low Fraction	8006-61-9	101	100	413	146	603	B	2	WG1144138
(S) 1,4-Bromofluorobenzene	*460-00-4*	*175*	*60.0-140*		*100*				WG1144138

Method Blank (MB)

(MB) R3329090-3 07/27/18 09:41

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ppbv		ppbv	ppbv
Acetone	0.274	J	0.0569	1.25
Allyl Chloride	U		0.0546	0.200
Benzene	U		0.0460	0.200
Benzyl Chloride	U		0.0598	0.200
Bromodichloromethane	U		0.0436	0.200
Bromoform	U		0.0786	0.600
Bromomethane	U		0.0609	0.200
1,3-Butadiene	U		0.0563	2.00
Carbon disulfide	U		0.0544	0.200
Carbon tetrachloride	U		0.0585	0.200
Chlorobenzene	U		0.0601	0.200
Chloroethane	U		0.0489	0.200
Chloroform	U		0.0574	0.200
Chloromethane	U		0.0544	0.200
2-Chlorotoluene	U		0.0605	0.200
Cyclohexane	U		0.0534	0.200
Dibromochloromethane	U		0.0494	0.200
1,2-Dibromoethane	U		0.0185	0.200
1,2-Dichlorobenzene	U		0.0603	0.200
1,3-Dichlorobenzene	U		0.0597	0.200
1,4-Dichlorobenzene	U		0.0557	0.200
1,2-Dichloroethane	U		0.0616	0.200
1,1-Dichloroethane	U		0.0514	0.200
1,1-Dichloroethene	U		0.0490	0.200
cis-1,2-Dichloroethene	U		0.0389	0.200
trans-1,2-Dichloroethene	U		0.0464	0.200
1,2-Dichloropropane	U		0.0599	0.200
cis-1,3-Dichloropropene	U		0.0588	0.200
trans-1,3-Dichloropropene	U		0.0435	0.200
1,4-Dioxane	U		0.0554	0.200
Ethylbenzene	U		0.0506	0.200
4-Ethyltoluene	U		0.0666	0.200
Trichlorofluoromethane	U		0.0673	0.200
Dichlorodifluoromethane	U		0.0601	0.200
1,1,2-Trichlorotrifluoroethane	U		0.0687	0.200
1,2-Dichlorotetrafluoroethane	U		0.0458	0.200
Heptane	U		0.0626	0.200
Hexachloro-1,3-butadiene	U		0.0656	0.630
n-Hexane	U		0.0457	0.200
Isopropylbenzene	U		0.0563	0.200

Method Blank (MB)

(MB) R3329090-3 07/27/18 09:41

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ppbv		ppbv	ppbv
Methylene Chloride	U		0.0465	0.200
Methyl Butyl Ketone	U		0.0682	1.25
2-Butanone (MEK)	U		0.0493	1.25
4-Methyl-2-pentanone (MIBK)	U		0.0650	1.25
Methyl Methacrylate	U		0.0773	0.200
MTBE	U		0.0505	0.200
Naphthalene	U		0.154	0.630
2-Propanol	0.166	J	0.0882	1.25
Propene	U		0.0932	0.400
Styrene	U		0.0465	0.200
1,1,2,2-Tetrachloroethane	U		0.0576	0.200
Tetrachloroethylene	U		0.0497	0.200
Tetrahydrofuran	U		0.0508	0.200
Toluene	U		0.0499	0.200
1,2,4-Trichlorobenzene	U		0.148	0.630
1,1,1-Trichloroethane	U		0.0665	0.200
1,1,2-Trichloroethane	U		0.0287	0.200
Trichloroethylene	U		0.0545	0.200
1,2,4-Trimethylbenzene	U		0.0483	0.200
1,3,5-Trimethylbenzene	U		0.0631	0.200
2,2,4-Trimethylpentane	U		0.0456	0.200
Vinyl chloride	U		0.0457	0.200
Vinyl Bromide	U		0.0727	0.200
Vinyl acetate	U		0.0639	0.200
m&p-Xylene	U		0.0946	0.400
o-Xylene	U		0.0633	0.200
Ethanol	U		0.0832	0.630
TPH (GC/MS) Low Fraction	U		6.91	50.0
(S) 1,4-Bromofluorobenzene	*98.3*			*60.0-140*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3329090-1 07/27/18 08:11 • (LCSD) R3329090-2 07/27/18 08:56

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	ppbv	ppbv	ppbv	%	%	%			%	%
Ethanol	3.75	3.56	3.59	95.0	95.6	52.0-158			0.683	25
Propene	3.75	4.50	4.55	120	121	54.0-155			1.11	25
Dichlorodifluoromethane	3.75	4.81	4.81	128	128	69.0-143			0.187	25
1,2-Dichlorotetrafluoroethane	3.75	4.51	4.55	120	121	70.0-130			1.03	25

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3329090-1 07/27/18 08:11 • (LCSD) R3329090-2 07/27/18 08:56

Analyte	Spike Amount ppbv	LCS Result ppbv	LCSD Result ppbv	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Chloromethane	3.75	4.60	4.64	123	124	70.0-130			0.963	25
Vinyl chloride	3.75	4.46	4.50	119	120	70.0-130			0.845	25
1,3-Butadiene	3.75	4.11	4.41	110	118	70.0-130			7.04	25
Bromomethane	3.75	4.40	4.63	117	123	70.0-130			5.13	25
Chloroethane	3.75	4.43	4.41	118	118	70.0-130			0.358	25
Trichlorofluoromethane	3.75	4.46	4.46	119	119	70.0-130			0.118	25
1,1,2-Trichlorotrifluoroethane	3.75	4.44	4.48	118	119	70.0-130			0.774	25
1,1-Dichloroethene	3.75	4.44	4.42	118	118	70.0-130			0.402	25
1,1-Dichloroethane	3.75	4.33	4.38	116	117	70.0-130			1.01	25
Acetone	3.75	3.75	3.79	99.9	101	70.0-130			1.10	25
2-Propanol	3.75	4.31	4.38	115	117	66.0-150			1.46	25
Carbon disulfide	3.75	4.38	4.40	117	117	70.0-130			0.541	25
Methylene Chloride	3.75	4.20	4.25	112	113	70.0-130			1.26	25
MTBE	3.75	4.37	4.35	116	116	70.0-130			0.289	25
trans-1,2-Dichloroethene	3.75	4.34	4.37	116	117	70.0-130			0.763	25
n-Hexane	3.75	4.32	4.37	115	117	70.0-130			1.25	25
Vinyl acetate	3.75	4.61	4.55	123	121	70.0-130			1.49	25
Methyl Ethyl Ketone	3.75	4.40	4.38	117	117	70.0-130			0.419	25
cis-1,2-Dichloroethene	3.75	4.31	4.34	115	116	70.0-130			0.691	25
Chloroform	3.75	4.32	4.35	115	116	70.0-130			0.578	25
Cyclohexane	3.75	4.33	4.38	115	117	70.0-130			1.17	25
1,1,1-Trichloroethane	3.75	4.34	4.38	116	117	70.0-130			1.06	25
Carbon tetrachloride	3.75	4.34	4.38	116	117	70.0-130			0.850	25
Benzene	3.75	4.32	4.38	115	117	70.0-130			1.37	25
1,2-Dichloroethane	3.75	4.33	4.38	115	117	70.0-130			1.13	25
Heptane	3.75	4.40	4.45	117	119	70.0-130			0.934	25
Trichloroethylene	3.75	4.28	4.35	114	116	70.0-130			1.46	25
1,2-Dichloropropane	3.75	4.28	4.34	114	116	70.0-130			1.39	25
1,4-Dioxane	3.75	4.23	4.40	113	117	70.0-152			3.98	25
Bromodichloromethane	3.75	4.40	4.45	117	119	70.0-130			0.967	25
cis-1,3-Dichloropropene	3.75	4.45	4.52	119	120	70.0-130			1.55	25
4-Methyl-2-pentanone (MIBK)	3.75	4.56	4.57	122	122	70.0-142			0.250	25
Toluene	3.75	4.42	4.51	118	120	70.0-130			2.03	25
trans-1,3-Dichloropropene	3.75	4.47	4.55	119	121	70.0-130			1.78	25
1,1,2-Trichloroethane	3.75	4.38	4.45	117	119	70.0-130			1.55	25
Tetrachloroethylene	3.75	4.41	4.49	118	120	70.0-130			1.80	25
Methyl Butyl Ketone	3.75	4.67	4.75	125	127	70.0-150			1.59	25
Dibromochloromethane	3.75	4.57	4.64	122	124	70.0-130			1.39	25
1,2-Dibromoethane	3.75	4.47	4.56	119	122	70.0-130			1.88	25
Chlorobenzene	3.75	4.41	4.51	118	120	70.0-130			2.33	25

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3329090-1 07/27/18 08:11 • (LCSD) R3329090-2 07/27/18 08:56

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	ppbv	ppbv	ppbv	%	%	%			%	%
Ethylbenzene	3.75	4.45	4.51	119	120	70.0-130			1.29	25
m&p-Xylene	7.50	8.84	8.98	118	120	70.0-130			1.59	25
o-Xylene	3.75	4.59	4.65	122	124	70.0-130			1.42	25
Styrene	3.75	4.85	4.89	129	130	70.0-130			0.735	25
Bromoform	3.75	4.79	4.85	128	129	70.0-130			1.23	25
1,1,2,2-Tetrachloroethane	3.75	4.58	4.60	122	123	70.0-130			0.531	25
4-Ethyltoluene	3.75	4.62	4.71	123	126	70.0-130			1.90	25
1,3,5-Trimethylbenzene	3.75	4.77	4.84	127	129	70.0-130			1.46	25
1,2,4-Trimethylbenzene	3.75	4.61	4.66	123	124	70.0-130			1.19	25
1,3-Dichlorobenzene	3.75	4.73	4.81	126	128	70.0-130			1.67	25
1,4-Dichlorobenzene	3.75	4.90	4.97	131	133	70.0-130	J4	J4	1.49	25
Benzyl Chloride	3.75	5.00	5.05	133	135	70.0-144			1.18	25
1,2-Dichlorobenzene	3.75	4.64	4.74	124	126	70.0-130			2.07	25
1,2,4-Trichlorobenzene	3.75	4.68	4.77	125	127	70.0-155			1.95	25
Hexachloro-1,3-butadiene	3.75	4.72	4.80	126	128	70.0-145			1.80	25
Naphthalene	3.75	4.75	4.88	127	130	70.0-155			2.68	25
TPH (GC/MS) Low Fraction	176	209	212	119	120	70.0-130			1.26	25
Allyl Chloride	3.75	4.44	4.47	118	119	70.0-130			0.702	25
2-Chlorotoluene	3.75	4.74	4.80	127	128	70.0-130			1.15	25
Methyl Methacrylate	3.75	4.51	4.55	120	121	70.0-130			0.842	25
Tetrahydrofuran	3.75	4.30	4.34	115	116	70.0-140			0.819	25
2,2,4-Trimethylpentane	3.75	4.43	4.43	118	118	70.0-130			0.0921	25
Vinyl Bromide	3.75	4.39	4.43	117	118	70.0-130			0.811	25
Isopropylbenzene	3.75	4.47	4.54	119	121	70.0-130			1.54	25
(S) 1,4-Bromofluorobenzene				*102*	*102*	*60.0-140*				

Method Blank (MB)

(MB) R3329172-3 07/27/18 10:13

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ppbv		ppbv	ppbv
Acetone	U		0.0569	1.25
Allyl Chloride	U		0.0546	0.200
Benzene	U		0.0460	0.200
Benzyl Chloride	U		0.0598	0.200
Bromodichloromethane	U		0.0436	0.200
Bromoform	U		0.0786	0.600
Bromomethane	U		0.0609	0.200
1,3-Butadiene	U		0.0563	2.00
Carbon disulfide	U		0.0544	0.200
Carbon tetrachloride	U		0.0585	0.200
Chlorobenzene	U		0.0601	0.200
Chloroethane	U		0.0489	0.200
Chloroform	U		0.0574	0.200
Chloromethane	U		0.0544	0.200
2-Chlorotoluene	U		0.0605	0.200
Cyclohexane	U		0.0534	0.200
Dibromochloromethane	U		0.0494	0.200
1,2-Dibromoethane	U		0.0185	0.200
1,2-Dichlorobenzene	U		0.0603	0.200
1,3-Dichlorobenzene	U		0.0597	0.200
1,4-Dichlorobenzene	U		0.0557	0.200
1,2-Dichloroethane	U		0.0616	0.200
1,1-Dichloroethane	U		0.0514	0.200
1,1-Dichloroethene	U		0.0490	0.200
cis-1,2-Dichloroethene	U		0.0389	0.200
trans-1,2-Dichloroethene	U		0.0464	0.200
1,2-Dichloropropane	U		0.0599	0.200
cis-1,3-Dichloropropene	U		0.0588	0.200
trans-1,3-Dichloropropene	U		0.0435	0.200
1,4-Dioxane	U		0.0554	0.200
Ethylbenzene	U		0.0506	0.200
4-Ethyltoluene	U		0.0666	0.200
Trichlorofluoromethane	U		0.0673	0.200
Dichlorodifluoromethane	U		0.0601	0.200
1,1,2-Trichlorotrifluoroethane	U		0.0687	0.200
1,2-Dichlorotetrafluoroethane	U		0.0458	0.200
Heptane	U		0.0626	0.200
Hexachloro-1,3-butadiene	U		0.0656	0.630
n-Hexane	U		0.0457	0.200
Isopropylbenzene	U		0.0563	0.200

Method Blank (MB)

(MB) R3329172-3 07/27/18 10:13

Analyte	MB Result ppbv	MB Qualifier	MB MDL ppbv	MB RDL ppbv
Methylene Chloride	U		0.0465	0.200
Methyl Butyl Ketone	U		0.0682	1.25
2-Butanone (MEK)	U		0.0493	1.25
4-Methyl-2-pentanone (MIBK)	U		0.0650	1.25
Methyl Methacrylate	U		0.0773	0.200
MTBE	U		0.0505	0.200
Naphthalene	U		0.154	0.630
2-Propanol	U		0.0882	1.25
Propene	U		0.0932	0.400
Styrene	U		0.0465	0.200
1,1,2,2-Tetrachloroethane	U		0.0576	0.200
Tetrachloroethylene	U		0.0497	0.200
Tetrahydrofuran	U		0.0508	0.200
Toluene	U		0.0499	0.200
1,2,4-Trichlorobenzene	U		0.148	0.630
1,1,1-Trichloroethane	U		0.0665	0.200
1,1,2-Trichloroethane	U		0.0287	0.200
Trichloroethylene	U		0.0545	0.200
1,2,4-Trimethylbenzene	U		0.0483	0.200
1,3,5-Trimethylbenzene	U		0.0631	0.200
2,2,4-Trimethylpentane	U		0.0456	0.200
Vinyl chloride	U		0.0457	0.200
Vinyl Bromide	U		0.0727	0.200
Vinyl acetate	U		0.0639	0.200
m&p-Xylene	U		0.0946	0.400
o-Xylene	U		0.0633	0.200
Ethanol	U		0.0832	0.630
TPH (GC/MS) Low Fraction	12.5	J	6.91	50.0
(S) 1,4-Bromofluorobenzene	*95.3*			*60.0-140*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3329172-1 07/27/18 08:50 • (LCSD) R3329172-2 07/27/18 09:31

Analyte	Spike Amount ppbv	LCS Result ppbv	LCSD Result ppbv	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Ethanol	3.75	3.76	3.75	100	100	52.0-158			0.153	25
Propene	3.75	3.59	3.45	95.7	92.0	54.0-155			3.95	25
Dichlorodifluoromethane	3.75	3.29	3.29	87.7	87.6	69.0-143			0.0736	25
1,2-Dichlorotetrafluoroethane	3.75	4.03	3.92	108	105	70.0-130			2.74	25

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3329172-1 07/27/18 08:50 • (LCSD) R3329172-2 07/27/18 09:31

Analyte	Spike Amount ppbv	LCS Result ppbv	LCSD Result ppbv	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Chloromethane	3.75	3.71	3.63	98.8	96.7	70.0-130			2.16	25
Vinyl chloride	3.75	3.99	3.61	106	96.3	70.0-130			9.89	25
1,3-Butadiene	3.75	3.75	3.46	100	92.3	70.0-130			8.00	25
Bromomethane	3.75	4.02	3.97	107	106	70.0-130			1.13	25
Chloroethane	3.75	3.84	3.66	103	97.5	70.0-130			4.99	25
Trichlorofluoromethane	3.75	4.12	4.16	110	111	70.0-130			0.851	25
1,1,2-Trichlorotrifluoroethane	3.75	4.06	3.96	108	106	70.0-130			2.63	25
1,1-Dichloroethene	3.75	3.79	3.72	101	99.2	70.0-130			1.88	25
1,1-Dichloroethane	3.75	3.86	3.76	103	100	70.0-130			2.63	25
Acetone	3.75	3.77	3.63	101	96.8	70.0-130			3.84	25
2-Propanol	3.75	3.84	3.79	102	101	66.0-150			1.26	25
Carbon disulfide	3.75	3.87	3.76	103	100	70.0-130			2.92	25
Methylene Chloride	3.75	3.69	3.59	98.5	95.7	70.0-130			2.83	25
MTBE	3.75	3.84	3.77	102	101	70.0-130			1.82	25
trans-1,2-Dichloroethene	3.75	3.85	3.77	103	101	70.0-130			1.95	25
n-Hexane	3.75	3.69	3.64	98.3	97.2	70.0-130			1.19	25
Vinyl acetate	3.75	3.78	3.71	101	99.0	70.0-130			1.87	25
Methyl Ethyl Ketone	3.75	3.99	3.97	106	106	70.0-130			0.463	25
cis-1,2-Dichloroethene	3.75	3.97	3.91	106	104	70.0-130			1.45	25
Chloroform	3.75	3.95	3.93	105	105	70.0-130			0.450	25
Cyclohexane	3.75	3.91	3.87	104	103	70.0-130			1.01	25
1,1,1-Trichloroethane	3.75	4.08	4.04	109	108	70.0-130			1.06	25
Carbon tetrachloride	3.75	4.17	4.17	111	111	70.0-130			0.167	25
Benzene	3.75	3.86	3.87	103	103	70.0-130			0.422	25
1,2-Dichloroethane	3.75	3.97	3.96	106	106	70.0-130			0.207	25
Heptane	3.75	3.66	3.61	97.6	96.3	70.0-130			1.36	25
Trichloroethylene	3.75	4.04	4.02	108	107	70.0-130			0.427	25
1,2-Dichloropropane	3.75	3.83	3.79	102	101	70.0-130			1.05	25
1,4-Dioxane	3.75	4.25	4.36	113	116	70.0-152			2.55	25
Bromodichloromethane	3.75	4.06	4.07	108	109	70.0-130			0.368	25
cis-1,3-Dichloropropene	3.75	3.96	4.02	106	107	70.0-130			1.50	25
4-Methyl-2-pentanone (MIBK)	3.75	3.74	3.80	99.7	101	70.0-142			1.52	25
Toluene	3.75	4.03	4.05	107	108	70.0-130			0.442	25
trans-1,3-Dichloropropene	3.75	4.09	4.15	109	111	70.0-130			1.32	25
1,1,2-Trichloroethane	3.75	4.07	4.14	109	110	70.0-130			1.79	25
Tetrachloroethylene	3.75	4.28	4.41	114	118	70.0-130			2.86	25
Methyl Butyl Ketone	3.75	4.00	4.10	107	109	70.0-150			2.47	25
Dibromochloromethane	3.75	4.37	4.46	116	119	70.0-130			2.20	25
1,2-Dibromoethane	3.75	4.23	4.30	113	115	70.0-130			1.58	25
Chlorobenzene	3.75	4.16	4.27	111	114	70.0-130			2.61	25

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3329172-1 07/27/18 08:50 • (LCSD) R3329172-2 07/27/18 09:31

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	ppbv	ppbv	ppbv	%	%	%			%	%
Ethylbenzene	3.75	4.04	4.08	108	109	70.0-130			1.01	25
m&p-Xylene	7.50	8.21	8.34	109	111	70.0-130			1.59	25
o-Xylene	3.75	4.06	4.12	108	110	70.0-130			1.38	25
Styrene	3.75	4.26	4.32	113	115	70.0-130			1.44	25
Bromoform	3.75	4.66	4.72	124	126	70.0-130			1.22	25
1,1,2,2-Tetrachloroethane	3.75	4.04	4.15	108	111	70.0-130			2.62	25
4-Ethyltoluene	3.75	4.29	4.35	114	116	70.0-130			1.31	25
1,3,5-Trimethylbenzene	3.75	4.32	4.42	115	118	70.0-130			2.35	25
1,2,4-Trimethylbenzene	3.75	4.25	4.37	113	116	70.0-130			2.64	25
1,3-Dichlorobenzene	3.75	4.50	4.63	120	123	70.0-130			2.88	25
1,4-Dichlorobenzene	3.75	4.72	4.83	126	129	70.0-130			2.38	25
Benzyl Chloride	3.75	4.55	4.65	121	124	70.0-144			2.21	25
1,2-Dichlorobenzene	3.75	4.43	4.56	118	122	70.0-130			2.88	25
1,2,4-Trichlorobenzene	3.75	5.08	5.16	136	138	70.0-155			1.53	25
Hexachloro-1,3-butadiene	3.75	4.78	4.73	127	126	70.0-145			1.07	25
Naphthalene	3.75	4.86	4.85	130	129	70.0-155			0.246	25
TPH (GC/MS) Low Fraction	176	190	188	108	107	70.0-130			1.08	25
Allyl Chloride	3.75	3.61	3.51	96.2	93.7	70.0-130			2.65	25
2-Chlorotoluene	3.75	4.44	4.52	119	120	70.0-130			1.60	25
Methyl Methacrylate	3.75	3.89	3.88	104	103	70.0-130			0.303	25
Tetrahydrofuran	3.75	3.64	3.65	97.2	97.2	70.0-140			0.0618	25
2,2,4-Trimethylpentane	3.75	3.71	3.69	99.0	98.3	70.0-130			0.672	25
Vinyl Bromide	3.75	4.09	4.07	109	109	70.0-130			0.313	25
Isopropylbenzene	3.75	4.15	4.22	111	113	70.0-130			1.70	25
(S) 1,4-Bromofluorobenzene				*98.0*	*98.6*	*60.0-140*				

Method Blank (MB)

(MB) R3329391-3 07/29/18 10:10

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ppbv		ppbv	ppbv
Acetone	U		0.0569	1.25
Allyl Chloride	U		0.0546	0.200
Benzene	U		0.0460	0.200
Benzyl Chloride	0.0633	J	0.0598	0.200
Bromodichloromethane	U		0.0436	0.200
Bromoform	U		0.0786	0.600
Bromomethane	U		0.0609	0.200
1,3-Butadiene	U		0.0563	2.00
Carbon disulfide	U		0.0544	0.200
Carbon tetrachloride	U		0.0585	0.200
Chlorobenzene	U		0.0601	0.200
Chloroethane	U		0.0489	0.200
Chloroform	U		0.0574	0.200
Chloromethane	U		0.0544	0.200
2-Chlorotoluene	U		0.0605	0.200
Cyclohexane	U		0.0534	0.200
Dibromochloromethane	U		0.0494	0.200
1,2-Dibromoethane	U		0.0185	0.200
1,2-Dichlorobenzene	0.0730	J	0.0603	0.200
1,3-Dichlorobenzene	U		0.0597	0.200
1,4-Dichlorobenzene	0.0631	J	0.0557	0.200
1,2-Dichloroethane	U		0.0616	0.200
1,1-Dichloroethane	U		0.0514	0.200
1,1-Dichloroethene	U		0.0490	0.200
cis-1,2-Dichloroethene	U		0.0389	0.200
trans-1,2-Dichloroethene	U		0.0464	0.200
1,2-Dichloropropane	U		0.0599	0.200
cis-1,3-Dichloropropene	U		0.0588	0.200
trans-1,3-Dichloropropene	U		0.0435	0.200
1,4-Dioxane	U		0.0554	0.200
Ethylbenzene	U		0.0506	0.200
4-Ethyltoluene	U		0.0666	0.200
Trichlorofluoromethane	U		0.0673	0.200
Dichlorodifluoromethane	U		0.0601	0.200
1,1,2-Trichlorotrifluoroethane	U		0.0687	0.200
1,2-Dichlorotetrafluoroethane	U		0.0458	0.200
Heptane	U		0.0626	0.200
Hexachloro-1,3-butadiene	0.127	J	0.0656	0.630
n-Hexane	U		0.0457	0.200
Isopropylbenzene	U		0.0563	0.200

Method Blank (MB)

(MB) R3329391-3 07/29/18 10:10

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ppbv		ppbv	ppbv
Methylene Chloride	U		0.0465	0.200
Methyl Butyl Ketone	U		0.0682	1.25
2-Butanone (MEK)	U		0.0493	1.25
4-Methyl-2-pentanone (MIBK)	U		0.0650	1.25
Methyl Methacrylate	U		0.0773	0.200
MTBE	U		0.0505	0.200
Naphthalene	0.222	J	0.154	0.630
2-Propanol	U		0.0882	1.25
Propene	U		0.0932	0.400
Styrene	U		0.0465	0.200
1,1,2,2-Tetrachloroethane	U		0.0576	0.200
Tetrachloroethylene	U		0.0497	0.200
Tetrahydrofuran	U		0.0508	0.200
Toluene	U		0.0499	0.200
1,2,4-Trichlorobenzene	0.154	J	0.148	0.630
1,1,1-Trichloroethane	U		0.0665	0.200
1,1,2-Trichloroethane	U		0.0287	0.200
Trichloroethylene	U		0.0545	0.200
1,2,4-Trimethylbenzene	U		0.0483	0.200
1,3,5-Trimethylbenzene	U		0.0631	0.200
2,2,4-Trimethylpentane	U		0.0456	0.200
Vinyl chloride	U		0.0457	0.200
Vinyl Bromide	U		0.0727	0.200
Vinyl acetate	U		0.0639	0.200
m&p-Xylene	U		0.0946	0.400
o-Xylene	U		0.0633	0.200
Ethanol	U		0.0832	0.630
TPH (GC/MS) Low Fraction	U		6.91	50.0
(S) 1,4-Bromofluorobenzene	*87.0*			*60.0-140*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3329391-1 07/29/18 08:20 • (LCSD) R3329391-2 07/29/18 09:19

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	ppbv	ppbv	ppbv	%	%	%			%	%
Ethanol	3.75	3.53	3.04	94.0	81.2	52.0-158			14.7	25
Propene	3.75	3.68	3.70	98.1	98.7	54.0-155			0.543	25
Dichlorodifluoromethane	3.75	4.02	3.90	107	104	69.0-143			3.13	25
1,2-Dichlorotetrafluoroethane	3.75	3.89	3.91	104	104	70.0-130			0.479	25

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3329391-1 07/29/18 08:20 • (LCSD) R3329391-2 07/29/18 09:19

Analyte	Spike Amount ppbv	LCS Result ppbv	LCSD Result ppbv	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Chloromethane	3.75	3.67	3.70	97.8	98.8	70.0-130			0.982	25
Vinyl chloride	3.75	3.77	3.78	101	101	70.0-130			0.386	25
1,3-Butadiene	3.75	3.66	3.66	97.5	97.6	70.0-130			0.0935	25
Bromomethane	3.75	3.88	3.78	103	101	70.0-130			2.47	25
Chloroethane	3.75	3.79	3.79	101	101	70.0-130			0.116	25
Trichlorofluoromethane	3.75	3.89	3.87	104	103	70.0-130			0.480	25
1,1,2-Trichlorotrifluoroethane	3.75	3.86	3.84	103	102	70.0-130			0.435	25
1,1-Dichloroethene	3.75	3.72	3.72	99.1	99.2	70.0-130			0.0844	25
1,1-Dichloroethane	3.75	3.81	3.79	102	101	70.0-130			0.372	25
Acetone	3.75	3.72	3.59	99.1	95.9	70.0-130			3.34	25
2-Propanol	3.75	3.80	3.76	101	100	66.0-150			1.08	25
Carbon disulfide	3.75	3.86	3.85	103	103	70.0-130			0.181	25
Methylene Chloride	3.75	3.62	3.61	96.5	96.3	70.0-130			0.210	25
MTBE	3.75	3.76	3.76	100	100	70.0-130			0.00830	25
trans-1,2-Dichloroethene	3.75	3.80	3.77	101	101	70.0-130			0.653	25
n-Hexane	3.75	3.69	3.71	98.5	98.9	70.0-130			0.441	25
Vinyl acetate	3.75	3.91	3.75	104	100	70.0-130			4.01	25
Methyl Ethyl Ketone	3.75	3.79	3.73	101	99.3	70.0-130			1.84	25
cis-1,2-Dichloroethene	3.75	3.91	3.87	104	103	70.0-130			1.01	25
Chloroform	3.75	3.86	3.83	103	102	70.0-130			0.709	25
Cyclohexane	3.75	3.79	3.78	101	101	70.0-130			0.118	25
1,1,1-Trichloroethane	3.75	3.82	3.81	102	102	70.0-130			0.158	25
Carbon tetrachloride	3.75	3.84	3.85	102	103	70.0-130			0.204	25
Benzene	3.75	3.80	3.85	101	103	70.0-130			1.35	25
1,2-Dichloroethane	3.75	3.77	3.71	100	98.9	70.0-130			1.56	25
Heptane	3.75	3.65	3.72	97.3	99.3	70.0-130			1.97	25
Trichloroethylene	3.75	3.81	3.86	101	103	70.0-130			1.40	25
1,2-Dichloropropane	3.75	3.81	3.81	102	102	70.0-130			0.166	25
1,4-Dioxane	3.75	3.66	3.96	97.7	105	70.0-152			7.68	25
Bromodichloromethane	3.75	3.83	3.92	102	105	70.0-130			2.35	25
cis-1,3-Dichloropropene	3.75	3.87	3.91	103	104	70.0-130			1.04	25
4-Methyl-2-pentanone (MIBK)	3.75	3.69	3.78	98.5	101	70.0-142			2.38	25
Toluene	3.75	3.89	3.97	104	106	70.0-130			2.20	25
trans-1,3-Dichloropropene	3.75	3.89	3.93	104	105	70.0-130			1.04	25
1,1,2-Trichloroethane	3.75	3.86	3.96	103	105	70.0-130			2.47	25
Tetrachloroethylene	3.75	3.92	3.98	105	106	70.0-130			1.29	25
Methyl Butyl Ketone	3.75	3.70	3.74	98.6	99.7	70.0-150			1.12	25
Dibromochloromethane	3.75	3.94	3.98	105	106	70.0-130			1.11	25
1,2-Dibromoethane	3.75	3.88	3.88	103	104	70.0-130			0.152	25
Chlorobenzene	3.75	3.87	3.94	103	105	70.0-130			1.71	25

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3329391-1 07/29/18 08:20 • (LCSD) R3329391-2 07/29/18 09:19

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	ppbv	ppbv	ppbv	%	%	%			%	%
Ethylbenzene	3.75	4.02	4.08	107	109	70.0-130			1.50	25
m&p-Xylene	7.50	7.90	8.01	105	107	70.0-130			1.38	25
o-Xylene	3.75	3.97	4.03	106	107	70.0-130			1.34	25
Styrene	3.75	3.88	3.97	104	106	70.0-130			2.24	25
Bromoform	3.75	4.01	4.03	107	108	70.0-130			0.693	25
1,1,2,2-Tetrachloroethane	3.75	3.85	3.90	103	104	70.0-130			1.35	25
4-Ethyltoluene	3.75	3.93	4.00	105	107	70.0-130			1.76	25
1,3,5-Trimethylbenzene	3.75	3.90	3.98	104	106	70.0-130			2.12	25
1,2,4-Trimethylbenzene	3.75	3.88	3.93	104	105	70.0-130			1.08	25
1,3-Dichlorobenzene	3.75	3.70	3.72	98.7	99.1	70.0-130			0.409	25
1,4-Dichlorobenzene	3.75	3.78	3.80	101	101	70.0-130			0.423	25
Benzyl Chloride	3.75	3.94	3.94	105	105	70.0-144			0.0638	25
1,2-Dichlorobenzene	3.75	3.64	3.71	97.1	99.0	70.0-130			1.88	25
1,2,4-Trichlorobenzene	3.75	3.73	3.71	99.5	98.8	70.0-155			0.661	25
Hexachloro-1,3-butadiene	3.75	3.82	3.92	102	105	70.0-145			2.52	25
Naphthalene	3.75	3.90	4.04	104	108	70.0-155			3.62	25
TPH (GC/MS) Low Fraction	176	173	176	98.3	99.6	70.0-130			1.27	25
Allyl Chloride	3.75	3.67	3.70	97.9	98.6	70.0-130			0.698	25
2-Chlorotoluene	3.75	3.83	3.87	102	103	70.0-130			1.13	25
Methyl Methacrylate	3.75	3.89	3.94	104	105	70.0-130			1.21	25
Tetrahydrofuran	3.75	3.64	3.67	97.1	98.0	70.0-140			0.929	25
2,2,4-Trimethylpentane	3.75	3.81	3.82	102	102	70.0-130			0.176	25
Vinyl Bromide	3.75	3.96	3.95	106	105	70.0-130			0.0960	25
Isopropylbenzene	3.75	3.95	4.00	105	107	70.0-130			1.38	25
(S) 1,4-Bromofluorobenzene				*97.9*	*97.2*	*60.0-140*				

GLOSSARY OF TERMS

Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Abbreviations and Definitions

MDL	Method Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state "ND" (Not Detected) or "BDL" (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. The chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier	Description
B	The same analyte is found in the associated blank.
E	The analyte concentration exceeds the upper limit of the calibration range of the instrument established by the initial calibration (ICAL).
I	The identification of the analyte is acceptable; the reported value is an estimate.
J4	The associated batch QC was outside the established quality control range for accuracy.

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Sample Log-In Check List

Client Name: City of Albuquerque Env Work Order Number: 1807A94 RcptNo: 1

Received By: **Anne Thorne** 7/19/2018 12:23:00 PM Anne Thorne

Completed By: **Anne Thorne** 7/19/2018 3:57:10 PM Anne Thorne

Reviewed By: JC 7.20.18

Labeled by: AT 07/20/18

Chain of Custody

1. Is Chain of Custody complete? Yes ☑ No ☐ Not Present ☐
2. How was the sample delivered? Client

Log In

3. Was an attempt made to cool the samples? Yes ☐ No ☐ NA ☑
4. Were all samples received at a temperature of >0° C to 6.0°C Yes ☑ No ☐ NA ☐
5. Sample(s) in proper container(s)? Yes ☑ No ☐
6. Sufficient sample volume for indicated test(s)? Yes ☑ No ☐
7. Are samples (except VOA and ONG) properly preserved? Yes ☑ No ☐
8. Was preservative added to bottles? Yes ☐ No ☑ NA ☐
9. VOA vials have zero headspace? Yes ☐ No ☐ No VOA Vials ☑
10. Were any sample containers received broken? Yes ☐ No ☑
11. Does paperwork match bottle labels? (Note discrepancies on chain of custody) Yes ☑ No ☐
12. Are matrices correctly identified on Chain of Custody? Yes ☑ No ☐
13. Is it clear what analyses were requested? Yes ☑ No ☐
14. Were all holding times able to be met? (If no, notify customer for authorization.) Yes ☑ No ☐

# of preserved bottles checked for pH: _____ (<2 or >12 unless noted)

Adjusted? _____

Checked by: _____

Special Handling (if applicable)

15. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified: _____ Date _____

By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: _____

Client Instructions: _____

16. Additional remarks:
17. **Cooler Information**

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed and accurate.

Page: 1 of 1
Cooler # NM9425 of

COC # 20180719-1151 | Task: COA Q03 2018 VP_07_19_2018
Total # of Samples: 14 | Event Complete?

Lab Information:

Lab Name:	Hall Environmental
Address:	4901 Hawkins St NE # a-D
	Albuquerque, NM 87109
Lab PM:	Andy Freeman
Phone/Fax:	505-345-3975
Lab PM email	
Applicable Lab Quote #:	

Project Information:

Site ID #:	City of Albuquerque
Project #	
Site Address	
City / Alb / State, Zip. NM	
Site PM Name	Ken Ziegler
Phone/Fax:	505-768-2669
Site PM Email:	krziegler@cabq.gov

Other Information:

Send Invoice to:	Ken Ziegler, City of Albuquerque EHD
Address:	One Civic Plaza, Room 3023
City/State,	Albuquerque, NM 87102
Phone #:	505-768-2669
PO #	
Send EDD to	krziegler@cabq.gov
CC Hardcopy report to	krziegler@cabq.gov, and via mail
CC Hardcopy report to	

Turn Around Time

ITEM #	SAMPLE ID (Samples IDs MUST BE UNIQUE)	SAMPLE LOCATION	MATRIX CODE	G=GRAB C=COMP	SAMPLE DATE	#OF CONTAINERS	Comments/Lab Sample I.D.	ANALYSIS: TO-15 AIR TOXICS
							1807A94	
1	RYSV0701-20180719-AE	RYSV0701	AE	G	07/19/2018 10:34		001	X
2	RYSV0702-20180719-AE	RYSV0702	AE	G	07/19/2018 10:24		002	X
3	RYSV0703-20180719-AE	RYSV0703	AE	G	07/19/2018 10:12		003	X
4	RYSV0704-20180719-AE	RYSV0704	AE	G	07/19/2018 10:29		004	X
5	RYSV0801R-20180719-AE	RYSV0801R	AE	G	07/19/2018 11:19		005	X
6	RYSV0802R-20180719-AE	RYSV0802R	AE	G	07/19/2018 11:25		006	X
7	RYSV0803-20180719-AE	RYSV0803	AE	G	07/19/2018 10:46		007	X
8	RYSV0804-20180719-AE	RYSV0804	AE	G	07/19/2018 10:51		008	X
9	RYSV0805-20180719-AE	RYSV0805	AE	G	07/19/2018 11:32		009	X
10	RYSV0806-20180719-AE	RYSV0806	AE	G	07/19/2018 11:40		010	X
11	RYSV0807-20180719-AE	RYSV0807	AE	G	07/19/2018 10:56		011	X
12	RYSV0808R-20180719-AE	RYSV0808R	AE	G	07/19/2018 11:01		012	X
13	RYSV0809R-20180719-AE	RYSV0809R	AE	G	07/19/2018 11:09		013	X
14	RYSV0810R-20180719-AE	RYSV0810R	AE	G	07/19/2018 11:14		014	X

Additional Comments/Special Instructions:

	7-19-18	1223		07/19/18	1223		

Sample Receipt Conditions

Temp in °C	Samples on Ice?	Sample Intact?	Trip Blank?
	Y (N)	(Y) N	Y (N)
	Y/N	Y/N	Y/N
	Y/N	Y/N	Y/N
	Y/N	Y/N	Y/N

Company:	PRINT Name of SAMPLER:			
Tracking #:	SIGNATURE of SAMPLER:	DATE Signed		Time: