ADDITIONAL GROUNDWATER CHARACTERIZATION REPORT

CITY OF ALBUQUERQUE RAIL YARDS

Albuquerque, Bernalillo County, New Mexico

C

Prepared for:

City of Albuquerque, Metropolitan Redevelopment Agency
600 2nd Street NW, 3rd Floor
Albuquerque, NM 87102

Prepared by:

INTERA
GEOSCIENCE & ENGINEERING SOLUTIONS

6000 Uptown Boulevard Suite 220
Albuquerque, NM 87110

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ACRONYMS AND ABBREVIATIONS

°C	degrees Celsius
°F	degrees Fahrenheit
µg/L	microgram(s) per liter
µS/cm	microSiemen(s) per centimeter
ABCM	asbestos-containing building materials
ATSF	Atchison, Topeka and Santa Fe
BNSF	Burlington Northern Santa Fe
BTEX	benzene, toluene, ethylbenzene, and xylene
btoc	below top of casing
CCOC	Conditional Certificate of Completion
CNS	Covenant Not to Sue
COA	City of Albuquerque
COC	Certificate of Completion
COPC	contaminants of potential concern
CSM	conceptual site model
DRO	diesel range organic
DTW	depth to water
EDB	1,2-dibromoethane
EPA	U.S. Environmental Protection Agency
ft	feet *or* foot
GRO	gasoline range organic
HEAL	Hall Environmental Analysis Laboratory
INTERA	INTERA Incorporated
LBP	lead-based paint
LNAPL	light non-aqueous phase liquid
MRO	motor range organic
NMED	New Mexico Environment Department
NMWQCC	New Mexico Water Quality Control Commission
OSHA	Occupational Safety and Health Administration
PAH	polynuclear aromatic hydrocarbon

PID	photoionization detector
PPE	personal protective equipment
PSE	potentiometric surface elevation
Report	Additional Characterization of Groundwater Report, City of Albuquerque Rail Yards, Albuquerque, Bernalillo County, New Mexico
RL	laboratory reporting limit
Site	Albuquerque Rail Yards, downtown Albuquerque, New Mexico
SOW	Scope of Work
SSHASP	site-specific health and safety plan
TPH	total petroleum hydrocarbon
TPH DRO + MRO	the sum total petroleum hydrocarbons diesel range organics plus motor oil-range organics
toc	top of casing
VOC	volatile organic compound
VRP	Voluntary Remediation Program

1.0 INTRODUCTION

In accordance with the Scope of Work (SOW) submitted on August 10, 2016 (INTERA, 2016) to the City of Albuquerque (COA), INTERA Incorporated (INTERA) is submitting this *Additional Groundwater Characterization Report* (Report) to document additional groundwater characterization activities completed at the Albuquerque Rail Yards property in downtown Albuquerque, New Mexico (Site). This Report was completed in support of participation in the New Mexico Environmental Department (NMED) Voluntary Remediation Program (VRP) and ultimately, Site redevelopment. The Albuquerque Rail Yards consists of Areas A, B, C and Tract A. The Site location is presented on **Figure 1.**

1.1 Background

The Site, located between 2nd Street and Commercial Street, comprises approximately 27 acres (Areas A, B, C and Tract A) within the former Atchison, Topeka and Santa Fe (ATSF)/Burlington Northern Santa Fe (BNSF) Central Works Equipment Facility Railyard (**Figure 1**). As a result of previous operations conducted from the 1880s up to the early 1990s, the Site sustained environmental impacts from both petroleum hydrocarbon and metal contamination. Contamination is present in both the Site vadose/unsaturated zone (Site soils and soil vapor) and in the saturated zone (Site groundwater) and includes residual light non-aqueous phase liquid (LNAPL), metals adsorbed to soil particles, organic vapors, and organic and inorganic solutes dissolved in groundwater. In addition, both asbestos-containing building materials (ACBM) and lead-based paint (LBP) were used in many Site buildings.

Although substantial efforts have been made in the past to fully delineate contamination for most impacted Site media, the extent of contamination remains undefined for some Site areas. These areas were subsequently identified by INTERA as data gaps in the Conceptual Site Model (CSM) (INTERA, 2015). The magnitude with which identified data gaps will impact Site redevelopment plans, however, is dependent on the final redevelopment scenario(s) selected for the Site. Additional characterization sampling efforts at the Site are therefore being conducted based on the redevelopment option(s) selected; however, full characterization or remediation of all impacted media may not be required if sufficient information exists to document that exposure pathways to these media are incomplete or if engineering controls are proposed that would render a potential exposure pathway incomplete.

Numerous environmental investigations have been conducted at the Albuquerque Rail Yards since 1991. Current soil and groundwater environmental contamination persists at the Site. The nature and extent of the contamination within environmental media varies across the Site regarding depth and contaminants of potential concern (COPCs). Metal contamination in soils is generally more

prevalent in the center and northern portions of the Site, and petroleum hydrocarbon contamination persists in soils and groundwater in the central and southern portions of the Site. Based on the CSM developed for the Site, the following constituents are identified as Site groundwater COPCs (INTERA, 2015):

- benzene, toluene, ethylbenzene, and total xylenes (BTEX);
- total naphthalenes; and
- 1,2-dibromoethane (EDB).

The COA and the Site Developer, are seeking to complete Site redevelopment within the NMED VRP. By actively participating in the NMED VRP (and upon successful completion of any remediation actions deemed necessary), the COA will be able to obtain a Conditional Certificate of Completion (CCOC) and/or Certificate of Completion (COC) for either the entire Site or specific parcels at the Site. The CCOC or the COC will document that current conditions in a designated area(s) and/or throughout the Site meet applicable environmental quality standards and will provide NMED enforcement protection for the COA and liability protection for lenders. In addition, once a CCOC or COC is issued, a Covenant Not to Sue (CNS) may be transferred to a selected prospective purchaser and/or future owner of the Site. The Site Developer has divided the Site into ten parcels (Parcel 1 – Parcel 10) for redevelopment purposes. The locations of the ten parcels are shown on **Figure 2.**

1.2 Scope of Work

INTERA developed a SOW to complete additional characterization activities throughout the Site to fill in the data gaps identified in the CSM (INTERA, 2015). As described in INTERA's SOW, confirming the presence or absence of one or more of the groundwater COPCs should be completed prior to any redevelopment construction through implementation of a Site-wide long-term groundwater monitoring program (INTERA, 2016).

The approved SOW (INTERA, 2016a) included the following tasks:

- Collect fluid levels from all Site wells
- Collect one groundwater sample from each monitoring well and submit for analysis of the following:
  - VOCs via U.S. Environmental Protection Agency (EPA) Method 8260B
  - EDB via EPA Method 504.1
- Evaluate screen intervals with respect to groundwater levels

1.3 Work Plan Deviations

There were no work plan deviations during this additional groundwater characterization field event with the following exception:

- Monitoring well MW-09 could not be located during the groundwater sampling event; therefore, a groundwater sample was not collected.

2.0 FIELD ACTIVITIES

Field activities for this additional characterization event were conducted on November 4 and December 2, 2016. The site-specific health and safety plan (SSHASP) was reviewed in detail by INTERA field staff, was followed during all Site activities, and was used as a guide for the field-work health and safety meeting. Work was performed in Occupational Safety and Health Administration (OSHA) Level D personal protective equipment (PPE). Copies of completed field notes and field forms are included in **Appendix A.**

2.1 Monitoring Well Repair and Survey

INTERA completed required monitoring well maintenance at monitoring well MW-02 on December 2, 2016. During the initial Site inspection on November 4, 2016, the above-ground surface completion at monitoring well MW-02 was observed to be damaged. The metal standpipe had been pushed (likely by a motor vehicle) resulting in the standpipe being at a 45-degree angle. As such, the polyvinyl chloride (PVC) well casing was noted to be damaged. To repair the monitoring well, INTERA staff removed approximately 3 feet (ft) of the damaged 2-inch schedule 40 PVC casing and replaced it with 1 ft of new PVC extension (coupling and casing). A new 8-inch steel well vault set flush with the ground surface was installed with a 3-ft by 3-ft reinforced (rebar) concrete apron that gently sloped away from the well to allow precipitation to drain. INTERA field staff also installed new expandable, locking well caps at monitoring wells MW-02 and MW-05. All Site monitoring wells, with the exception of monitoring well MW-09, were locked with keyed-alike locks (monitoring well MW-09 could not be located). Photographs documenting monitoring well maintenance activities are included in **Appendix B.**

On December 2, 2016, INTERA staff completed a relative top of casing (toc) elevation survey of all Site monitoring wells to better assess Site groundwater flow direction; previous toc elevations reported for Site monitoring wells were suspect because INTERA could not locate consistent survey data for the wells from a registered surveyor. The vertical toc of all Site monitoring wells was surveyed to the nearest 0.01 ft by INTERA representatives using a Builder's Level, tripod, and a survey rod. The updated toc elevations reference a relative 100-ft datum (set as the relative elevation of monitoring well MW-01). The new toc elevations are included in **Table 1.**

2.2 Groundwater Level Gauging

On November 4, 2016, fluid levels were measured in the following eight Site monitoring wells: MW-01, MW-02, MW-03 MW-04, MW-05, MW-06, MW-07, and MW-08 using a properly decontaminated oil/water interface probe (**Figure 2**). Prior to measuring fluid levels, the expandable well caps from all monitoring wells were removed in order to relieve any pressure

caused by a fluctuating water table. Fluid level measurements are documented in **Table 1.** A potentiometric surface elevation map is provided as **Figure 3.**

2.3 Groundwater Sampling

On November 4, 2016, groundwater samples were collected from the following eight Site monitoring wells: MW-01, MW-02, MW-03 MW-04, MW-05, MW-06, MW-07, and MW-08, using dedicated, disposable polyethylene bailers. At each monitoring well, a groundwater sample was collected once three well casing volumes were removed from the monitoring well and water quality parameters stabilized for three consecutive readings. A record of all water quality parameters recorded during purging and sampling of each monitoring well is documented in the field forms presented in **Appendix A.** Stabilized water quality parameter values recorded at each monitoring well prior to sample collection are summarized in **Table 2.**

During purging and sampling, a petroleum hydrocarbon odor was noted at monitoring wells MW-01, MW-03, and MW-04 and a sulfur odor was noted at monitoring well MW-02. The groundwater purge water at monitoring well MW-03 exhibited a sheen.

All groundwater samples were labeled and immediately placed on ice for transport to Hall Environmental Analysis Laboratory (HEAL) of Albuquerque, New Mexico. Proper chain-of-custody procedures were adhered to during sample collection, transport, and delivery to HEAL. Laboratory analytical results are summarized in **Table 3,** and the groundwater laboratory analytical report is included in **Appendix C.**

2.4 Quality Assurance and Investigation-Derived Waste

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.

The resulting laboratory data associated with this monitoring event (**Table 3**) were not qualified and no contamination was noted in the trip blank. Purge water produced during groundwater sampling activities was applied to an impermeable (asphalt and/or concrete) surface and allowed to evaporate.

3.0 RESULTS

The results of the field activities conducted at the Site are summarized in the following subsections.

3.1 Fluid Level Gauging and Groundwater Flow Direction

Consistent with documented historical sampling events, LNAPL of measurable thickness (greater than 0.01 ft) was not observed in any Site monitoring well during this event (**Table 1**). Recorded depth to water (DTW) measurements in Site wells ranged from 19.10 ft below top of casing (btoc) at monitoring well MW-02 to 29.44 ft btoc at monitoring well MW-06. The potentiometric surface elevations (PSE) ranged from 74.29 ft at monitoring well MW-06 to 78.16 ft at monitoring well MW-02 (**Table 2**). The PSE elevations are calculated relative to a local datum set to 100 ft at monitoring well MW-01 (Section 1.2).

Compared to the previous Site groundwater monitoring event conducted in March 2012, groundwater levels appear to have increased across the Site. Water level increases ranged from 3.76 ft at monitoring well MW-01 to 6.42 ft at monitoring well MW-06 with an average overall increase of 5.02 ft. The observed increase in Site water levels are consistent with historical trends observed for the area since the 1990's (**Table 1**).

The estimated groundwater flow direction is to the east-northeast with the estimated magnitude of the calculated hydraulic gradient of 0.0042 ft/ft (**Figure 3**). Current calculated groundwater flow direction and magnitude is also generally consistent with previous groundwater monitoring event(s). In February 2010, groundwater contour data indicated flow was generally to the northeast; however, this interpretation included water level elevation data from monitoring well MW-09, located in the northern portion of the Site (INTERA, 2015). monitoring well MW-09 was not included in the most recent sampling event.

Two monitoring wells, MW-01 and MW-02, have submerged screens. The height of water above the top of screen for these monitoring wells is 0.35 ft and 3.90 ft, respectively.

3.2 Groundwater Quality Parameters

Groundwater quality parameters were measured and recorded during monitoring well purging until the water quality parameters stabilized. Stabilized temperatures ranged from 17.9 degrees Celsius (°C) or 64.2 degrees Fahrenheit (°F) (at monitoring well MW-06) to 19.0°C or 66.2°F (at monitoring well MW-03). Stabilized specific conductivity values ranged from 667.2 microSiemens per centimeter (µS/cm) (at monitoring well MW-02) to 996.0 µS/cm (at monitoring well MW-01). Stabilized pH values ranged from 7.05 (at monitoring well MW-05) to 7.74 (at monitoring well MW-02). Groundwater quality parameter values are provided in the groundwater

sampling forms presented in **Appendix A**; stabilized groundwater quality parameters are summarized in **Table 2**.

3.3 Groundwater Analytical Results

A summary of the laboratory analytical results is provided in **Table 3** and on **Figure 4.** A copy of the laboratory analytical report is included in **Appendix C.**

Analytical testing indicated concentrations of regulated dissolved-phase VOCs above the laboratory reporting detection limit (RL) in three of the eight groundwater samples collected. Of these, the samples collected from monitoring wells MW-01 and MW-03 contained one or more VOC constituents in excess of the corresponding New Mexico Water Quality Control Commission (NMWQCC) Standard.

Benzene was detected above the RL in groundwater collected at monitoring well MW-03 (8.8 µg/L); however, the reported concentration was below the corresponding NMWQCC Standard of 10 µg/L. Total naphthalenes were detected in groundwater at monitoring well MW-01 (56 micrograms per liter [µg/L]) and monitoring well MW-03 (220 µg/L). These concentrations exceed the total naphthalenes NMWQCC Standard of 30 µg/L. Total naphthalenes was also reported above the RL in monitoring well MW-04 (8.8 µg/L) but at a concentration below the corresponding NMWQCC Standard.

All Site wells contained EDB concentrations below the laboratory reporting limit of 0.010 µg/L (**Table 3**). The laboratory reporting limit for EDB by EPA Method 504.1 is lower than the NMWQCC Standard of 0.1 µg/L confirming that EDB is not present.

4.0 CONCLUSIONS AND RECOMMENDATIONS

The objectives of long-term additional groundwater characterization efforts at the Site are to provide an evaluation of (1) fluid level fluctuations and screen interval placement, (2) groundwater flow direction, (3) dissolved-phase contaminant concentrations relative to NMWQCC Standards, and (4) dissolved-plume stability. Based on the results of the field investigation, INTERA has compiled the following conclusions and recommendations.

4.1 Conclusions

- No LNAPL was measured in any Site monitoring wells. It should be noted that the screen intervals of monitoring wells MW-01 and MW-02 are below the water table and therefore, LNAPL could be present in these locations but not able to enter the monitoring well.
- Compared to groundwater levels observed in March 2012, groundwater levels at the Site have increased 5.02 ft. The observed rise in water levels at the Site are consistent with historical trends of rising water levels for the area since the 1990's.
- Groundwater flow is estimated towards the east-northeast with the estimated magnitude of the calculated hydraulic gradient of 0.0042 ft/ft. These results are generally consistent with the results observed and calculated for the Site during the last sampling event conducted in February 2010.
- Two monitoring wells, MW-01 and MW-02, were observed to have submerged well screens (groundwater level was detected above the top of screen). These monitoring wells do not meet NMED specifications for water quality monitoring (NMED, 2011).
- Monitoring wells MW-01 and MW-03 contain groundwater with total naphthalenes concentrations (56 and 220 µg/L, respectively) in excess of the corresponding NMWQCC Standard of 30 µg/L.
- Benzene was present in groundwater collected from monitoring well MW-03 but at a concentration (8.8 µg/L) slightly below the corresponding NMWQCC Standard of 10 µg/L.
- EDB was not present in groundwater collected from any Site monitoring wells.

4.2 Recommendations

Based on the results of the additional characterization of groundwater monitoring event and historical data, INTERA makes the following recommendations:

- Evaluate the need for properly screened monitoring wells adjacent to monitoring wells MW-01 and MW-02, in accordance with NMED Guidelines.

- Groundwater sampling at monitoring wells MW-01 and MW-03 revealed the presence of total naphthalenes at concentrations in excess of the NMWQCC Standard. If redevelopment is anticipated to encounter groundwater, and dewatering is necessary, all groundwater must be treated prior to discharge. Additionally, if any portion of the development extends into the subsurface at depths where it will be in contact with contaminated groundwater, all material in contact with groundwater needs to either be installed within a petroleum resistant barrier or be of a material that is petroleum resistant.
- Conduct annual groundwater monitoring at the Site to assess groundwater level fluctuations, potential seasonal changes in groundwater flow direction, and dissolved-phase contaminant trends. The next scheduled groundwater sampling event is April 2017.

5.0 REFERENCES

INTERA Incorporated (INTERA), 2016. *Scope of Work and Cost Proposal for Additional Characterization, Voluntary Remediation Program Activities at the City of Albuquerque Rail Yards, Albuquerque, Bernalillo County, New Mexico.* Prepared for the City of Albuquerque Metropolitan Redevelopment Agency. August 10.

_____, 2015. *Conceptual Site Model City of Albuquerque Rail Yards, Albuquerque, New Mexico*. Prepared for the City of Albuquerque. September 25.

New Mexico Environmental Department Groundwater Quality Bureau (NMED GWQB), 2011. Monitoring Well Construction and Abandonment Guidelines. March.

FIGURES

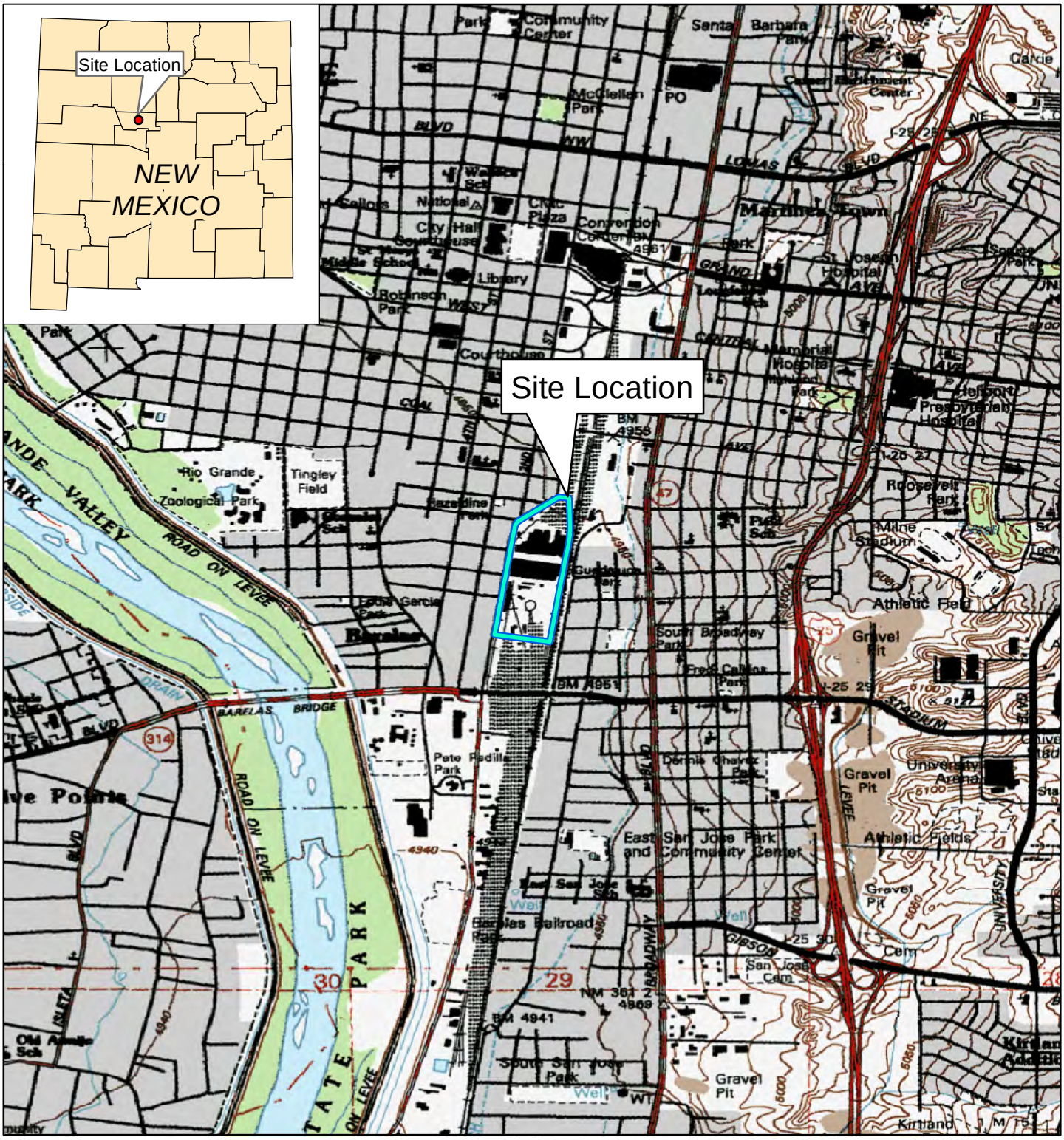

Figure 1
Site Location
Additional Characterization of
Groundwater Report, City of Albuquerque Rail Yards,
Albuquerque, Bernalillo County, New Mexico

INTERA

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

S:\ABQ\COA On-Call 2014\Task_17_Railyard_VRP\Graphics\GIS\MapDocs\GWcharacterization_2016additional_GWrpt\01_GWR2016_SiteLocation.mxd 12/7/2016

Legend

- Monitoring Well
- Monitoring Well; not located
- Property Boundary
- Parcel Boundary and ID

N

160 80 0 160

Feet

INTERA

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

Figure 2
Site Plan
Additional Characterization of
Groundwater Report, City of Albuquerque Rail Yards,
Albuquerque, Bernalillo County, New Mexico

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Legend

- Monitoring Well; not located
- Monitoring Well
- Groundwater Contour
- Estimated Groundwater Flow Direction
- Parcel Boundary
- Property Boundary

Well ID
Groundwater Elevation in ft
(feet relative to local datum set to MW-01 = 100.00 ft).

N

160 80 0 160
Feet

INTERA

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

Figure 3
Potentiometric Surface Elevation Map
November 4, 2016
Additional Characterization of
Groundwater Report, City of Albuquerque Rail Yards,
Albuquerque, Bernalillo County, New Mexico

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Legend

- Monitoring Well; not located
- Monitoring Well
- Estimated Groundwater Flow Direction
- Property Boundary
- Parcel Boundary

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

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

N

160 80 0 160
Feet

INTERA

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

Figure 4
Distribution of Dissolved-Phase Contaminants, November 4, 2016
Additional Characterization of Groundwater Report, City of Albuquerque Rail Yards, Albuquerque, Bernalillo County, New Mexico

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TABLES

TABLE 1
Fluid Level Measurements and Well Construction Details
Additional Characterization of Groundwater, City of Albuquerque Rail Yard, 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
MW-01	4/14/1996	2	23-43	4653.31	30.59	-	-	4622.72	
	7/29/1996			4653.31	31.44	-	-	4621.87	
	11/1/1996			4653.31	31.04	-	-	4622.27	
	2/6/1997			4653.31	30.77	-	-	4622.54	
	6/11/1998			4653.31	29.98	-	-	4623.33	
	9/15/1998			4653.31	30.81	-	-	4622.50	
	12/21/1998			4653.31	30.60	-	-	4622.71	
	4/29/1999			4653.31	30.82	-	-	4622.49	
	12/2/1999			4653.31	31.04	-	-	4622.27	
	9/1/2010			4653.31	26.74	44.15	17.41	4626.57	
	3/1/2012			4653.31	26.41	44.12	17.71	4626.90	
	11/4/2016			100	22.65	44.16	21.51	77.35	
MW-02	4/14/1996	2	23-43	4652.98	29.60	-	-	4623.38	
	7/29/1996			4652.98	30.39	-	-	4622.59	
	11/1/1996			4652.98	30.04	-	-	4622.94	
	2/6/1997			4652.98	29.82	-	-	4623.16	
	6/11/1998			4652.98	29.95	-	-	4623.03	
	9/15/1998			4652.98	29.82	-	-	4623.16	
	12/21/1998			4652.98	29.65	-	-	4623.33	
	4/29/1999			4652.98	29.86	-	-	4623.12	
	12/2/1999			4652.98	30.09	-	-	4622.89	
	10/31/2005			4652.98	29.40	-	-	4623.58	
	11/4/2016			97.26	19.10	41.34	22.24	78.16	New flush-grade surface completion and J-plug installed
MW-03	4/14/1996	2	22.2-42.2	4653.66	32.48	-	-	4621.18	
	7/29/1996			4653.66	34.26	-	-	4619.40	
	11/1/1996			4653.66	33.84	-	-	4619.82	
	2/6/1997			4653.66	33.39	-	-	4620.27	
	6/11/1998			4653.66	32.54	-	-	4621.12	
	9/15/1998			4653.66	33.59	-	-	4620.07	
	12/21/1998			4653.66	33.28	-	-	4620.38	

TABLE 1
Fluid Level Measurements and Well Construction Details
Additional Characterization of Groundwater, City of Albuquerque Rail Yard, 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
MW-03	4/29/1999	2	22.2-42.2	4653.66	33.49	-	-	4620.17	
	12/2/1999			4653.66	33.76	-	-	4619.90	
	9/3/2010			4653.66	29.04	44.75	15.71	4624.62	
	3/1/2012			4653.66	28.41	44.78	16.37	4625.25	
	11/4/2016			100.29	24.33	44.75	20.42	75.96	
MW-04	4/14/1996	2	21.95-41.95	4654.52	34.40	-	-	4620.12	
	7/29/1996			4654.52	35.36	-	-	4619.16	
	11/1/1996			4654.52	35.02	-	-	4619.50	
	2/6/1997			4654.52	34.51	-	-	4620.01	
	6/11/1998			4654.52	33.72	-	-	4620.80	
	9/15/1998			4654.52	34.77	-	-	4619.75	
	12/21/1998			4654.52	34.50	-	-	4620.02	
	4/29/1999			4654.52	34.70	-	-	4619.82	
	12/2/1999			4654.52	35.01	-	-	4619.51	
	9/4/2010			4654.52	30.32	44.46	14.14	4624.20	
	11/4/2016			101.12	25.37	44.48	19.11	75.75	
MW-05	4/14/1996	2	24.7-44.7	4655.39	36.17	-	-	4619.22	
	7/29/1996			4655.39	36.65	-	-	4618.74	
	11/1/1996			4655.39	36.34	-	-	4619.05	
	2/6/1997			4655.39	35.81	-	-	4619.58	
	6/11/1998			4655.39	35.02	-	-	4620.37	
	9/15/1998			4655.39	36.04	-	-	4619.35	
	12/21/1998			4655.39	35.78	-	-	4619.61	
	4/29/1999			4655.39	35.97	-	-	4619.42	
	12/2/1999			4655.39	36.33	-	-	4619.06	
	9/4/2010			4655.39	31.61	46.17	14.56	4623.78	
	11/4/2016			101.99	26.52	46.16	19.64	75.47	New J-plug installed

TABLE 1
Fluid Level Measurements and Well Construction Details
Additional Characterization of Groundwater, City of Albuquerque Rail Yard, 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
MW-06	4/14/1996	2	27.1-47.1	4653.11	37.79	-	-	4615.32	
	7/29/1996			4653.11	38.76	-	-	4614.35	
	11/1/1996			4653.11	38.52	-	-	4614.59	
	2/6/1997			4653.11	37.93	-	-	4615.18	
	6/11/1998			4653.11	37.40	-	-	4615.71	
	9/15/1998			4653.11	38.19	-	-	4614.92	
	12/21/1998			4653.11	37.92	-	-	4615.19	
	4/29/1999			4653.11	38.10	-	-	4615.01	
	12/2/1999			4653.11	38.55	-	-	4614.56	
	10/31/2005			4653.11	37.60	-	-	4615.51	
	2/10/2010			4955.86	35.86	-	-	4920.00	
	11/4/2016			103.73	29.44	49.28	19.84	74.29	
MW-07	4/14/1996	2	22.7-42.7	4651.94	35.25	-	-	4616.69	
	7/29/1996			4651.94	36.09	-	-	4615.85	
	11/1/1996			4651.94	35.88	-	-	4616.06	
	2/6/1997			4651.94	35.40	-	-	4616.54	
	6/11/1998			4651.94	34.66	-	-	4617.28	
	9/15/1998			4651.94	35.57	-	-	4616.37	
	12/21/1998			4651.94	35.37	-	-	4616.57	
	4/29/1999			4651.94	35.54	-	-	4616.40	
	12/2/1999			4651.94	35.90	-	-	4616.04	
	9/4/2010			4651.94	31.60	44.78	13.18	4620.34	
	11/4/2016			102.65	26.74	44.85	18.11	75.91	
MW-08	4/14/1996	4	24.5-44.5	4651.68	34.64	-	-	4617.04	
	7/29/1996			4651.68	35.48	-	-	4616.20	
	11/1/1996			4651.68	35.27	-	-	4616.41	
	2/6/1997			4651.68	34.80	-	-	4616.88	
	6/11/1998			4651.68	34.07	-	-	4617.61	
	9/15/1998			4651.68	34.97	-	-	4616.71	
	12/21/1998			4651.68	34.78	-	-	4616.90	

TABLE 1
Fluid Level Measurements and Well Construction Details
Additional Characterization of Groundwater, City of Albuquerque Rail Yard, 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
MW-08	4/29/1999	4	24.5-44.5	4651.68	34.95	-	-	4616.73	
	12/2/1999			4651.68	35.31	-	-	4616.37	
	2/11/2010			4954.38	31.98	-	-	4922.40	
	11/4/2016			102.30	26.16	46.11	19.95	76.14	
MW-09	2/10/2010	-	33-43	4953.43	32.52	-	-	4920.91	
	11/4/2016		Well could not be located.						

Notes:

ft = feet

bgs = below ground surface

amsl = above mean sea level

btoc = below top of casing

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)

- = data not available, present, or not applicable

TABLE 2
Groundwater Quality Parameters
Additional Characterization of Groundwater, City of Albuquerque Rail Yard, Albuquerque, Bernalillo County, New Mexico

Well ID	Date	Temperature		Specific Conductivity (µS/cm)	pH
		°C	°F		
MW-01	11/4/2016	18.7	65.66	996.0	7.42
MW-02	11/4/2016	18.5	65.3	667.2	7.74
MW-03	11/4/2016	19.0	66.2	671.2	7.31
MW-04	11/4/2016	18.7	65.7	929.8	7.18
MW-05	11/4/2016	18.6	65.5	819.5	7.05
MW-06	11/4/2016	17.9	64.2	803.2	7.28
MW-07	11/4/2016	18.6	65.5	829.2	7.18
MW-08	11/4/2016	18.8	65.8	951.9	7.17
MW-09	11/4/2016	Not located- no sample collected			

Notes:

°C = degrees Celsius

°F = degrees Fahrenheit

µS/cm = microSiemens per centimeter

TABLE 3
Laboratory Analytical Results - Groundwater
Additional Characterization of Groundwater, City of Albuquerque Rail Yard, 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		10	750	750	620	0.1	30	30
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**
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
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**
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

TABLE 3
Laboratory Analytical Results - Groundwater
Additional Characterization of Groundwater, City of Albuquerque Rail Yard, 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		10	750	750	620	0.1	30	30
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
MW-6	7/29/1996	<1.0	<1.0	<1.0	<5	<5	<2.5	<4.0
	11/1/1996	<1.0	<1.0	<1.0	<5	<5	<2.5	<4.0
	2/6/1997	<1.0	<1.0	<1.0	<5	<5	<2.5	<4.0
	6/11/1998	<1.0	<1.0	<1.0	-	-	-	<4.0
	9/15/1998	<1.0	<1.0	<1.0	-	-	-	<4.0
	12/21/1998	<1.0	<1.0	<1.0	-	-	-	<4.0
	4/29/1999	<1.0	<1.0	<1.0	-	-	-	<4.0
	12/2/1999	<1.0	<1.0	<1.0	<1	<1	<2.5	<4.0
	10/16/2005	<1.0	<1.0	<1.0	<1.5	-	0.30	<4.0
	2/10/2010	<1.0	<1.0	<1.0	-	<0.18	-	<4.0
	11/4/2016	<1.0	<1.0	<1.0	<1.5	<0.010	-	<4.0
MW-7	6/11/1998	<1.0	<1.0	<1.0	-	-	-	<4.0
	10/16/2005	<1.0	<1.0	<1.0	<1.5	-	0.32	<4.0
	9/4/2010	<1.0	<1.0	<1.0	<0.54	-	<0.95	<4.0
	11/4/2016	<1.0	<1.0	<1.0	<1.5	<0.010	-	<4.0
MW-8	6/11/1998	<1.0	<1.0	<1.0	-	-	-	<4.0
	10/16/2005	<1.0	<1.0	<1.0	<1.5	-	0.3	<4.0
	2/11/2010	<1.0	<1.0	<1.0	-	<0.18	-	<4.0
	11/4/2016	<1.0	<1.0	<1.0	<1.5	<0.010	-	<4.0
MW-9	4/19/2000	<1	<1	<1	<1	<1	-	-
	10/22/2005	<1	-	-	-	-	-	-
	2/10/2010	<0.16	<0.17	<0.16	-	<0.18	-	-
	11/4/2016	No sample collected. Could not locate well.						

Notes:

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

[1] = Analyzed by EPA Method 8260B.

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

[3] = Analyzed by EPA Method 8310

TABLE 3
Laboratory Analytical Results - Groundwater
Additional Characterization of Groundwater, City of Albuquerque Rail Yard, 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		10	750	750	620	0.1	30	30

Notes, continued:

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

EDB = 1,2-dibromoethane

µg/L = microgram(s) per liter

NMWQCC = New Mexico Water Quality Control Commission

NMWQCC Standard = Groundwater Standards as defined by the State of New Mexico Water Quality Control Commission (NMWQCC, 2002)

RL = reporting detection limit

APPENDIX A

Field Notes and Groundwater Sampling Forms

11/4/16 GW Sampling MS/FR

0755 MSoph, F.Rocker on-site
N. Gate open, pull in near site of MW-09

-TGSM

- Weather: overcast, raining, 55°F.
- Objective: 1) Gauge/Locate 9 MW's
2) Gauge DTW, DTB in MW's
3) GW Sample for VOC's 8260
EDB 504.1

0805 M. Butkus (COA) on-site.
He will open South Gate near Wheels museum for GW sampling.

0810 - F.Rocker attempts to locate MW-09
- after using metal detector & shovel for 20 min, NO well found
- will not gauge/sample this well
- Calibrate Oakton pc450 Water Quality Meter pH: 4, 7, 10 Spec Cond: 1413 µS/cm

0830 - Begin gauging DTW/DTB using properly decontaminated Solinst O.I/Water interface probe & EnviroSupply Water Level Meter
- Will Gauge wells on N. Side of Site, then sample to get out of way of filming crew.

11/4/16 GW Sampling MS/FR

← [ft bTOC(N)] →

Well ID	DTP	DTW	DTB	Notes
MW-09				Not located
MW-08	—	26.16	46.11	0839; 4", J-Plug OK
MW-06	—	29.44	49.28	0832; 2"; J-Plug OK
MW-07	—	26.74	44.85	0847; 2"; J-Plug OK
MW-02	—	19.10	41.34	1245; 2"; Needs New J-Plug
MW-01	—	22.65	44.16	1002; 2"; J-Plug OK
MW-03	—	24.33	44.75	1008; 2"; J-Plug OK
MW-04	—	25.37	44.48	1015; 2"; J-Plug OK
MW-05	—	26.52	46.16	1024; 2"; Needs J-Plug

0850 - Completed gauging of wells on north side of site.
- Plan to collect GW samples of n. side wells to stay clear of film crew.

0855 Set-up to Collect GW sample at MW-07
- 3 CV: 9.2 gal
- Stabilized Parameters:
pH: ~~4.41~~ 7.17; Temp: 18.6°C; SpecCond: 829.2 µS-cm
Vol: 9.3 gal
Sample Collected at 0912

11/4/16 MS — GW Sampling — MS/FR

0920 Setup to collect GW Sample at MW-06
- 3 CV's: 11.4 gal
- Stab. Parameters:
  Temp: 17.9°C; pH: 7.28; Spec Cond: 883.2 µs-cm
  Vol: 11.5 gal
- Sample collected at 0947

0950 Will head to south side of site to gauge MW's, specifically to check casing diameters. If any 4" wells, we will get larger bailers from office

1030 - Gauging of all wells complete except MW-02. This well casing riser is damaged. We will return later today to repair, access, gauge, sample, t
- M. Soply, F. Boecker off-site to get ice

1045 Set-up to collect GW Sample at MW-08
- 3 CVs: 39.6 gal
- Stab. Parameters:
  Temp: 18.8°C, pH: 7.17; Spec Cond: 951.9 µs-cm
  Vol: 40 gal
  Sample collected at 1145

11/4/16 MS — GW Sampling — MS/FR

1200 Move to South Side of site
Lunch

1215 MW-02 riser pipe is bent & cement skirt is sticking up
Break off concrete around riser
Remove riser
Cut PVC casing (2") to ground level
INTERA will replace surface completion at a later date (E. Marcillo)

1245 Setup to ~~collect~~ gauge water level in MW-02
- Set up to collect GW sample at MW-02
  - 3 CV's: 11.4 gal
  - Stabilized parameters:
    Temp: 18.5°C, pH: 7.74, Spec. Cond: 667.2 µs-cm
    Vol: 12.0 gal
    Sample collected at 1310

1315 Set up to collect GW sample at MW-01
- 3 CV's: 11.1 gal
- Stabilized parameters:
  Temp: 18.7°C, pH: 7.42; Spec Cond: 996.0 µs-cm
  Vol: 11.5 gal
  Sample collected at 1335

11/4/16 MS — GW Sampling — MS/FR

1340 Set up to collect GW sample at MW-03
- 3CV's: 10.5 gal
- Stabilized parameters:
  Temp: 19.0°C, pH: 7.31, Spec Cond: 671.2 µs/cm
  Vol: 11.0 gal
  Sample collected at 1402

1410 Set up to collect GW sample at MW-04
- 3CV's: 9.6 gal
- Stabilized parameters:
  pH: 7.18, Temp: 18.6°C, Spec Cond: 930.5 µs/cm
  Vol: 10.5 gal
  Sample collected at 1427.

1435 Set up to collect GW sample at MW-05
- 3CV's: 9.9 gal
- Stabilized parameters:
  Temp: 18.6°C, pH: 7.05; Spec Cond: 819.5 µs-cm
  Vol: 11.0 gal
  Sample collected at 1500

1510 Decon all equipment.
Place GW Samples in Cooler w/ Ice.

11/4/16 MS — GW Sampling — MS/FR

- Notes:
  - MW-08 has 4" casing and well vault will not properly close due to PVC casing and J-Plug. Recommend trimming PVC casing
  - MW-02 needs new surface completion well is currently exposed as PVC casing cut ~1 ft bgs. J-Plug is taped into place to prevent debris/water entering well. Left 2- Parking cones around well for protection.
  - MW-05 needs a J-Plug (missing)

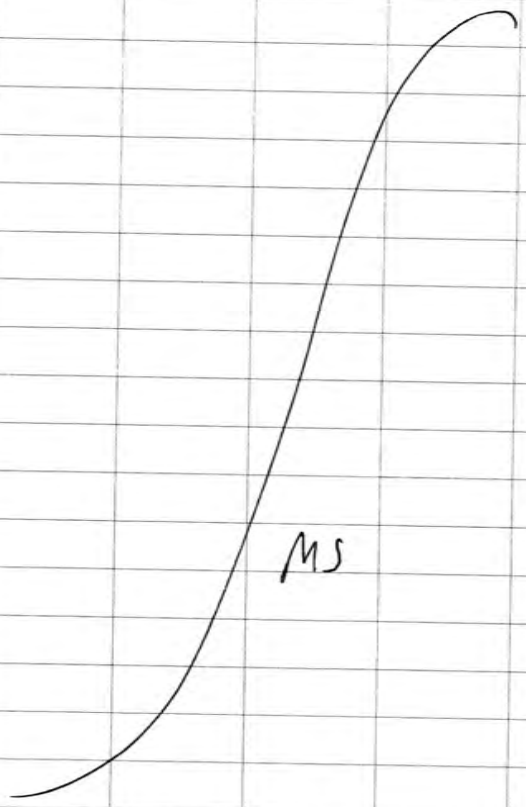
1515 M. Suply, FRoecker off-site.

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

11/4/16 GW Sampling MS/FR
MJ

cont:

- All purge fluds spread on impermeable surface to evaporate



12/2/2016 Well Maintenance/Survey MS/KC

0750 M. Sohy, K Clark (Intera) on-site
-TGSM-

0800 Begin excavating around monitoring well MW-02 in preparation for new well vault and ground flush completion.

0820 G. Rivera, M. Butkus (COA) on-site to open North Rail Yard gates to allow Intera access to monitoring wells MW-06, 07, 08.

0845 K Clark installs 3ft x 3ft wooden frame for ground flush completion, to be filled with concrete.

K. Clark added 2 inch PVC collars and ~3 ft long 2" PVC pipe to bring top of casing to ground surface.

0900 Begin mixing redi-mix 80 lb concrete to pour into new surface completion surrounding 8 inch steel well vault (see photos)

2/2016

12/~~12~~/16 Well Maintenance / Survey MS/KC

MS

1030 M. Sophy off-site to purchase 4 more bags of concrete

1145 - Concrete work complete, allow to cure
Used 10x 80-lb sacks of redi-mix concrete
- Marked "MW-02" on concrete (see photos)

1200 Lunch

1215 Setup to survey top of casing relative elevations of all monitoring wells on-site.
This data will be used to generate a Potentiometric Surface Elevation Map.

Station	Elevation [ft]	Notes
MW-01	100.00	Set as 100.00 base, all other wells relative to MW-01.
MW-02	97.26	
MW-03	100.29	
MW-04	101.12	
MW-05	101.99	
MW-06	~~99.77~~ MS 103.73	
MW-07	102.30	
MW-08	102.65	

2/2016

12/16 Well Maintenance / Survey MS/KC

1415 Survey complete
Check on MW-02 completion → OK
- will leave ~~MS~~ MS wooden frame on well until cement has cured
• Added Keyed alike Locks to all Monitoring wells
- will give 2x copies of keys to G. Rivera (CCA)

1430 M. Sophy, K Clark off-site

FIELD GROUNDWATER SAMPLING FORM (PURGING)

Site Name: ABQ Railyard — Well/Sampling Point ID: MW-07
Project # ABQ Railyard — Groundwater Sample ID: MW-07
Date: 11/4/16 — Duplicate Sample ID:

WIND FROM:	N	NE	E	SE	S	SW	(W)	NW	LIGHT	MEDIUM	HEAVY

WEATHER: Rainy — TEMP: 60 °F

WATER LEVEL & WATER COLUMN HEIGHT

Time	Depth to Well Bottom (DTB) (ft, btoc)	Depth to Water (DTW) (ft, btoc)	Water Column Height (DTB-DTW) (ft)
08:47	44.85	26.74	18.11

ft, btoc = feet below top of casing (north side of casing)

PURGE VOLUME

Well Casing Diam. (inches)	Volume/Linear Foot (see conversions below)	1 Well Volume* (gallons)	2 Well Volumes (gallons)	3 Well Volumes (gallons)
2	@ 0.17	3.08		9.2

PURGE VOLUME CONVERSIONS (Use Well Casing diameter to determine Volume/Linear Foot)

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

WELL PURGE WATER QUALITY

Time	Temp (°C)	pH	Sp. Cond (uS/cm)	DO (mg/L)	ORP (mV)	Vol. (gals)	Visual/Odor
0855	17.5	4.41	695.1	—	—		Clear, no odor
	18.2	4.41	726.1	—	—	2	" "
0900	18.9	4.41	760.9	—	—		" "
0902	18.4	6.85	784.4	—	—	5	Clear, no odor
0905	18.5	7.08	825.5	—	—	6	Clear, no odor
0907	18.5	7.13	818.2	—	—	7	" "
0909	18.5	7.16	819.7	—	—	8	" "
0911	18.6	7.17	830.8	—	—	9	
0911	18.5	7.18	829.2	—	—	9.3	Clear; No Odor

Stabilization = Temp. ±1°C, pH ±0.2 units, Sp. Cond. ±10%

Purge Equipment Used (peristaltic pump, bailer, etc): Disposable Bailer

GROUNDWATER SAMPLING DATA

Bottle Type	Date	Time	Analytical Method	# of Bottles	Volume	Preservative
Glass VOA	11/4/16	0912	~~EDB~~ 504.1	2	40	$Na_2S_2O_3$
Glass VOA	11/4/16	0912	8260	3	40	HCl

TOTAL: 5

Sampling Equipment Used: Oakton

SAMPLER: Matthew J. Soph (PRINTED NAME) (SIGNATURE)

FIELD GROUNDWATER SAMPLING FORM (PURGING)

Site Name: Abq Railyard
Project #
Date: 11/4/16

Well/Sampling Point ID: MW-06
Groundwater Sample ID: MW-06
Duplicate Sample ID:

WIND FROM:	N	NE	E	(SE)	S	SW	W	NW	LIGHT	(MEDIUM)	HEAVY

WEATHER: Cloudy, Rain

TEMP	55 °F

WATER LEVEL & WATER COLUMN HEIGHT

Time	Depth to Well Bottom (DTB) (ft, btoc)	Depth to Water (DTW) (ft, btoc)	Water Column Height (DTB-DTW) (ft)
08 : 32	49.28	26.74	22.54

ft, btoc = feet below top of casing (north side of casing)

PURGE VOLUME

Well Casing Diam. (inches)	Volume/Linear Foot (see conversions below)	1 Well Volume* (gallons)	2 Well Volumes (gallons)	3 Well Volumes (gallons)
2	0.17	3.8		11.4

PURGE VOLUME CONVERSIONS (Use Well Casing diameter to determine Volume/Linear Foot)

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

WELL PURGE WATER QUALITY

Time	Temp (°C)	pH	Sp. Cond (uS/cm)	DO (mg/L)	ORP (mV)	Vol. (gals)	Visual/Odor
0926	18.4	7.43	~~751~~ 751.0	—	—	0.3	Black silty, No Odor
0929	18.9	7.25	776.9	—	—	2.0	Black Silty, No Odor
0933	19.1	7.21	813.3	—	—	5.0	Brown Silt, No Odor
0939	19.0	7.19	807.8	—	—	8.0	Clear, No Odor
0941	19.0	7.19	809.1	—	—	10.0	Clear, No Odor
0945	17.9	7.28	803.2	—	—	11.5	Clear, No Odor

Stabilization = Temp. ±1°C, pH ±0.2 units, Sp. Cond. ±10%

Purge Equipment Used (peristaltic pump, bailer, etc): Bailer

GROUNDWATER SAMPLING DATA

Bottle Type	Date	Time	Analytical Method	# of Bottles	Volume	Preservative
VOA	11/4/16	0947	8260	3	40mL	HCl
VOA	11/4/16	0947	504.1	2	40mL	THIO

TOTAL: 5

Sampling Equipment Used: Oakton pc 450

SAMPLER: Frank Roecker (PRINTED NAME)

(SIGNATURE)

FIELD GROUNDWATER SAMPLING FORM (PURGING)

Site Name: Abq Railyard — Well/Sampling Point ID: MW-08
Project # — Groundwater Sample ID: MW-08
Date: 11/4/16 — Duplicate Sample ID:

WIND FROM:	N	NE	E	SE	S	SW	W	NW	LIGHT	MEDIUM	HEAVY

WEATHER: Overcast, Rainy — TEMP: 55 °F

WATER LEVEL & WATER COLUMN HEIGHT

Time	Depth to Well Bottom (DTB) (ft, btoc)	Depth to Water (DTW) (ft, btoc)	Water Column Height (DTB-DTW) (ft)
08:39	46.11	26.16	19.95

ft, btoc = feet below top of casing (north side of casing)

PURGE VOLUME

Well Casing Diam. (inches)	Volume/Linear Foot (see conversions below)	1 Well Volume* (gallons)	2 Well Volumes (gallons)	3 Well Volumes (gallons)
4	0.66	13.2		39.6

PURGE VOLUME CONVERSIONS (Use Well Casing diameter to determine Volume/Linear Foot)

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

WELL PURGE WATER QUALITY

Time	Temp (°C)	pH	Sp. Cond (uS/cm)	DO (mg/L)	ORP (mV)	Vol. (gals)	Visual/Odor
1047	18.5	7.48	967.7	—	—	0.3	Silty grey; No Odor
1052	18.8	7.26	900.3	—	—	5.0	Silty grey; No Odor
1056	18.9	7.19	955.1	—	—	10.0	Silty Grey; No Odor
1105	18.8	7.17	975.8	—	—	15.0	Silty Grey; No Odor
1112	18.8	7.16	970.2	—	—	20.0	Silty Grey; No Odor
1117	18.8	7.16	982.0	—	—	25.0	Silty Brown; No Odor
1126	18.8	7.17	970.5	—	—	30.0	Silty Brown; No Odor
1135	18.8	7.19	774.2	—	—	35.0	Silty Brown; No Odor
1142	18.8	7.17	951.9	—	—	40.0	Silty Brown; No Odor

Stabilization = Temp. ±1°C, pH ±0.2 units, Sp. Cond. ±10%

Purge Equipment Used (peristaltic pump, bailer, etc): Bailer

GROUNDWATER SAMPLING DATA

Bottle Type	Date	Time	Analytical Method	# of Bottles	Volume	Preservative
VOA	11/4/16	1145	8260	3	40mL	HCl
VOA	11/4/16	1145	504.1	2	40mL	THIO

TOTAL: 5

Sampling Equipment Used: Oakton pc 450

SAMPLER: Frank Roecker (PRINTED NAME) — (SIGNATURE)

FIELD GROUNDWATER SAMPLING FORM (PURGING)

Site Name: Aby Railyard
Project #
Date: 11/4/16

Well/Sampling Point ID: MW-02
Groundwater Sample ID: MW-02
Duplicate Sample ID:

WIND FROM: N | NE | E | (SE) | S | SW | W | NW | LIGHT | (MEDIUM) | HEAVY

WEATHER: Overcast; Windy

TEMP 65 °F

WATER LEVEL & WATER COLUMN HEIGHT

Time	Depth to Well Bottom (DTB) (ft, btoc)	Depth to Water (DTW) (ft, btoc)	Water Column Height (DTB-DTW) (ft)
12 : 45	41.34	19.10	22.24

ft, btoc = feet below top of casing (north side of casing)

PURGE VOLUME

Well Casing Diam. (inches)	Volume/Linear Foot (see conversions below)	1 Well Volume* (gallons)	2 Well Volumes (gallons)	3 Well Volumes (gallons)
2	0.17	3.8		11.4

PURGE VOLUME CONVERSIONS (Use Well Casing diameter to determine Volume/Linear Foot)

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

WELL PURGE WATER QUALITY

Time	Temp (°C)	pH	Sp. Cond (uS/cm)	DO (mg/L)	ORP (mV)	Vol. (gals)	Visual/Odor
1252	17.8	7.94	615.3	—	—	½	Sl clear, slight sulphur odor (clear to light brown (silt))
1255	18.6	7.73	648.2	—	—	2	" " white floating
1258	18.6	7.74	667.8	—	—	4	" " "
1300	18.5	7.74	669.0	—	—	6	clear, white/black floaties, sulphur odor
1303	18.5	7.74	648.2	—	—	8	Clear (light), Sulphur odor
1306	18.5	7.76	667.1	—	—	10	clear (light) white/black floating
1308	18.5	7.74	667.2	—	—	12 ~~11.5~~	

Stabilization = Temp. ±1°C, pH ±0.2 units, Sp. Cond. ±10%

Purge Equipment Used (peristaltic pump, bailer, etc): Bailer

GROUNDWATER SAMPLING DATA

Bottle Type	Date	Time	Analytical Method	# of Bottles	Volume	Preservative
VOA	11/4/16	1310	8260	3	40mL	HCl
VOA	11/4/16	1310	504.1	2	40mL	~~NT~~ THIO
			TOTAL:	5		

Sampling Equipment Used: Waterra pump

SAMPLER: Miller J. Soth
(PRINTED NAME)

(SIGNATURE)

FIELD GROUNDWATER SAMPLING FORM (PURGING)

Site Name: Abq Railyard
Project #
Date: 11/4/16

Well/Sampling Point ID: MW-01
Groundwater Sample ID: MW-01
Duplicate Sample ID:

WIND FROM: N | NE | E | (SE) | S | SW | W | NW | LIGHT | (MEDIUM) | HEAVY

WEATHER: ~~Sunny~~; Breezy Rainy

TEMP 65 °F

WATER LEVEL & WATER COLUMN HEIGHT

Time	Depth to Well Bottom (DTB) (ft, btoc)	Depth to Water (DTW) (ft, btoc)	Water Column Height (DTB-DTW) (ft)
10 : 02	44.16	22.65	21.51

ft, btoc = feet below top of casing (north side of casing)

PURGE VOLUME

Well Casing Diam. (inches)	Volume/Linear Foot (see conversions below)	1 Well Volume* (gallons)	2 Well Volumes (gallons)	3 Well Volumes (gallons)
2	0.17	3.7		11.1

PURGE VOLUME CONVERSIONS (Use Well Casing diameter to determine Volume/Linear Foot)

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

WELL PURGE WATER QUALITY

Time	Temp (°C)	pH	Sp. Cond (uS/cm)	DO (mg/L)	ORP (mV)	Vol. (gals)	Visual/Odor
1319	18.1	7.55	905.9	–	–	½	Hydrocarbon odor, clear
1321	18.9	7.41	980.2	–	–	2	clear to lt gray, HC odor
1324	18.7	7.41	978.8	–	–	4	" "
1326	18.7	7.40	993.0	–	–	6	" "
1329	18.6	7.40	996.0	–	–	8	" "
1332	18.7	7.42	998.8	–	–	10	" "
1334	18.7	7.42	996.0	–	–	11.5	" "

Stabilization = Temp. ±1°C, pH ±0.2 units, Sp. Cond. ±10%

Purge Equipment Used (peristaltic pump, bailer, etc): Bailer

GROUNDWATER SAMPLING DATA

Bottle Type	Date	Time	Analytical Method	# of Bottles	Volume	Preservative
VOA	11/4/16	1335	8260	3	40mL	HCl
VOA	11/4/16	1335	504.1	2	40mL	THIO
			TOTAL:	5		

Sampling Equipment Used: Oakton pc 450

SAMPLER: Matthew J. Sophy (PRINTED NAME) (SIGNATURE)

FIELD GROUNDWATER SAMPLING FORM (PURGING)

Site Name: Abq Railyard — Well/Sampling Point ID: MW-03
Project # — Groundwater Sample ID: MW-03
Date: 11/4/16 — Duplicate Sample ID:

WIND FROM: N | NE | E | (SE) | S | SW | W | NW | LIGHT | (MEDIUM) | HEAVY

WEATHER: Sunny; Breezy Rainy — TEMP 60 °F

WATER LEVEL & WATER COLUMN HEIGHT

Time	Depth to Well Bottom (DTB) (ft, btoc)	Depth to Water (DTW) (ft, btoc)	Water Column Height (DTB-DTW) (ft)
10 : 08	44.75	24.33	20.42

ft, btoc = feet below top of casing (north side of casing)

PURGE VOLUME

Well Casing Diam. (inches)	Volume/Linear Foot (see conversions below)	1 Well Volume* (gallons)	2 Well Volumes (gallons)	3 Well Volumes (gallons)
2	0.17	3.5		10.5

PURGE VOLUME CONVERSIONS (Use Well Casing diameter to determine Volume/Linear Foot)

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

WELL PURGE WATER QUALITY

Time	Temp (°C)	pH	Sp. Cond (uS/cm)	DO (mg/L)	ORP (mV)	Vol. (gals)	Visual/Odor
1345	18.1	7.85	620.1	—	—	½	clear, HC odor
1347	19.2	7.51	640.4	—	—	2	" light gray, HC odor
	19.1	7.42	657.6	—	—	4	" "
1351	19.0	7.40	645.3	—	—	5	clear, HC odor, sheen
1353	19.0	7.37	671.5	—	—	6	" " "
1356	19.0	7.31	676.3	—	—	8	" " "
1358	19.0	7.31	676.4	—	—	10	" " "
1359	19.0	7.31	671.2	—	—	11	" " "

Stabilization = Temp. ±1°C, pH ±0.2 units, Sp. Cond. ±10%

Purge Equipment Used (peristaltic pump, bailer, etc): Bailer

GROUNDWATER SAMPLING DATA

Bottle Type	Date	Time	Analytical Method	# of Bottles	Volume	Preservative
VOA	11/4/16	1402	8260	3	40mL	HCl
VOA	11/4/16	1402	504.1	3	40mL	THIO
			TOTAL:	6		

Sampling Equipment Used: Oakton pc 450

SAMPLER: Matthew J. Soby (PRINTED NAME) (SIGNATURE)

FIELD GROUNDWATER SAMPLING FORM (PURGING)

Site Name: Abq Railyard
Project # ~~MW~~ MS
Date: 11/4/16

Well/Sampling Point ID: MW-04
Groundwater Sample ID: MW-04
Duplicate Sample ID: _____

WIND FROM: N | NE | E | SE | (S) | SW | W | NW | LIGHT | (MEDIUM) | HEAVY

WEATHER: Overcast, Breezy

TEMP: 60 °F

WATER LEVEL & WATER COLUMN HEIGHT

Time	Depth to Well Bottom (DTB) (ft, btoc)	Depth to Water (DTW) (ft, btoc)	Water Column Height (DTB-DTW) (ft)
10 : 15	44.48	25.37	19.11

ft, btoc = feet below top of casing (north side of casing)

PURGE VOLUME

Well Casing Diam. (inches)	Volume/Linear Foot (see conversions below)	1 Well Volume* (gallons)	2 Well Volumes (gallons)	3 Well Volumes (gallons)
2	0.17	3.2		9.6

PURGE VOLUME CONVERSIONS (Use Well Casing diameter to determine Volume/Linear Foot)

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

WELL PURGE WATER QUALITY

Time	Temp (°C)	pH	Sp. Cond (uS/cm)	DO (mg/L)	ORP (mV)	Vol. (gals)	Visual/Odor
1413	18.1	7.70	768.2	—	—	0.3	Clear; Slight HC odor
1415	18.7	7.25	853.8	—	—	2.0	Lt grey; Slight HC odor
1418	18.7	7.20	903.4	—	—	4.0	Lt Gray; Slight HC Odor
1420	18.7	7.20	918.8	—	—	6.0	Clear; HC Odor
1423	18.7	7.18	929.6	—	—	8.0	Clear; HC Odor
1425	18.6	7.18	930.5	—	—	9.0	Clear; HC Odor
1426	18.7	7.18	929.8	—	—	10.0	Clear; HC Odor

Stabilization = Temp. ±1°C, pH ±0.2 units, Sp. Cond. ±10%

Purge Equipment Used (peristaltic pump, bailer, etc): Bailer

GROUNDWATER SAMPLING DATA

Bottle Type	Date	Time	Analytical Method	# of Bottles	Volume	Preservative
VOA	11/4/16	1427	8260	3	40mL	HCl
VOA	11/4/16	1427	504.1	2	40mL	THIO
			TOTAL:	5		

Sampling Equipment Used: Oakton pc 450

SAMPLER: Frank Roeckes (PRINTED NAME) (SIGNATURE)

FIELD GROUNDWATER SAMPLING FORM (PURGING)

Site Name: Aby Railyard — Well/Sampling Point ID: MW-05
Project # — Groundwater Sample ID: MW-05
Date: 11/4/16 — Duplicate Sample ID:

WIND FROM: N | NE | (E) | SE | S | SW | W | NW | LIGHT | MEDIUM | (HEAVY)

WEATHER: Overcast; Breezy — TEMP 60 °F

WATER LEVEL & WATER COLUMN HEIGHT

Time	Depth to Well Bottom (DTB) (ft, btoc)	Depth to Water (DTW) (ft, btoc)	Water Column Height (DTB-DTW) (ft)
10 : 24	46.16	26.52	19.64

ft, btoc = feet below top of casing (north side of casing)

PURGE VOLUME

Well Casing Diam. (inches)	Volume/Linear Foot (see conversions below)	1 Well Volume* (gallons)	2 Well Volumes (gallons)	3 Well Volumes (gallons)
2	0.17	3.3		9.9

PURGE VOLUME CONVERSIONS (Use Well Casing diameter to determine Volume/Linear Foot)

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

WELL PURGE WATER QUALITY

Time	Temp (°C)	pH	Sp. Cond (uS/cm)	DO (mg/L)	ORP (mV)	Vol. (gals)	Visual/Odor
1440	18.2	7.86	549.9	—	—	0.3	Clear; No Odor
1442	18.6	7.34	641.8	—	—	MS 2.0	Lt Grey; No Odor
1445	18.7	7.14	708.8	—	—	4.0	Lt Grey; No Odor
1446	18.7	7.06	774.1	—	—	6.0	Lt Brown; No Odor
1449	18.6	7.02	~~885~~ 803.1	—	—	8.0	Lt Brown; No Odor
1452	18.7	7.01	820.3	—	—	10.0	Lt Brown; No Odor
1454	18.6	7.05	819.5	—	—	11.0	Lt Brown; No Odor

Stabilization = Temp. ±1°C, pH ±0.2 units, Sp. Cond. ±10%

Purge Equipment Used (peristaltic pump, bailer, etc): MS Bailer

GROUNDWATER SAMPLING DATA

Bottle Type	Date	Time	Analytical Method	# of Bottles	Volume	Preservative
VOA	11/4/16	1500	8260	3	40mL	HCl
VOA	11/4/16	1500	504.1	2	40mL	THIO
			TOTAL:	5		

Sampling Equipment Used: Oakton pc450

SAMPLER: Frank Roecker (PRINTED NAME) — (SIGNATURE)

INTERA

Page______of________

MONITORING WELL GAUGING DATA

Project Name: ~~[illegible]~~ Abq Railyard
Water Level Instrument: Solonist Interface Probe / Enviro Supply Water Level
Project No.:
Site:

WELL	DATE	TIME	DEPTH TO PSH (FT BMP)	DEPTH TO WATER (FT BMP)	TOTAL DEPTH (FT BMP)	DESCRIPTION OF MEASURMENT POINT	Water Column (TD - DTW)	3 CV	GAUGER NAME	COMMENTS Diameter, Well Condition, Odor, Well Cap, etc
MW-09	11/4/16									Not Located
MW-08	11/4/16	0839	—	26.16	46.11	TOCN			MS/FR	Cut Lock; 4" Casing, Parted ~4' bgs
MW-06	11/4/16	0832	—	27.44	49.28	TOCN			MS/FR	Cut Lock, JPlug OK, Name on inside Cover
MW-07	11/4/16	0847	—	26.74	44.85	TOCN			MS/FR	Cut Lock; 2"; JPlug OK, Labeled inside Vault
MW-02	11/4/16								MS/FR	
MW-01	11/4/16	1002	—	22.65	44.16	TOCN			MS/FR	Cut Lock; 2"; JPlug OK. Labeled inside Vault
MW-03	11/4/16	1008	—	24.33	44.75	TOCN			MS/FR	Cut Lock; 2"; JPlug OK, Labeled inside vault
MW-04	11/4/16	1015	—	25.37	44.48	TOCN			MS/FR	Cut Lock; 2"; JPlug OK; Labeled inside vault
MW-05	11/4/16	1024	—	26.52	46.16	TOCN			MS/FR	Cut Locks; 2"; Needs J-Plug

BMP: Below Measuring Point

PSH: Phase Separated Hydrocarbon

PURGE VOLUME CONVERSION (1CV): 1"=0.04; 1.5"=0.09; 2"=0.17; 3"=0.38; 4"=0.66; 5"=1.02; 6"=1.5; 8"=2.6; 10"=4.1

Chain-of-Custody Record

Client: Intera

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

Phone #: 505-246-1600

email or Fax#: jtracy@intera.com

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

Accreditation
☐ NELAP ☐ Other ____________

☑ EDD (Type) Excel

Turn-Around Time:
☑ Standard ☐ **Rush**

Project Name: Abq Railyard

Project #: COA.0CSS.H17

Project Manager: Joe Tracy / Elena Marcello

Sampler: Matt Sechy, Frank Roecker

On Ice: ☑ Yes ☐ No

Sample Temperature: 1.3

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No.	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)				Air Bubbles (Y or N)
11/4/16	0912	AQ	MW-07	VOA 3 VOA 2	HCl SOTH						X					X					
11/4/16	0947	AQ	MW-06	VOA 3 VOA 2	HCl SOTH						X					X					
11/4/16	1145	AQ	MW-08	VOA 3 VOA 2	HCl SOTH						X					X					
11/4/16	1310	AQ	MW-02	VOA 3 VOA 2	HCl SOTH						X					X					
11/4/16	1335	AQ	MW-01	VOA 3 VOA 2	HCl SOTH						X					X					
11/4/16	1402	AQ	MW-03	VOA 3x VOA 2x	HCl SOTH						X					X					
11/4/16	1427	AQ	MW-04	VOA 3x VOA 2x	HCl SOTH						X					X					
11/4/16	1500	AQ	MW-05	VOA 3 VOA 2	HCl SOTH						X					X					
			Trip Blank																		

Date:	Time:	Relinquished by:	Received by:	Date	Time
11/4/16	1532	[signature]	[signature]	11/04/16	1530
Date:	Time:	Relinquished by:	Received by:	Date	Time

Remarks: cc results to emarcello@intera.com

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 B

Photograph Log

No. 1 – INTERA staff attempting to locate monitoring well MW-09. The well was not located during the November 2016 field event.

No. 2 – INTERA staff collecting a groundwater sample at monitoring well MW-08.

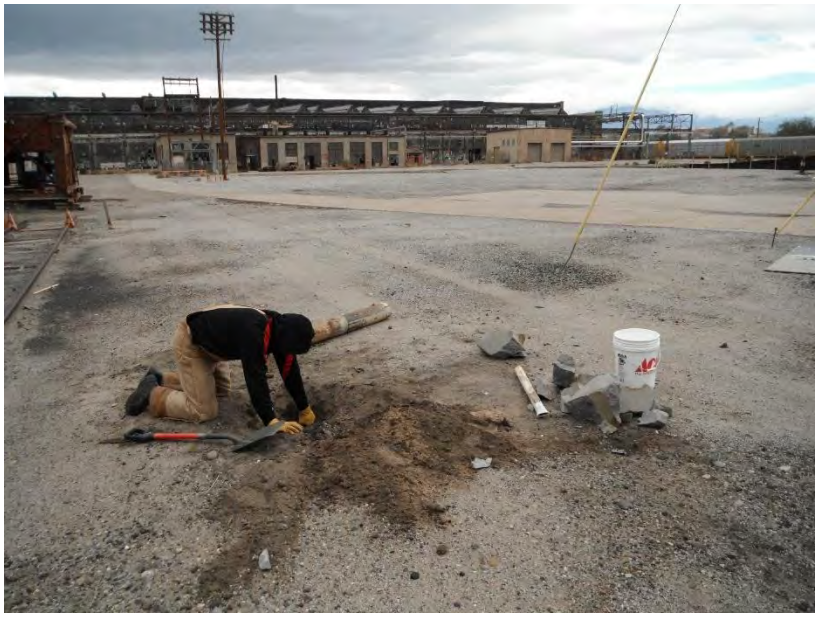
No. 3 – INTERA staff collecting a groundwater sample at monitoring well MW-07.

No. 4 – INTERA staff collecting a groundwater sample at monitoring well MW-06.

No. 5 – INTERA staff collecting a groundwater sample at monitoring well MW-03.

No. 6 – INTERA staff collecting a groundwater sample at monitoring well MW-04.

No. 7 – INTERA staff collecting a groundwater sample at monitoring well MW-05.



No. 8 – INTERA staff removing the broken well riser and debris surrounding monitoring well MW-02. The well was sampled during the November 2016 monitoring event. INTERA staff modified the well head with an 8-inch ground flush vault and concrete apron.

No. 9 – INTERA staff collecting a groundwater sample at monitoring well MW-01.

No. 10 – INTERA staff preparing to modify the surface completion at monitoring well MW-02. December 2016.

No. 11 – INTERA staff added 3 feet of 2-inch diameter PVC casing to the top of monitoring well MW-02. The top of casing elevation was re-surveyed after the modifications.

No. 12 – INTERA staff building a wooden frame surrounding the 8-inch well vault at monitoring well MW-02.

No. 13 – INTERA staff pouring the ground-flush cement apron around monitoring well MW-02.

No. 14 – Monitoring well MW-02 surface completion as of December 2016.

No. 15 – INTERA staff re-surveyed the top of casing elevations for all 8 monitoring wells at the Site.

APPENDIX C

Laboratory Analytical Report – Groundwater

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

November 15, 2016

Joseph Tracy

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

RE: Abq Railyard OrderNo.: 1611262

Dear Joseph Tracy:

Hall Environmental Analysis Laboratory received 9 sample(s) on 11/4/2016 for the analyses presented in the following report.

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

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

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Intera, Inc. **Client Sample ID:** MW-07
Project: Abq Railyard **Collection Date:** 11/4/2016 9:12:00 AM
Lab ID: 1611262-001 **Matrix:** AQUEOUS **Received Date:** 11/4/2016 3:30:00 PM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8011/504.1: EDB						Analyst: **JME**	
1,2-Dibromoethane	ND	0.010		µg/L	1	11/10/2016 3:43:16 PM	28583
EPA METHOD 8260B: VOLATILES						Analyst: **DJF**	
Benzene	ND	1.0		µg/L	1	11/10/2016 5:59:40 AM	W38593
Toluene	ND	1.0		µg/L	1	11/10/2016 5:59:40 AM	W38593
Ethylbenzene	ND	1.0		µg/L	1	11/10/2016 5:59:40 AM	W38593
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	11/10/2016 5:59:40 AM	W38593
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	11/10/2016 5:59:40 AM	W38593
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	11/10/2016 5:59:40 AM	W38593
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	11/10/2016 5:59:40 AM	W38593
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	11/10/2016 5:59:40 AM	W38593
Naphthalene	ND	2.0		µg/L	1	11/10/2016 5:59:40 AM	W38593
1-Methylnaphthalene	ND	4.0		µg/L	1	11/10/2016 5:59:40 AM	W38593
2-Methylnaphthalene	ND	4.0		µg/L	1	11/10/2016 5:59:40 AM	W38593
Acetone	ND	10		µg/L	1	11/10/2016 5:59:40 AM	W38593
Bromobenzene	ND	1.0		µg/L	1	11/10/2016 5:59:40 AM	W38593
Bromodichloromethane	ND	1.0		µg/L	1	11/10/2016 5:59:40 AM	W38593
Bromoform	ND	1.0		µg/L	1	11/10/2016 5:59:40 AM	W38593
Bromomethane	ND	3.0		µg/L	1	11/10/2016 5:59:40 AM	W38593
2-Butanone	ND	10		µg/L	1	11/10/2016 5:59:40 AM	W38593
Carbon disulfide	ND	10		µg/L	1	11/10/2016 5:59:40 AM	W38593
Carbon Tetrachloride	ND	1.0		µg/L	1	11/10/2016 5:59:40 AM	W38593
Chlorobenzene	ND	1.0		µg/L	1	11/10/2016 5:59:40 AM	W38593
Chloroethane	ND	2.0		µg/L	1	11/10/2016 5:59:40 AM	W38593
Chloroform	ND	1.0		µg/L	1	11/10/2016 5:59:40 AM	W38593
Chloromethane	ND	3.0		µg/L	1	11/10/2016 5:59:40 AM	W38593
2-Chlorotoluene	ND	1.0		µg/L	1	11/10/2016 5:59:40 AM	W38593
4-Chlorotoluene	ND	1.0		µg/L	1	11/10/2016 5:59:40 AM	W38593
cis-1,2-DCE	ND	1.0		µg/L	1	11/10/2016 5:59:40 AM	W38593
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	11/10/2016 5:59:40 AM	W38593
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	11/10/2016 5:59:40 AM	W38593
Dibromochloromethane	ND	1.0		µg/L	1	11/10/2016 5:59:40 AM	W38593
Dibromomethane	ND	1.0		µg/L	1	11/10/2016 5:59:40 AM	W38593
1,2-Dichlorobenzene	ND	1.0		µg/L	1	11/10/2016 5:59:40 AM	W38593
1,3-Dichlorobenzene	ND	1.0		µg/L	1	11/10/2016 5:59:40 AM	W38593
1,4-Dichlorobenzene	ND	1.0		µg/L	1	11/10/2016 5:59:40 AM	W38593
Dichlorodifluoromethane	ND	1.0		µg/L	1	11/10/2016 5:59:40 AM	W38593
1,1-Dichloroethane	ND	1.0		µg/L	1	11/10/2016 5:59:40 AM	W38593
1,1-Dichloroethene	ND	1.0		µg/L	1	11/10/2016 5:59:40 AM	W38593
1,2-Dichloropropane	ND	1.0		µg/L	1	11/10/2016 5:59:40 AM	W38593

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Intera, Inc. **Client Sample ID:** MW-07
Project: Abq Railyard **Collection Date:** 11/4/2016 9:12:00 AM
Lab ID: 1611262-001 **Matrix:** AQUEOUS **Received Date:** 11/4/2016 3:30:00 PM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **DJF**	
1,3-Dichloropropane	ND	1.0		µg/L	1	11/10/2016 5:59:40 AM	W38593
2,2-Dichloropropane	ND	2.0		µg/L	1	11/10/2016 5:59:40 AM	W38593
1,1-Dichloropropene	ND	1.0		µg/L	1	11/10/2016 5:59:40 AM	W38593
Hexachlorobutadiene	ND	1.0		µg/L	1	11/10/2016 5:59:40 AM	W38593
2-Hexanone	ND	10		µg/L	1	11/10/2016 5:59:40 AM	W38593
Isopropylbenzene	ND	1.0		µg/L	1	11/10/2016 5:59:40 AM	W38593
4-Isopropyltoluene	ND	1.0		µg/L	1	11/10/2016 5:59:40 AM	W38593
4-Methyl-2-pentanone	ND	10		µg/L	1	11/10/2016 5:59:40 AM	W38593
Methylene Chloride	ND	3.0		µg/L	1	11/10/2016 5:59:40 AM	W38593
n-Butylbenzene	ND	3.0		µg/L	1	11/10/2016 5:59:40 AM	W38593
n-Propylbenzene	ND	1.0		µg/L	1	11/10/2016 5:59:40 AM	W38593
sec-Butylbenzene	ND	1.0		µg/L	1	11/10/2016 5:59:40 AM	W38593
Styrene	ND	1.0		µg/L	1	11/10/2016 5:59:40 AM	W38593
tert-Butylbenzene	ND	1.0		µg/L	1	11/10/2016 5:59:40 AM	W38593
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	11/10/2016 5:59:40 AM	W38593
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	11/10/2016 5:59:40 AM	W38593
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	11/10/2016 5:59:40 AM	W38593
trans-1,2-DCE	ND	1.0		µg/L	1	11/10/2016 5:59:40 AM	W38593
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	11/10/2016 5:59:40 AM	W38593
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	11/10/2016 5:59:40 AM	W38593
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	11/10/2016 5:59:40 AM	W38593
1,1,1-Trichloroethane	ND	1.0		µg/L	1	11/10/2016 5:59:40 AM	W38593
1,1,2-Trichloroethane	ND	1.0		µg/L	1	11/10/2016 5:59:40 AM	W38593
Trichloroethene (TCE)	ND	1.0		µg/L	1	11/10/2016 5:59:40 AM	W38593
Trichlorofluoromethane	ND	1.0		µg/L	1	11/10/2016 5:59:40 AM	W38593
1,2,3-Trichloropropane	ND	2.0		µg/L	1	11/10/2016 5:59:40 AM	W38593
Vinyl chloride	ND	1.0		µg/L	1	11/10/2016 5:59:40 AM	W38593
Xylenes, Total	ND	1.5		µg/L	1	11/10/2016 5:59:40 AM	W38593
Surr: 1,2-Dichloroethane-d4	93.6	70-130		%Rec	1	11/10/2016 5:59:40 AM	W38593
Surr: 4-Bromofluorobenzene	94.7	70-130		%Rec	1	11/10/2016 5:59:40 AM	W38593
Surr: Dibromofluoromethane	96.0	70-130		%Rec	1	11/10/2016 5:59:40 AM	W38593
Surr: Toluene-d8	96.2	70-130		%Rec	1	11/10/2016 5:59:40 AM	W38593

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Intera, Inc. **Client Sample ID:** MW-06
Project: Abq Railyard **Collection Date:** 11/4/2016 9:47:00 AM
Lab ID: 1611262-002 **Matrix:** AQUEOUS **Received Date:** 11/4/2016 3:30:00 PM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8011/504.1: EDB						Analyst: **JME**	
1,2-Dibromoethane	ND	0.010		µg/L	1	11/10/2016 3:58:16 PM	28583
EPA METHOD 8260B: VOLATILES						Analyst: **DJF**	
Benzene	ND	1.0		µg/L	1	11/10/2016 6:28:08 AM	W38593
Toluene	ND	1.0		µg/L	1	11/10/2016 6:28:08 AM	W38593
Ethylbenzene	ND	1.0		µg/L	1	11/10/2016 6:28:08 AM	W38593
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	11/10/2016 6:28:08 AM	W38593
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	11/10/2016 6:28:08 AM	W38593
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	11/10/2016 6:28:08 AM	W38593
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	11/10/2016 6:28:08 AM	W38593
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	11/10/2016 6:28:08 AM	W38593
Naphthalene	ND	2.0		µg/L	1	11/10/2016 6:28:08 AM	W38593
1-Methylnaphthalene	ND	4.0		µg/L	1	11/10/2016 6:28:08 AM	W38593
2-Methylnaphthalene	ND	4.0		µg/L	1	11/10/2016 6:28:08 AM	W38593
Acetone	ND	10		µg/L	1	11/10/2016 6:28:08 AM	W38593
Bromobenzene	ND	1.0		µg/L	1	11/10/2016 6:28:08 AM	W38593
Bromodichloromethane	ND	1.0		µg/L	1	11/10/2016 6:28:08 AM	W38593
Bromoform	ND	1.0		µg/L	1	11/10/2016 6:28:08 AM	W38593
Bromomethane	ND	3.0		µg/L	1	11/10/2016 6:28:08 AM	W38593
2-Butanone	ND	10		µg/L	1	11/10/2016 6:28:08 AM	W38593
Carbon disulfide	ND	10		µg/L	1	11/10/2016 6:28:08 AM	W38593
Carbon Tetrachloride	ND	1.0		µg/L	1	11/10/2016 6:28:08 AM	W38593
Chlorobenzene	ND	1.0		µg/L	1	11/10/2016 6:28:08 AM	W38593
Chloroethane	ND	2.0		µg/L	1	11/10/2016 6:28:08 AM	W38593
Chloroform	ND	1.0		µg/L	1	11/10/2016 6:28:08 AM	W38593
Chloromethane	ND	3.0		µg/L	1	11/10/2016 6:28:08 AM	W38593
2-Chlorotoluene	ND	1.0		µg/L	1	11/10/2016 6:28:08 AM	W38593
4-Chlorotoluene	ND	1.0		µg/L	1	11/10/2016 6:28:08 AM	W38593
cis-1,2-DCE	ND	1.0		µg/L	1	11/10/2016 6:28:08 AM	W38593
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	11/10/2016 6:28:08 AM	W38593
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	11/10/2016 6:28:08 AM	W38593
Dibromochloromethane	ND	1.0		µg/L	1	11/10/2016 6:28:08 AM	W38593
Dibromomethane	ND	1.0		µg/L	1	11/10/2016 6:28:08 AM	W38593
1,2-Dichlorobenzene	ND	1.0		µg/L	1	11/10/2016 6:28:08 AM	W38593
1,3-Dichlorobenzene	ND	1.0		µg/L	1	11/10/2016 6:28:08 AM	W38593
1,4-Dichlorobenzene	ND	1.0		µg/L	1	11/10/2016 6:28:08 AM	W38593
Dichlorodifluoromethane	ND	1.0		µg/L	1	11/10/2016 6:28:08 AM	W38593
1,1-Dichloroethane	ND	1.0		µg/L	1	11/10/2016 6:28:08 AM	W38593
1,1-Dichloroethene	ND	1.0		µg/L	1	11/10/2016 6:28:08 AM	W38593
1,2-Dichloropropane	ND	1.0		µg/L	1	11/10/2016 6:28:08 AM	W38593

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Intera, Inc. **Client Sample ID:** MW-06
Project: Abq Railyard **Collection Date:** 11/4/2016 9:47:00 AM
Lab ID: 1611262-002 **Matrix:** AQUEOUS **Received Date:** 11/4/2016 3:30:00 PM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **DJF**	
1,3-Dichloropropane	ND	1.0		µg/L	1	11/10/2016 6:28:08 AM	W38593
2,2-Dichloropropane	ND	2.0		µg/L	1	11/10/2016 6:28:08 AM	W38593
1,1-Dichloropropene	ND	1.0		µg/L	1	11/10/2016 6:28:08 AM	W38593
Hexachlorobutadiene	ND	1.0		µg/L	1	11/10/2016 6:28:08 AM	W38593
2-Hexanone	ND	10		µg/L	1	11/10/2016 6:28:08 AM	W38593
Isopropylbenzene	ND	1.0		µg/L	1	11/10/2016 6:28:08 AM	W38593
4-Isopropyltoluene	ND	1.0		µg/L	1	11/10/2016 6:28:08 AM	W38593
4-Methyl-2-pentanone	ND	10		µg/L	1	11/10/2016 6:28:08 AM	W38593
Methylene Chloride	ND	3.0		µg/L	1	11/10/2016 6:28:08 AM	W38593
n-Butylbenzene	ND	3.0		µg/L	1	11/10/2016 6:28:08 AM	W38593
n-Propylbenzene	ND	1.0		µg/L	1	11/10/2016 6:28:08 AM	W38593
sec-Butylbenzene	ND	1.0		µg/L	1	11/10/2016 6:28:08 AM	W38593
Styrene	ND	1.0		µg/L	1	11/10/2016 6:28:08 AM	W38593
tert-Butylbenzene	ND	1.0		µg/L	1	11/10/2016 6:28:08 AM	W38593
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	11/10/2016 6:28:08 AM	W38593
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	11/10/2016 6:28:08 AM	W38593
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	11/10/2016 6:28:08 AM	W38593
trans-1,2-DCE	ND	1.0		µg/L	1	11/10/2016 6:28:08 AM	W38593
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	11/10/2016 6:28:08 AM	W38593
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	11/10/2016 6:28:08 AM	W38593
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	11/10/2016 6:28:08 AM	W38593
1,1,1-Trichloroethane	ND	1.0		µg/L	1	11/10/2016 6:28:08 AM	W38593
1,1,2-Trichloroethane	ND	1.0		µg/L	1	11/10/2016 6:28:08 AM	W38593
Trichloroethene (TCE)	ND	1.0		µg/L	1	11/10/2016 6:28:08 AM	W38593
Trichlorofluoromethane	ND	1.0		µg/L	1	11/10/2016 6:28:08 AM	W38593
1,2,3-Trichloropropane	ND	2.0		µg/L	1	11/10/2016 6:28:08 AM	W38593
Vinyl chloride	ND	1.0		µg/L	1	11/10/2016 6:28:08 AM	W38593
Xylenes, Total	ND	1.5		µg/L	1	11/10/2016 6:28:08 AM	W38593
Surr: 1,2-Dichloroethane-d4	91.3	70-130		%Rec	1	11/10/2016 6:28:08 AM	W38593
Surr: 4-Bromofluorobenzene	94.2	70-130		%Rec	1	11/10/2016 6:28:08 AM	W38593
Surr: Dibromofluoromethane	95.4	70-130		%Rec	1	11/10/2016 6:28:08 AM	W38593
Surr: Toluene-d8	97.1	70-130		%Rec	1	11/10/2016 6:28:08 AM	W38593

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Intera, Inc. **Client Sample ID:** MW-08
Project: Abq Railyard **Collection Date:** 11/4/2016 11:45:00 AM
Lab ID: 1611262-003 **Matrix:** AQUEOUS **Received Date:** 11/4/2016 3:30:00 PM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8011/504.1: EDB						Analyst: **JME**	
1,2-Dibromoethane	ND	0.010		µg/L	1	11/10/2016 4:13:20 PM	28583
EPA METHOD 8260B: VOLATILES						Analyst: **DJF**	
Benzene	ND	1.0		µg/L	1	11/10/2016 6:56:36 AM	W38593
Toluene	ND	1.0		µg/L	1	11/10/2016 6:56:36 AM	W38593
Ethylbenzene	ND	1.0		µg/L	1	11/10/2016 6:56:36 AM	W38593
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	11/10/2016 6:56:36 AM	W38593
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	11/10/2016 6:56:36 AM	W38593
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	11/10/2016 6:56:36 AM	W38593
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	11/10/2016 6:56:36 AM	W38593
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	11/10/2016 6:56:36 AM	W38593
Naphthalene	ND	2.0		µg/L	1	11/10/2016 6:56:36 AM	W38593
1-Methylnaphthalene	ND	4.0		µg/L	1	11/10/2016 6:56:36 AM	W38593
2-Methylnaphthalene	ND	4.0		µg/L	1	11/10/2016 6:56:36 AM	W38593
Acetone	ND	10		µg/L	1	11/10/2016 6:56:36 AM	W38593
Bromobenzene	ND	1.0		µg/L	1	11/10/2016 6:56:36 AM	W38593
Bromodichloromethane	ND	1.0		µg/L	1	11/10/2016 6:56:36 AM	W38593
Bromoform	ND	1.0		µg/L	1	11/10/2016 6:56:36 AM	W38593
Bromomethane	ND	3.0		µg/L	1	11/10/2016 6:56:36 AM	W38593
2-Butanone	ND	10		µg/L	1	11/10/2016 6:56:36 AM	W38593
Carbon disulfide	ND	10		µg/L	1	11/10/2016 6:56:36 AM	W38593
Carbon Tetrachloride	ND	1.0		µg/L	1	11/10/2016 6:56:36 AM	W38593
Chlorobenzene	ND	1.0		µg/L	1	11/10/2016 6:56:36 AM	W38593
Chloroethane	ND	2.0		µg/L	1	11/10/2016 6:56:36 AM	W38593
Chloroform	ND	1.0		µg/L	1	11/10/2016 6:56:36 AM	W38593
Chloromethane	ND	3.0		µg/L	1	11/10/2016 6:56:36 AM	W38593
2-Chlorotoluene	ND	1.0		µg/L	1	11/10/2016 6:56:36 AM	W38593
4-Chlorotoluene	ND	1.0		µg/L	1	11/10/2016 6:56:36 AM	W38593
cis-1,2-DCE	ND	1.0		µg/L	1	11/10/2016 6:56:36 AM	W38593
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	11/10/2016 6:56:36 AM	W38593
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	11/10/2016 6:56:36 AM	W38593
Dibromochloromethane	ND	1.0		µg/L	1	11/10/2016 6:56:36 AM	W38593
Dibromomethane	ND	1.0		µg/L	1	11/10/2016 6:56:36 AM	W38593
1,2-Dichlorobenzene	ND	1.0		µg/L	1	11/10/2016 6:56:36 AM	W38593
1,3-Dichlorobenzene	ND	1.0		µg/L	1	11/10/2016 6:56:36 AM	W38593
1,4-Dichlorobenzene	ND	1.0		µg/L	1	11/10/2016 6:56:36 AM	W38593
Dichlorodifluoromethane	ND	1.0		µg/L	1	11/10/2016 6:56:36 AM	W38593
1,1-Dichloroethane	ND	1.0		µg/L	1	11/10/2016 6:56:36 AM	W38593
1,1-Dichloroethene	ND	1.0		µg/L	1	11/10/2016 6:56:36 AM	W38593
1,2-Dichloropropane	ND	1.0		µg/L	1	11/10/2016 6:56:36 AM	W38593

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Intera, Inc. **Client Sample ID:** MW-08
Project: Abq Railyard **Collection Date:** 11/4/2016 11:45:00 AM
Lab ID: 1611262-003 **Matrix:** AQUEOUS **Received Date:** 11/4/2016 3:30:00 PM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **DJF**	
1,3-Dichloropropane	ND	1.0		µg/L	1	11/10/2016 6:56:36 AM	W38593
2,2-Dichloropropane	ND	2.0		µg/L	1	11/10/2016 6:56:36 AM	W38593
1,1-Dichloropropene	ND	1.0		µg/L	1	11/10/2016 6:56:36 AM	W38593
Hexachlorobutadiene	ND	1.0		µg/L	1	11/10/2016 6:56:36 AM	W38593
2-Hexanone	ND	10		µg/L	1	11/10/2016 6:56:36 AM	W38593
Isopropylbenzene	ND	1.0		µg/L	1	11/10/2016 6:56:36 AM	W38593
4-Isopropyltoluene	ND	1.0		µg/L	1	11/10/2016 6:56:36 AM	W38593
4-Methyl-2-pentanone	ND	10		µg/L	1	11/10/2016 6:56:36 AM	W38593
Methylene Chloride	ND	3.0		µg/L	1	11/10/2016 6:56:36 AM	W38593
n-Butylbenzene	ND	3.0		µg/L	1	11/10/2016 6:56:36 AM	W38593
n-Propylbenzene	ND	1.0		µg/L	1	11/10/2016 6:56:36 AM	W38593
sec-Butylbenzene	ND	1.0		µg/L	1	11/10/2016 6:56:36 AM	W38593
Styrene	ND	1.0		µg/L	1	11/10/2016 6:56:36 AM	W38593
tert-Butylbenzene	ND	1.0		µg/L	1	11/10/2016 6:56:36 AM	W38593
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	11/10/2016 6:56:36 AM	W38593
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	11/10/2016 6:56:36 AM	W38593
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	11/10/2016 6:56:36 AM	W38593
trans-1,2-DCE	ND	1.0		µg/L	1	11/10/2016 6:56:36 AM	W38593
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	11/10/2016 6:56:36 AM	W38593
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	11/10/2016 6:56:36 AM	W38593
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	11/10/2016 6:56:36 AM	W38593
1,1,1-Trichloroethane	ND	1.0		µg/L	1	11/10/2016 6:56:36 AM	W38593
1,1,2-Trichloroethane	ND	1.0		µg/L	1	11/10/2016 6:56:36 AM	W38593
Trichloroethene (TCE)	ND	1.0		µg/L	1	11/10/2016 6:56:36 AM	W38593
Trichlorofluoromethane	ND	1.0		µg/L	1	11/10/2016 6:56:36 AM	W38593
1,2,3-Trichloropropane	ND	2.0		µg/L	1	11/10/2016 6:56:36 AM	W38593
Vinyl chloride	ND	1.0		µg/L	1	11/10/2016 6:56:36 AM	W38593
Xylenes, Total	ND	1.5		µg/L	1	11/10/2016 6:56:36 AM	W38593
Surr: 1,2-Dichloroethane-d4	91.5	70-130		%Rec	1	11/10/2016 6:56:36 AM	W38593
Surr: 4-Bromofluorobenzene	91.0	70-130		%Rec	1	11/10/2016 6:56:36 AM	W38593
Surr: Dibromofluoromethane	93.5	70-130		%Rec	1	11/10/2016 6:56:36 AM	W38593
Surr: Toluene-d8	96.1	70-130		%Rec	1	11/10/2016 6:56:36 AM	W38593

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Intera, Inc. **Client Sample ID:** MW-02
Project: Abq Railyard **Collection Date:** 11/4/2016 1:10:00 PM
Lab ID: 1611262-004 **Matrix:** AQUEOUS **Received Date:** 11/4/2016 3:30:00 PM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8011/504.1: EDB						Analyst: **JME**	
1,2-Dibromoethane	ND	0.010		µg/L	1	11/10/2016 4:28:21 PM	28583
EPA METHOD 8260B: VOLATILES						Analyst: **DJF**	
Benzene	ND	1.0		µg/L	1	11/10/2016 7:24:53 AM	W38593
Toluene	ND	1.0		µg/L	1	11/10/2016 7:24:53 AM	W38593
Ethylbenzene	ND	1.0		µg/L	1	11/10/2016 7:24:53 AM	W38593
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	11/10/2016 7:24:53 AM	W38593
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	11/10/2016 7:24:53 AM	W38593
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	11/10/2016 7:24:53 AM	W38593
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	11/10/2016 7:24:53 AM	W38593
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	11/10/2016 7:24:53 AM	W38593
Naphthalene	ND	2.0		µg/L	1	11/10/2016 7:24:53 AM	W38593
1-Methylnaphthalene	ND	4.0		µg/L	1	11/10/2016 7:24:53 AM	W38593
2-Methylnaphthalene	ND	4.0		µg/L	1	11/10/2016 7:24:53 AM	W38593
Acetone	ND	10		µg/L	1	11/10/2016 7:24:53 AM	W38593
Bromobenzene	ND	1.0		µg/L	1	11/10/2016 7:24:53 AM	W38593
Bromodichloromethane	ND	1.0		µg/L	1	11/10/2016 7:24:53 AM	W38593
Bromoform	ND	1.0		µg/L	1	11/10/2016 7:24:53 AM	W38593
Bromomethane	ND	3.0		µg/L	1	11/10/2016 7:24:53 AM	W38593
2-Butanone	ND	10		µg/L	1	11/10/2016 7:24:53 AM	W38593
Carbon disulfide	ND	10		µg/L	1	11/10/2016 7:24:53 AM	W38593
Carbon Tetrachloride	ND	1.0		µg/L	1	11/10/2016 7:24:53 AM	W38593
Chlorobenzene	ND	1.0		µg/L	1	11/10/2016 7:24:53 AM	W38593
Chloroethane	ND	2.0		µg/L	1	11/10/2016 7:24:53 AM	W38593
Chloroform	ND	1.0		µg/L	1	11/10/2016 7:24:53 AM	W38593
Chloromethane	ND	3.0		µg/L	1	11/10/2016 7:24:53 AM	W38593
2-Chlorotoluene	ND	1.0		µg/L	1	11/10/2016 7:24:53 AM	W38593
4-Chlorotoluene	ND	1.0		µg/L	1	11/10/2016 7:24:53 AM	W38593
cis-1,2-DCE	ND	1.0		µg/L	1	11/10/2016 7:24:53 AM	W38593
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	11/10/2016 7:24:53 AM	W38593
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	11/10/2016 7:24:53 AM	W38593
Dibromochloromethane	ND	1.0		µg/L	1	11/10/2016 7:24:53 AM	W38593
Dibromomethane	ND	1.0		µg/L	1	11/10/2016 7:24:53 AM	W38593
1,2-Dichlorobenzene	ND	1.0		µg/L	1	11/10/2016 7:24:53 AM	W38593
1,3-Dichlorobenzene	ND	1.0		µg/L	1	11/10/2016 7:24:53 AM	W38593
1,4-Dichlorobenzene	ND	1.0		µg/L	1	11/10/2016 7:24:53 AM	W38593
Dichlorodifluoromethane	ND	1.0		µg/L	1	11/10/2016 7:24:53 AM	W38593
1,1-Dichloroethane	ND	1.0		µg/L	1	11/10/2016 7:24:53 AM	W38593
1,1-Dichloroethene	ND	1.0		µg/L	1	11/10/2016 7:24:53 AM	W38593
1,2-Dichloropropane	ND	1.0		µg/L	1	11/10/2016 7:24:53 AM	W38593

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Intera, Inc. **Client Sample ID:** MW-02
Project: Abq Railyard **Collection Date:** 11/4/2016 1:10:00 PM
Lab ID: 1611262-004 **Matrix:** AQUEOUS **Received Date:** 11/4/2016 3:30:00 PM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **DJF**	
1,3-Dichloropropane	ND	1.0		µg/L	1	11/10/2016 7:24:53 AM	W38593
2,2-Dichloropropane	ND	2.0		µg/L	1	11/10/2016 7:24:53 AM	W38593
1,1-Dichloropropene	ND	1.0		µg/L	1	11/10/2016 7:24:53 AM	W38593
Hexachlorobutadiene	ND	1.0		µg/L	1	11/10/2016 7:24:53 AM	W38593
2-Hexanone	ND	10		µg/L	1	11/10/2016 7:24:53 AM	W38593
Isopropylbenzene	ND	1.0		µg/L	1	11/10/2016 7:24:53 AM	W38593
4-Isopropyltoluene	ND	1.0		µg/L	1	11/10/2016 7:24:53 AM	W38593
4-Methyl-2-pentanone	ND	10		µg/L	1	11/10/2016 7:24:53 AM	W38593
Methylene Chloride	ND	3.0		µg/L	1	11/10/2016 7:24:53 AM	W38593
n-Butylbenzene	ND	3.0		µg/L	1	11/10/2016 7:24:53 AM	W38593
n-Propylbenzene	ND	1.0		µg/L	1	11/10/2016 7:24:53 AM	W38593
sec-Butylbenzene	ND	1.0		µg/L	1	11/10/2016 7:24:53 AM	W38593
Styrene	ND	1.0		µg/L	1	11/10/2016 7:24:53 AM	W38593
tert-Butylbenzene	ND	1.0		µg/L	1	11/10/2016 7:24:53 AM	W38593
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	11/10/2016 7:24:53 AM	W38593
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	11/10/2016 7:24:53 AM	W38593
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	11/10/2016 7:24:53 AM	W38593
trans-1,2-DCE	ND	1.0		µg/L	1	11/10/2016 7:24:53 AM	W38593
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	11/10/2016 7:24:53 AM	W38593
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	11/10/2016 7:24:53 AM	W38593
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	11/10/2016 7:24:53 AM	W38593
1,1,1-Trichloroethane	ND	1.0		µg/L	1	11/10/2016 7:24:53 AM	W38593
1,1,2-Trichloroethane	ND	1.0		µg/L	1	11/10/2016 7:24:53 AM	W38593
Trichloroethene (TCE)	ND	1.0		µg/L	1	11/10/2016 7:24:53 AM	W38593
Trichlorofluoromethane	ND	1.0		µg/L	1	11/10/2016 7:24:53 AM	W38593
1,2,3-Trichloropropane	ND	2.0		µg/L	1	11/10/2016 7:24:53 AM	W38593
Vinyl chloride	ND	1.0		µg/L	1	11/10/2016 7:24:53 AM	W38593
Xylenes, Total	ND	1.5		µg/L	1	11/10/2016 7:24:53 AM	W38593
Surr: 1,2-Dichloroethane-d4	91.3	70-130		%Rec	1	11/10/2016 7:24:53 AM	W38593
Surr: 4-Bromofluorobenzene	94.7	70-130		%Rec	1	11/10/2016 7:24:53 AM	W38593
Surr: Dibromofluoromethane	91.4	70-130		%Rec	1	11/10/2016 7:24:53 AM	W38593
Surr: Toluene-d8	97.6	70-130		%Rec	1	11/10/2016 7:24:53 AM	W38593

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Intera, Inc. **Client Sample ID:** MW-01
Project: Abq Railyard **Collection Date:** 11/4/2016 1:35:00 PM
Lab ID: 1611262-005 **Matrix:** AQUEOUS **Received Date:** 11/4/2016 3:30:00 PM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8011/504.1: EDB						Analyst: **JME**	
1,2-Dibromoethane	ND	0.010		µg/L	1	11/10/2016 4:43:21 PM	28583
EPA METHOD 8260B: VOLATILES						Analyst: **DJF**	
Benzene	ND	1.0		µg/L	1	11/11/2016 11:18:08 AM	W38603
Toluene	ND	1.0		µg/L	1	11/11/2016 11:18:08 AM	W38603
Ethylbenzene	ND	1.0		µg/L	1	11/11/2016 11:18:08 AM	W38603
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	11/11/2016 11:18:08 AM	W38603
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	11/11/2016 11:18:08 AM	W38603
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	11/11/2016 11:18:08 AM	W38603
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	11/11/2016 11:18:08 AM	W38603
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	11/11/2016 11:18:08 AM	W38603
Naphthalene	34	2.0		µg/L	1	11/11/2016 11:18:08 AM	W38603
1-Methylnaphthalene	11	4.0		µg/L	1	11/11/2016 11:18:08 AM	W38603
2-Methylnaphthalene	11	4.0		µg/L	1	11/11/2016 11:18:08 AM	W38603
Acetone	ND	10		µg/L	1	11/11/2016 11:18:08 AM	W38603
Bromobenzene	ND	1.0		µg/L	1	11/11/2016 11:18:08 AM	W38603
Bromodichloromethane	ND	1.0		µg/L	1	11/11/2016 11:18:08 AM	W38603
Bromoform	ND	1.0		µg/L	1	11/11/2016 11:18:08 AM	W38603
Bromomethane	ND	3.0		µg/L	1	11/11/2016 11:18:08 AM	W38603
2-Butanone	ND	10		µg/L	1	11/11/2016 11:18:08 AM	W38603
Carbon disulfide	ND	10		µg/L	1	11/11/2016 11:18:08 AM	W38603
Carbon Tetrachloride	ND	1.0		µg/L	1	11/11/2016 11:18:08 AM	W38603
Chlorobenzene	ND	1.0		µg/L	1	11/11/2016 11:18:08 AM	W38603
Chloroethane	ND	2.0		µg/L	1	11/11/2016 11:18:08 AM	W38603
Chloroform	ND	1.0		µg/L	1	11/11/2016 11:18:08 AM	W38603
Chloromethane	ND	3.0		µg/L	1	11/11/2016 11:18:08 AM	W38603
2-Chlorotoluene	ND	1.0		µg/L	1	11/11/2016 11:18:08 AM	W38603
4-Chlorotoluene	ND	1.0		µg/L	1	11/11/2016 11:18:08 AM	W38603
cis-1,2-DCE	ND	1.0		µg/L	1	11/11/2016 11:18:08 AM	W38603
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	11/11/2016 11:18:08 AM	W38603
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	11/11/2016 11:18:08 AM	W38603
Dibromochloromethane	ND	1.0		µg/L	1	11/11/2016 11:18:08 AM	W38603
Dibromomethane	ND	1.0		µg/L	1	11/11/2016 11:18:08 AM	W38603
1,2-Dichlorobenzene	ND	1.0		µg/L	1	11/11/2016 11:18:08 AM	W38603
1,3-Dichlorobenzene	ND	1.0		µg/L	1	11/11/2016 11:18:08 AM	W38603
1,4-Dichlorobenzene	ND	1.0		µg/L	1	11/11/2016 11:18:08 AM	W38603
Dichlorodifluoromethane	ND	1.0		µg/L	1	11/11/2016 11:18:08 AM	W38603
1,1-Dichloroethane	ND	1.0		µg/L	1	11/11/2016 11:18:08 AM	W38603
1,1-Dichloroethene	ND	1.0		µg/L	1	11/11/2016 11:18:08 AM	W38603
1,2-Dichloropropane	ND	1.0		µg/L	1	11/11/2016 11:18:08 AM	W38603

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Intera, Inc. **Client Sample ID:** MW-01
Project: Abq Railyard **Collection Date:** 11/4/2016 1:35:00 PM
Lab ID: 1611262-005 **Matrix:** AQUEOUS **Received Date:** 11/4/2016 3:30:00 PM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **DJF**	
1,3-Dichloropropane	ND	1.0		µg/L	1	11/11/2016 11:18:08 AM	W38603
2,2-Dichloropropane	ND	2.0		µg/L	1	11/11/2016 11:18:08 AM	W38603
1,1-Dichloropropene	ND	1.0		µg/L	1	11/11/2016 11:18:08 AM	W38603
Hexachlorobutadiene	ND	1.0		µg/L	1	11/11/2016 11:18:08 AM	W38603
2-Hexanone	ND	10		µg/L	1	11/11/2016 11:18:08 AM	W38603
Isopropylbenzene	32	1.0		µg/L	1	11/11/2016 11:18:08 AM	W38603
4-Isopropyltoluene	ND	1.0		µg/L	1	11/11/2016 11:18:08 AM	W38603
4-Methyl-2-pentanone	ND	10		µg/L	1	11/11/2016 11:18:08 AM	W38603
Methylene Chloride	ND	3.0		µg/L	1	11/11/2016 11:18:08 AM	W38603
n-Butylbenzene	8.7	3.0		µg/L	1	11/11/2016 11:18:08 AM	W38603
n-Propylbenzene	76	1.0		µg/L	1	11/11/2016 11:18:08 AM	W38603
sec-Butylbenzene	5.8	1.0		µg/L	1	11/11/2016 11:18:08 AM	W38603
Styrene	ND	1.0		µg/L	1	11/11/2016 11:18:08 AM	W38603
tert-Butylbenzene	1.2	1.0		µg/L	1	11/11/2016 11:18:08 AM	W38603
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	11/11/2016 11:18:08 AM	W38603
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	11/11/2016 11:18:08 AM	W38603
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	11/11/2016 11:18:08 AM	W38603
trans-1,2-DCE	ND	1.0		µg/L	1	11/11/2016 11:18:08 AM	W38603
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	11/11/2016 11:18:08 AM	W38603
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	11/11/2016 11:18:08 AM	W38603
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	11/11/2016 11:18:08 AM	W38603
1,1,1-Trichloroethane	ND	1.0		µg/L	1	11/11/2016 11:18:08 AM	W38603
1,1,2-Trichloroethane	ND	1.0		µg/L	1	11/11/2016 11:18:08 AM	W38603
Trichloroethene (TCE)	ND	1.0		µg/L	1	11/11/2016 11:18:08 AM	W38603
Trichlorofluoromethane	ND	1.0		µg/L	1	11/11/2016 11:18:08 AM	W38603
1,2,3-Trichloropropane	ND	2.0		µg/L	1	11/11/2016 11:18:08 AM	W38603
Vinyl chloride	ND	1.0		µg/L	1	11/11/2016 11:18:08 AM	W38603
Xylenes, Total	ND	1.5		µg/L	1	11/11/2016 11:18:08 AM	W38603
Surr: 1,2-Dichloroethane-d4	103	70-130		%Rec	1	11/11/2016 11:18:08 AM	W38603
Surr: 4-Bromofluorobenzene	104	70-130		%Rec	1	11/11/2016 11:18:08 AM	W38603
Surr: Dibromofluoromethane	104	70-130		%Rec	1	11/11/2016 11:18:08 AM	W38603
Surr: Toluene-d8	96.6	70-130		%Rec	1	11/11/2016 11:18:08 AM	W38603

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Intera, Inc. **Client Sample ID:** MW-03
Project: Abq Railyard **Collection Date:** 11/4/2016 2:02:00 PM
Lab ID: 1611262-006 **Matrix:** AQUEOUS **Received Date:** 11/4/2016 3:30:00 PM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8011/504.1: EDB						Analyst: **JME**	
1,2-Dibromoethane	ND	0.010		µg/L	1	11/10/2016 4:58:18 PM	28583
EPA METHOD 8260B: VOLATILES						Analyst: **DJF**	
Benzene	8.8	1.0		µg/L	1	11/11/2016 12:44:14 PM	W38603
Toluene	ND	1.0		µg/L	1	11/11/2016 12:44:14 PM	W38603
Ethylbenzene	ND	1.0		µg/L	1	11/11/2016 12:44:14 PM	W38603
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	11/11/2016 12:44:14 PM	W38603
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	11/11/2016 12:44:14 PM	W38603
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	11/11/2016 12:44:14 PM	W38603
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	11/11/2016 12:44:14 PM	W38603
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	11/11/2016 12:44:14 PM	W38603
Naphthalene	2.2	2.0		µg/L	1	11/11/2016 12:44:14 PM	W38603
1-Methylnaphthalene	100	20		µg/L	5	11/11/2016 4:42:33 AM	W38603
2-Methylnaphthalene	120	20		µg/L	5	11/11/2016 4:42:33 AM	W38603
Acetone	ND	10		µg/L	1	11/11/2016 12:44:14 PM	W38603
Bromobenzene	ND	1.0		µg/L	1	11/11/2016 12:44:14 PM	W38603
Bromodichloromethane	ND	1.0		µg/L	1	11/11/2016 12:44:14 PM	W38603
Bromoform	ND	1.0		µg/L	1	11/11/2016 12:44:14 PM	W38603
Bromomethane	ND	3.0		µg/L	1	11/11/2016 12:44:14 PM	W38603
2-Butanone	ND	10		µg/L	1	11/11/2016 12:44:14 PM	W38603
Carbon disulfide	ND	10		µg/L	1	11/11/2016 12:44:14 PM	W38603
Carbon Tetrachloride	ND	1.0		µg/L	1	11/11/2016 12:44:14 PM	W38603
Chlorobenzene	ND	1.0		µg/L	1	11/11/2016 12:44:14 PM	W38603
Chloroethane	ND	2.0		µg/L	1	11/11/2016 12:44:14 PM	W38603
Chloroform	ND	1.0		µg/L	1	11/11/2016 12:44:14 PM	W38603
Chloromethane	ND	3.0		µg/L	1	11/11/2016 12:44:14 PM	W38603
2-Chlorotoluene	ND	1.0		µg/L	1	11/11/2016 12:44:14 PM	W38603
4-Chlorotoluene	ND	1.0		µg/L	1	11/11/2016 12:44:14 PM	W38603
cis-1,2-DCE	ND	1.0		µg/L	1	11/11/2016 12:44:14 PM	W38603
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	11/11/2016 12:44:14 PM	W38603
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	11/11/2016 12:44:14 PM	W38603
Dibromochloromethane	ND	1.0		µg/L	1	11/11/2016 12:44:14 PM	W38603
Dibromomethane	ND	1.0		µg/L	1	11/11/2016 12:44:14 PM	W38603
1,2-Dichlorobenzene	ND	1.0		µg/L	1	11/11/2016 12:44:14 PM	W38603
1,3-Dichlorobenzene	ND	1.0		µg/L	1	11/11/2016 12:44:14 PM	W38603
1,4-Dichlorobenzene	ND	1.0		µg/L	1	11/11/2016 12:44:14 PM	W38603
Dichlorodifluoromethane	ND	1.0		µg/L	1	11/11/2016 12:44:14 PM	W38603
1,1-Dichloroethane	ND	1.0		µg/L	1	11/11/2016 12:44:14 PM	W38603
1,1-Dichloroethene	ND	1.0		µg/L	1	11/11/2016 12:44:14 PM	W38603
1,2-Dichloropropane	ND	1.0		µg/L	1	11/11/2016 12:44:14 PM	W38603

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Intera, Inc. **Client Sample ID:** MW-03
Project: Abq Railyard **Collection Date:** 11/4/2016 2:02:00 PM
Lab ID: 1611262-006 **Matrix:** AQUEOUS **Received Date:** 11/4/2016 3:30:00 PM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **DJF**	
1,3-Dichloropropane	ND	1.0		µg/L	1	11/11/2016 12:44:14 PM	W38603
2,2-Dichloropropane	ND	2.0		µg/L	1	11/11/2016 12:44:14 PM	W38603
1,1-Dichloropropene	ND	1.0		µg/L	1	11/11/2016 12:44:14 PM	W38603
Hexachlorobutadiene	ND	1.0		µg/L	1	11/11/2016 12:44:14 PM	W38603
2-Hexanone	ND	10		µg/L	1	11/11/2016 12:44:14 PM	W38603
Isopropylbenzene	6.7	1.0		µg/L	1	11/11/2016 12:44:14 PM	W38603
4-Isopropyltoluene	ND	1.0		µg/L	1	11/11/2016 12:44:14 PM	W38603
4-Methyl-2-pentanone	ND	10		µg/L	1	11/11/2016 12:44:14 PM	W38603
Methylene Chloride	ND	3.0		µg/L	1	11/11/2016 12:44:14 PM	W38603
n-Butylbenzene	3.3	3.0		µg/L	1	11/11/2016 12:44:14 PM	W38603
n-Propylbenzene	15	1.0		µg/L	1	11/11/2016 12:44:14 PM	W38603
sec-Butylbenzene	2.1	1.0		µg/L	1	11/11/2016 12:44:14 PM	W38603
Styrene	ND	1.0		µg/L	1	11/11/2016 12:44:14 PM	W38603
tert-Butylbenzene	ND	1.0		µg/L	1	11/11/2016 12:44:14 PM	W38603
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	11/11/2016 12:44:14 PM	W38603
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	11/11/2016 12:44:14 PM	W38603
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	11/11/2016 12:44:14 PM	W38603
trans-1,2-DCE	ND	1.0		µg/L	1	11/11/2016 12:44:14 PM	W38603
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	11/11/2016 12:44:14 PM	W38603
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	11/11/2016 12:44:14 PM	W38603
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	11/11/2016 12:44:14 PM	W38603
1,1,1-Trichloroethane	ND	1.0		µg/L	1	11/11/2016 12:44:14 PM	W38603
1,1,2-Trichloroethane	ND	1.0		µg/L	1	11/11/2016 12:44:14 PM	W38603
Trichloroethene (TCE)	ND	1.0		µg/L	1	11/11/2016 12:44:14 PM	W38603
Trichlorofluoromethane	ND	1.0		µg/L	1	11/11/2016 12:44:14 PM	W38603
1,2,3-Trichloropropane	ND	2.0		µg/L	1	11/11/2016 12:44:14 PM	W38603
Vinyl chloride	ND	1.0		µg/L	1	11/11/2016 12:44:14 PM	W38603
Xylenes, Total	ND	1.5		µg/L	1	11/11/2016 12:44:14 PM	W38603
Surr: 1,2-Dichloroethane-d4	91.7	70-130		%Rec	1	11/11/2016 12:44:14 PM	W38603
Surr: 4-Bromofluorobenzene	97.8	70-130		%Rec	1	11/11/2016 12:44:14 PM	W38603
Surr: Dibromofluoromethane	91.2	70-130		%Rec	1	11/11/2016 12:44:14 PM	W38603
Surr: Toluene-d8	96.7	70-130		%Rec	1	11/11/2016 12:44:14 PM	W38603

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Intera, Inc. **Client Sample ID:** MW-04
Project: Abq Railyard **Collection Date:** 11/4/2016 2:27:00 PM
Lab ID: 1611262-007 **Matrix:** AQUEOUS **Received Date:** 11/4/2016 3:30:00 PM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8011/504.1: EDB						Analyst: **JME**	
1,2-Dibromoethane	ND	0.010		µg/L	1	11/10/2016 5:13:26 PM	28583
EPA METHOD 8260B: VOLATILES						Analyst: **DJF**	
Benzene	ND	1.0		µg/L	1	11/11/2016 1:12:59 PM	W38603
Toluene	ND	1.0		µg/L	1	11/11/2016 1:12:59 PM	W38603
Ethylbenzene	ND	1.0		µg/L	1	11/11/2016 1:12:59 PM	W38603
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	11/11/2016 1:12:59 PM	W38603
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	11/11/2016 1:12:59 PM	W38603
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	11/11/2016 1:12:59 PM	W38603
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	11/11/2016 1:12:59 PM	W38603
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	11/11/2016 1:12:59 PM	W38603
Naphthalene	ND	2.0		µg/L	1	11/11/2016 1:12:59 PM	W38603
1-Methylnaphthalene	4.3	4.0		µg/L	1	11/11/2016 1:12:59 PM	W38603
2-Methylnaphthalene	4.5	4.0		µg/L	1	11/11/2016 1:12:59 PM	W38603
Acetone	ND	10		µg/L	1	11/11/2016 1:12:59 PM	W38603
Bromobenzene	ND	1.0		µg/L	1	11/11/2016 1:12:59 PM	W38603
Bromodichloromethane	ND	1.0		µg/L	1	11/11/2016 1:12:59 PM	W38603
Bromoform	ND	1.0		µg/L	1	11/11/2016 1:12:59 PM	W38603
Bromomethane	ND	3.0		µg/L	1	11/11/2016 1:12:59 PM	W38603
2-Butanone	ND	10		µg/L	1	11/11/2016 1:12:59 PM	W38603
Carbon disulfide	ND	10		µg/L	1	11/11/2016 1:12:59 PM	W38603
Carbon Tetrachloride	ND	1.0		µg/L	1	11/11/2016 1:12:59 PM	W38603
Chlorobenzene	ND	1.0		µg/L	1	11/11/2016 1:12:59 PM	W38603
Chloroethane	ND	2.0		µg/L	1	11/11/2016 1:12:59 PM	W38603
Chloroform	ND	1.0		µg/L	1	11/11/2016 1:12:59 PM	W38603
Chloromethane	ND	3.0		µg/L	1	11/11/2016 1:12:59 PM	W38603
2-Chlorotoluene	ND	1.0		µg/L	1	11/11/2016 1:12:59 PM	W38603
4-Chlorotoluene	ND	1.0		µg/L	1	11/11/2016 1:12:59 PM	W38603
cis-1,2-DCE	ND	1.0		µg/L	1	11/11/2016 1:12:59 PM	W38603
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	11/11/2016 1:12:59 PM	W38603
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	11/11/2016 1:12:59 PM	W38603
Dibromochloromethane	ND	1.0		µg/L	1	11/11/2016 1:12:59 PM	W38603
Dibromomethane	ND	1.0		µg/L	1	11/11/2016 1:12:59 PM	W38603
1,2-Dichlorobenzene	ND	1.0		µg/L	1	11/11/2016 1:12:59 PM	W38603
1,3-Dichlorobenzene	ND	1.0		µg/L	1	11/11/2016 1:12:59 PM	W38603
1,4-Dichlorobenzene	ND	1.0		µg/L	1	11/11/2016 1:12:59 PM	W38603
Dichlorodifluoromethane	ND	1.0		µg/L	1	11/11/2016 1:12:59 PM	W38603
1,1-Dichloroethane	ND	1.0		µg/L	1	11/11/2016 1:12:59 PM	W38603
1,1-Dichloroethene	ND	1.0		µg/L	1	11/11/2016 1:12:59 PM	W38603
1,2-Dichloropropane	ND	1.0		µg/L	1	11/11/2016 1:12:59 PM	W38603

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Intera, Inc. **Client Sample ID:** MW-04
Project: Abq Railyard **Collection Date:** 11/4/2016 2:27:00 PM
Lab ID: 1611262-007 **Matrix:** AQUEOUS **Received Date:** 11/4/2016 3:30:00 PM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **DJF**	
1,3-Dichloropropane	ND	1.0		µg/L	1	11/11/2016 1:12:59 PM	W38603
2,2-Dichloropropane	ND	2.0		µg/L	1	11/11/2016 1:12:59 PM	W38603
1,1-Dichloropropene	ND	1.0		µg/L	1	11/11/2016 1:12:59 PM	W38603
Hexachlorobutadiene	ND	1.0		µg/L	1	11/11/2016 1:12:59 PM	W38603
2-Hexanone	ND	10		µg/L	1	11/11/2016 1:12:59 PM	W38603
Isopropylbenzene	ND	1.0		µg/L	1	11/11/2016 1:12:59 PM	W38603
4-Isopropyltoluene	ND	1.0		µg/L	1	11/11/2016 1:12:59 PM	W38603
4-Methyl-2-pentanone	ND	10		µg/L	1	11/11/2016 1:12:59 PM	W38603
Methylene Chloride	ND	3.0		µg/L	1	11/11/2016 1:12:59 PM	W38603
n-Butylbenzene	ND	3.0		µg/L	1	11/11/2016 1:12:59 PM	W38603
n-Propylbenzene	ND	1.0		µg/L	1	11/11/2016 1:12:59 PM	W38603
sec-Butylbenzene	ND	1.0		µg/L	1	11/11/2016 1:12:59 PM	W38603
Styrene	ND	1.0		µg/L	1	11/11/2016 1:12:59 PM	W38603
tert-Butylbenzene	ND	1.0		µg/L	1	11/11/2016 1:12:59 PM	W38603
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	11/11/2016 1:12:59 PM	W38603
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	11/11/2016 1:12:59 PM	W38603
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	11/11/2016 1:12:59 PM	W38603
trans-1,2-DCE	ND	1.0		µg/L	1	11/11/2016 1:12:59 PM	W38603
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	11/11/2016 1:12:59 PM	W38603
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	11/11/2016 1:12:59 PM	W38603
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	11/11/2016 1:12:59 PM	W38603
1,1,1-Trichloroethane	ND	1.0		µg/L	1	11/11/2016 1:12:59 PM	W38603
1,1,2-Trichloroethane	ND	1.0		µg/L	1	11/11/2016 1:12:59 PM	W38603
Trichloroethene (TCE)	ND	1.0		µg/L	1	11/11/2016 1:12:59 PM	W38603
Trichlorofluoromethane	ND	1.0		µg/L	1	11/11/2016 1:12:59 PM	W38603
1,2,3-Trichloropropane	ND	2.0		µg/L	1	11/11/2016 1:12:59 PM	W38603
Vinyl chloride	ND	1.0		µg/L	1	11/11/2016 1:12:59 PM	W38603
Xylenes, Total	ND	1.5		µg/L	1	11/11/2016 1:12:59 PM	W38603
Surr: 1,2-Dichloroethane-d4	101	70-130		%Rec	1	11/11/2016 1:12:59 PM	W38603
Surr: 4-Bromofluorobenzene	96.9	70-130		%Rec	1	11/11/2016 1:12:59 PM	W38603
Surr: Dibromofluoromethane	105	70-130		%Rec	1	11/11/2016 1:12:59 PM	W38603
Surr: Toluene-d8	96.7	70-130		%Rec	1	11/11/2016 1:12:59 PM	W38603

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Intera, Inc. **Client Sample ID:** MW-05
Project: Abq Railyard **Collection Date:** 11/4/2016 3:00:00 PM
Lab ID: 1611262-008 **Matrix:** AQUEOUS **Received Date:** 11/4/2016 3:30:00 PM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8011/504.1: EDB						Analyst: **JME**	
1,2-Dibromoethane	ND	0.010		µg/L	1	11/10/2016 5:43:38 PM	28583
EPA METHOD 8260B: VOLATILES						Analyst: **DJF**	
Benzene	ND	1.0		µg/L	1	11/11/2016 5:39:38 AM	W38603
Toluene	ND	1.0		µg/L	1	11/11/2016 5:39:38 AM	W38603
Ethylbenzene	ND	1.0		µg/L	1	11/11/2016 5:39:38 AM	W38603
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	11/11/2016 5:39:38 AM	W38603
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	11/11/2016 5:39:38 AM	W38603
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	11/11/2016 5:39:38 AM	W38603
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	11/11/2016 5:39:38 AM	W38603
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	11/11/2016 5:39:38 AM	W38603
Naphthalene	ND	2.0		µg/L	1	11/11/2016 5:39:38 AM	W38603
1-Methylnaphthalene	ND	4.0		µg/L	1	11/11/2016 5:39:38 AM	W38603
2-Methylnaphthalene	ND	4.0		µg/L	1	11/11/2016 5:39:38 AM	W38603
Acetone	ND	10		µg/L	1	11/11/2016 5:39:38 AM	W38603
Bromobenzene	ND	1.0		µg/L	1	11/11/2016 5:39:38 AM	W38603
Bromodichloromethane	ND	1.0		µg/L	1	11/11/2016 5:39:38 AM	W38603
Bromoform	ND	1.0		µg/L	1	11/11/2016 5:39:38 AM	W38603
Bromomethane	ND	3.0		µg/L	1	11/11/2016 5:39:38 AM	W38603
2-Butanone	ND	10		µg/L	1	11/11/2016 5:39:38 AM	W38603
Carbon disulfide	ND	10		µg/L	1	11/11/2016 5:39:38 AM	W38603
Carbon Tetrachloride	ND	1.0		µg/L	1	11/11/2016 5:39:38 AM	W38603
Chlorobenzene	ND	1.0		µg/L	1	11/11/2016 5:39:38 AM	W38603
Chloroethane	ND	2.0		µg/L	1	11/11/2016 5:39:38 AM	W38603
Chloroform	ND	1.0		µg/L	1	11/11/2016 5:39:38 AM	W38603
Chloromethane	ND	3.0		µg/L	1	11/11/2016 5:39:38 AM	W38603
2-Chlorotoluene	ND	1.0		µg/L	1	11/11/2016 5:39:38 AM	W38603
4-Chlorotoluene	ND	1.0		µg/L	1	11/11/2016 5:39:38 AM	W38603
cis-1,2-DCE	ND	1.0		µg/L	1	11/11/2016 5:39:38 AM	W38603
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	11/11/2016 5:39:38 AM	W38603
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	11/11/2016 5:39:38 AM	W38603
Dibromochloromethane	ND	1.0		µg/L	1	11/11/2016 5:39:38 AM	W38603
Dibromomethane	ND	1.0		µg/L	1	11/11/2016 5:39:38 AM	W38603
1,2-Dichlorobenzene	ND	1.0		µg/L	1	11/11/2016 5:39:38 AM	W38603
1,3-Dichlorobenzene	ND	1.0		µg/L	1	11/11/2016 5:39:38 AM	W38603
1,4-Dichlorobenzene	ND	1.0		µg/L	1	11/11/2016 5:39:38 AM	W38603
Dichlorodifluoromethane	ND	1.0		µg/L	1	11/11/2016 5:39:38 AM	W38603
1,1-Dichloroethane	ND	1.0		µg/L	1	11/11/2016 5:39:38 AM	W38603
1,1-Dichloroethene	ND	1.0		µg/L	1	11/11/2016 5:39:38 AM	W38603
1,2-Dichloropropane	ND	1.0		µg/L	1	11/11/2016 5:39:38 AM	W38603

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Intera, Inc. **Client Sample ID:** MW-05
Project: Abq Railyard **Collection Date:** 11/4/2016 3:00:00 PM
Lab ID: 1611262-008 **Matrix:** AQUEOUS **Received Date:** 11/4/2016 3:30:00 PM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **DJF**	
1,3-Dichloropropane	ND	1.0		µg/L	1	11/11/2016 5:39:38 AM	W38603
2,2-Dichloropropane	ND	2.0		µg/L	1	11/11/2016 5:39:38 AM	W38603
1,1-Dichloropropene	ND	1.0		µg/L	1	11/11/2016 5:39:38 AM	W38603
Hexachlorobutadiene	ND	1.0		µg/L	1	11/11/2016 5:39:38 AM	W38603
2-Hexanone	ND	10		µg/L	1	11/11/2016 5:39:38 AM	W38603
Isopropylbenzene	ND	1.0		µg/L	1	11/11/2016 5:39:38 AM	W38603
4-Isopropyltoluene	ND	1.0		µg/L	1	11/11/2016 5:39:38 AM	W38603
4-Methyl-2-pentanone	ND	10		µg/L	1	11/11/2016 5:39:38 AM	W38603
Methylene Chloride	ND	3.0		µg/L	1	11/11/2016 5:39:38 AM	W38603
n-Butylbenzene	ND	3.0		µg/L	1	11/11/2016 5:39:38 AM	W38603
n-Propylbenzene	ND	1.0		µg/L	1	11/11/2016 5:39:38 AM	W38603
sec-Butylbenzene	ND	1.0		µg/L	1	11/11/2016 5:39:38 AM	W38603
Styrene	ND	1.0		µg/L	1	11/11/2016 5:39:38 AM	W38603
tert-Butylbenzene	ND	1.0		µg/L	1	11/11/2016 5:39:38 AM	W38603
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	11/11/2016 5:39:38 AM	W38603
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	11/11/2016 5:39:38 AM	W38603
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	11/11/2016 5:39:38 AM	W38603
trans-1,2-DCE	ND	1.0		µg/L	1	11/11/2016 5:39:38 AM	W38603
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	11/11/2016 5:39:38 AM	W38603
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	11/11/2016 5:39:38 AM	W38603
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	11/11/2016 5:39:38 AM	W38603
1,1,1-Trichloroethane	ND	1.0		µg/L	1	11/11/2016 5:39:38 AM	W38603
1,1,2-Trichloroethane	ND	1.0		µg/L	1	11/11/2016 5:39:38 AM	W38603
Trichloroethene (TCE)	ND	1.0		µg/L	1	11/11/2016 5:39:38 AM	W38603
Trichlorofluoromethane	ND	1.0		µg/L	1	11/11/2016 5:39:38 AM	W38603
1,2,3-Trichloropropane	ND	2.0		µg/L	1	11/11/2016 5:39:38 AM	W38603
Vinyl chloride	ND	1.0		µg/L	1	11/11/2016 5:39:38 AM	W38603
Xylenes, Total	ND	1.5		µg/L	1	11/11/2016 5:39:38 AM	W38603
Surr: 1,2-Dichloroethane-d4	92.4	70-130		%Rec	1	11/11/2016 5:39:38 AM	W38603
Surr: 4-Bromofluorobenzene	94.8	70-130		%Rec	1	11/11/2016 5:39:38 AM	W38603
Surr: Dibromofluoromethane	97.2	70-130		%Rec	1	11/11/2016 5:39:38 AM	W38603
Surr: Toluene-d8	97.1	70-130		%Rec	1	11/11/2016 5:39:38 AM	W38603

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Intera, Inc. **Client Sample ID:** TRIP BLANK
Project: Abq Railyard **Collection Date:**
Lab ID: 1611262-009 **Matrix:** TRIP BLANK **Received Date:** 11/4/2016 3:30:00 PM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8011/504.1: EDB						Analyst: **JME**	
1,2-Dibromoethane	ND	0.010		µg/L	1	11/10/2016 5:58:38 PM	28587
EPA METHOD 8260B: VOLATILES						Analyst: **DJF**	
Benzene	ND	1.0		µg/L	1	11/11/2016 6:08:06 AM	W38603
Toluene	ND	1.0		µg/L	1	11/11/2016 6:08:06 AM	W38603
Ethylbenzene	ND	1.0		µg/L	1	11/11/2016 6:08:06 AM	W38603
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	11/11/2016 6:08:06 AM	W38603
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	11/11/2016 6:08:06 AM	W38603
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	11/11/2016 6:08:06 AM	W38603
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	11/11/2016 6:08:06 AM	W38603
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	11/11/2016 6:08:06 AM	W38603
Naphthalene	ND	2.0		µg/L	1	11/11/2016 6:08:06 AM	W38603
1-Methylnaphthalene	ND	4.0		µg/L	1	11/11/2016 6:08:06 AM	W38603
2-Methylnaphthalene	ND	4.0		µg/L	1	11/11/2016 6:08:06 AM	W38603
Acetone	ND	10		µg/L	1	11/11/2016 6:08:06 AM	W38603
Bromobenzene	ND	1.0		µg/L	1	11/11/2016 6:08:06 AM	W38603
Bromodichloromethane	ND	1.0		µg/L	1	11/11/2016 6:08:06 AM	W38603
Bromoform	ND	1.0		µg/L	1	11/11/2016 6:08:06 AM	W38603
Bromomethane	ND	3.0		µg/L	1	11/11/2016 6:08:06 AM	W38603
2-Butanone	ND	10		µg/L	1	11/11/2016 6:08:06 AM	W38603
Carbon disulfide	ND	10		µg/L	1	11/11/2016 6:08:06 AM	W38603
Carbon Tetrachloride	ND	1.0		µg/L	1	11/11/2016 6:08:06 AM	W38603
Chlorobenzene	ND	1.0		µg/L	1	11/11/2016 6:08:06 AM	W38603
Chloroethane	ND	2.0		µg/L	1	11/11/2016 6:08:06 AM	W38603
Chloroform	ND	1.0		µg/L	1	11/11/2016 6:08:06 AM	W38603
Chloromethane	ND	3.0		µg/L	1	11/11/2016 6:08:06 AM	W38603
2-Chlorotoluene	ND	1.0		µg/L	1	11/11/2016 6:08:06 AM	W38603
4-Chlorotoluene	ND	1.0		µg/L	1	11/11/2016 6:08:06 AM	W38603
cis-1,2-DCE	ND	1.0		µg/L	1	11/11/2016 6:08:06 AM	W38603
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	11/11/2016 6:08:06 AM	W38603
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	11/11/2016 6:08:06 AM	W38603
Dibromochloromethane	ND	1.0		µg/L	1	11/11/2016 6:08:06 AM	W38603
Dibromomethane	ND	1.0		µg/L	1	11/11/2016 6:08:06 AM	W38603
1,2-Dichlorobenzene	ND	1.0		µg/L	1	11/11/2016 6:08:06 AM	W38603
1,3-Dichlorobenzene	ND	1.0		µg/L	1	11/11/2016 6:08:06 AM	W38603
1,4-Dichlorobenzene	ND	1.0		µg/L	1	11/11/2016 6:08:06 AM	W38603
Dichlorodifluoromethane	ND	1.0		µg/L	1	11/11/2016 6:08:06 AM	W38603
1,1-Dichloroethane	ND	1.0		µg/L	1	11/11/2016 6:08:06 AM	W38603
1,1-Dichloroethene	ND	1.0		µg/L	1	11/11/2016 6:08:06 AM	W38603
1,2-Dichloropropane	ND	1.0		µg/L	1	11/11/2016 6:08:06 AM	W38603

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Intera, Inc. **Client Sample ID:** TRIP BLANK
Project: Abq Railyard **Collection Date:**
Lab ID: 1611262-009 **Matrix:** TRIP BLANK **Received Date:** 11/4/2016 3:30:00 PM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **DJF**	
1,3-Dichloropropane	ND	1.0		µg/L	1	11/11/2016 6:08:06 AM	W38603
2,2-Dichloropropane	ND	2.0		µg/L	1	11/11/2016 6:08:06 AM	W38603
1,1-Dichloropropene	ND	1.0		µg/L	1	11/11/2016 6:08:06 AM	W38603
Hexachlorobutadiene	ND	1.0		µg/L	1	11/11/2016 6:08:06 AM	W38603
2-Hexanone	ND	10		µg/L	1	11/11/2016 6:08:06 AM	W38603
Isopropylbenzene	ND	1.0		µg/L	1	11/11/2016 6:08:06 AM	W38603
4-Isopropyltoluene	ND	1.0		µg/L	1	11/11/2016 6:08:06 AM	W38603
4-Methyl-2-pentanone	ND	10		µg/L	1	11/11/2016 6:08:06 AM	W38603
Methylene Chloride	ND	3.0		µg/L	1	11/11/2016 6:08:06 AM	W38603
n-Butylbenzene	ND	3.0		µg/L	1	11/11/2016 6:08:06 AM	W38603
n-Propylbenzene	ND	1.0		µg/L	1	11/11/2016 6:08:06 AM	W38603
sec-Butylbenzene	ND	1.0		µg/L	1	11/11/2016 6:08:06 AM	W38603
Styrene	ND	1.0		µg/L	1	11/11/2016 6:08:06 AM	W38603
tert-Butylbenzene	ND	1.0		µg/L	1	11/11/2016 6:08:06 AM	W38603
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	11/11/2016 6:08:06 AM	W38603
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	11/11/2016 6:08:06 AM	W38603
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	11/11/2016 6:08:06 AM	W38603
trans-1,2-DCE	ND	1.0		µg/L	1	11/11/2016 6:08:06 AM	W38603
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	11/11/2016 6:08:06 AM	W38603
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	11/11/2016 6:08:06 AM	W38603
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	11/11/2016 6:08:06 AM	W38603
1,1,1-Trichloroethane	ND	1.0		µg/L	1	11/11/2016 6:08:06 AM	W38603
1,1,2-Trichloroethane	ND	1.0		µg/L	1	11/11/2016 6:08:06 AM	W38603
Trichloroethene (TCE)	ND	1.0		µg/L	1	11/11/2016 6:08:06 AM	W38603
Trichlorofluoromethane	ND	1.0		µg/L	1	11/11/2016 6:08:06 AM	W38603
1,2,3-Trichloropropane	ND	2.0		µg/L	1	11/11/2016 6:08:06 AM	W38603
Vinyl chloride	ND	1.0		µg/L	1	11/11/2016 6:08:06 AM	W38603
Xylenes, Total	ND	1.5		µg/L	1	11/11/2016 6:08:06 AM	W38603
Surr: 1,2-Dichloroethane-d4	94.8	70-130		%Rec	1	11/11/2016 6:08:06 AM	W38603
Surr: 4-Bromofluorobenzene	93.9	70-130		%Rec	1	11/11/2016 6:08:06 AM	W38603
Surr: Dibromofluoromethane	98.9	70-130		%Rec	1	11/11/2016 6:08:06 AM	W38603
Surr: Toluene-d8	100	70-130		%Rec	1	11/11/2016 6:08:06 AM	W38603

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1611262**

15-Nov-16

Client: Intera, Inc.

Project: Abq Railyard

Sample ID	**MB-28587**	SampType:	**MBLK**	TestCode:	**EPA Method 8011/504.1: EDB**					
Client ID:	**PBW**	Batch ID:	**28587**	RunNo:	**38602**					
Prep Date:	**11/10/2016**	Analysis Date:	**11/10/2016**	SeqNo:	**1205730**	Units:	**µg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2-Dibromoethane	ND	0.010								

Sample ID	**MB-28583**	SampType:	**MBLK**	TestCode:	**EPA Method 8011/504.1: EDB**					
Client ID:	**PBW**	Batch ID:	**28583**	RunNo:	**38602**					
Prep Date:	**11/10/2016**	Analysis Date:	**11/10/2016**	SeqNo:	**1205731**	Units:	**µg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2-Dibromoethane	ND	0.010								

Sample ID	**LCS-28583**	SampType:	**LCS**	TestCode:	**EPA Method 8011/504.1: EDB**					
Client ID:	**LCSW**	Batch ID:	**28583**	RunNo:	**38602**					
Prep Date:	**11/10/2016**	Analysis Date:	**11/10/2016**	SeqNo:	**1205732**	Units:	**µg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2-Dibromoethane	0.092	0.010	0.1000	0	91.9	70	130			

Sample ID	**LCS-28587**	SampType:	**LCS**	TestCode:	**EPA Method 8011/504.1: EDB**					
Client ID:	**LCSW**	Batch ID:	**28587**	RunNo:	**38602**					
Prep Date:	**11/10/2016**	Analysis Date:	**11/10/2016**	SeqNo:	**1205733**	Units:	**µg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2-Dibromoethane	0.097	0.010	0.1000	0	97.4	70	130			

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1611262**

15-Nov-16

Client: Intera, Inc.

Project: Abq Railyard

Sample ID **rb**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **W38593**	RunNo: **38593**
Prep Date:	Analysis Date: **11/9/2016**	SeqNo: **1205422** Units: **µg/L**

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1611262**

15-Nov-16

Client: Intera, Inc.

Project: Abq Railyard

Sample ID **rb**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **W38593**	RunNo: **38593**
Prep Date:	Analysis Date: **11/9/2016**	SeqNo: **1205422** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1-Dichloropropene	ND	1.0								
Hexachlorobutadiene	ND	1.0								
2-Hexanone	ND	10								
Isopropylbenzene	ND	1.0								
4-Isopropyltoluene	ND	1.0								
4-Methyl-2-pentanone	ND	10								
Methylene Chloride	ND	3.0								
n-Butylbenzene	ND	3.0								
n-Propylbenzene	ND	1.0								
sec-Butylbenzene	ND	1.0								
Styrene	ND	1.0								
tert-Butylbenzene	ND	1.0								
1,1,1,2-Tetrachloroethane	ND	1.0								
1,1,2,2-Tetrachloroethane	ND	2.0								
Tetrachloroethene (PCE)	ND	1.0								
trans-1,2-DCE	ND	1.0								
trans-1,3-Dichloropropene	ND	1.0								
1,2,3-Trichlorobenzene	ND	1.0								
1,2,4-Trichlorobenzene	ND	1.0								
1,1,1-Trichloroethane	ND	1.0								
1,1,2-Trichloroethane	ND	1.0								
Trichloroethene (TCE)	ND	1.0								
Trichlorofluoromethane	ND	1.0								
1,2,3-Trichloropropane	ND	2.0								
Vinyl chloride	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	9.3		10.00		93.1	70	130			
Surr: 4-Bromofluorobenzene	9.8		10.00		97.7	70	130			
Surr: Dibromofluoromethane	9.5		10.00		94.6	70	130			
Surr: Toluene-d8	9.8		10.00		98.1	70	130			

Sample ID **100ng lcs**	SampType: **LCS**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **LCSW**	Batch ID: **W38593**	RunNo: **38593**
Prep Date:	Analysis Date: **11/9/2016**	SeqNo: **1205423** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	19	1.0	20.00	0	95.7	70	130			
Toluene	21	1.0	20.00	0	105	70	130			
Chlorobenzene	21	1.0	20.00	0	103	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1611262**

15-Nov-16

Client: Intera, Inc.

Project: Abq Railyard

Sample ID **100ng lcs**	SampType: **LCS**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **LCSW**	Batch ID: **W38593**	RunNo: **38593**
Prep Date:	Analysis Date: **11/9/2016**	SeqNo: **1205423** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1-Dichloroethene	21	1.0	20.00	0	106	70	130			
Trichloroethene (TCE)	20	1.0	20.00	0	98.4	70	130			
Surr: 1,2-Dichloroethane-d4	9.3		10.00		93.1	70	130			
Surr: 4-Bromofluorobenzene	9.4		10.00		93.9	70	130			
Surr: Dibromofluoromethane	9.6		10.00		95.5	70	130			
Surr: Toluene-d8	9.8		10.00		97.9	70	130			

Sample ID **rb**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **W38603**	RunNo: **38603**
Prep Date:	Analysis Date: **11/10/2016**	SeqNo: **1206487** Units: **µg/L**

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1611262**

15-Nov-16

Client: Intera, Inc.

Project: Abq Railyard

Sample ID **rb**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **W38603**	RunNo: **38603**
Prep Date:	Analysis Date: **11/10/2016**	SeqNo: **1206487** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2-Dibromo-3-chloropropane	ND	2.0								
Dibromochloromethane	ND	1.0								
Dibromomethane	ND	1.0								
1,2-Dichlorobenzene	ND	1.0								
1,3-Dichlorobenzene	ND	1.0								
1,4-Dichlorobenzene	ND	1.0								
Dichlorodifluoromethane	ND	1.0								
1,1-Dichloroethane	ND	1.0								
1,1-Dichloroethene	ND	1.0								
1,2-Dichloropropane	ND	1.0								
1,3-Dichloropropane	ND	1.0								
2,2-Dichloropropane	ND	2.0								
1,1-Dichloropropene	ND	1.0								
Hexachlorobutadiene	ND	1.0								
2-Hexanone	ND	10								
Isopropylbenzene	ND	1.0								
4-Isopropyltoluene	ND	1.0								
4-Methyl-2-pentanone	ND	10								
Methylene Chloride	ND	3.0								
n-Butylbenzene	ND	3.0								
n-Propylbenzene	ND	1.0								
sec-Butylbenzene	ND	1.0								
Styrene	ND	1.0								
tert-Butylbenzene	ND	1.0								
1,1,1,2-Tetrachloroethane	ND	1.0								
1,1,2,2-Tetrachloroethane	ND	2.0								
Tetrachloroethene (PCE)	ND	1.0								
trans-1,2-DCE	ND	1.0								
trans-1,3-Dichloropropene	ND	1.0								
1,2,3-Trichlorobenzene	ND	1.0								
1,2,4-Trichlorobenzene	ND	1.0								
1,1,1-Trichloroethane	ND	1.0								
1,1,2-Trichloroethane	ND	1.0								
Trichloroethene (TCE)	ND	1.0								
Trichlorofluoromethane	ND	1.0								
1,2,3-Trichloropropane	ND	2.0								
Vinyl chloride	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	10		10.00		105	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1611262**

15-Nov-16

Client: Intera, Inc.

Project: Abq Railyard

Sample ID **rb**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **W38603**	RunNo: **38603**
Prep Date:	Analysis Date: **11/10/2016**	SeqNo: **1206487** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	9.6		10.00		95.9	70	130			
Surr: Dibromofluoromethane	11		10.00		108	70	130			
Surr: Toluene-d8	9.8		10.00		98.2	70	130			

Sample ID **100ng lcs**	SampType: **LCS**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **LCSW**	Batch ID: **W38603**	RunNo: **38603**
Prep Date:	Analysis Date: **11/10/2016**	SeqNo: **1206488** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	20	1.0	20.00	0	102	70	130			
Toluene	20	1.0	20.00	0	101	70	130			
Chlorobenzene	20	1.0	20.00	0	101	70	130			
1,1-Dichloroethene	22	1.0	20.00	0	108	70	130			
Trichloroethene (TCE)	20	1.0	20.00	0	101	70	130			
Surr: 1,2-Dichloroethane-d4	9.6		10.00		95.7	70	130			
Surr: 4-Bromofluorobenzene	9.6		10.00		95.7	70	130			
Surr: Dibromofluoromethane	9.6		10.00		95.8	70	130			
Surr: Toluene-d8	9.3		10.00		93.3	70	130			

Sample ID **1611262-005a ms**	SampType: **MS**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **MW-01**	Batch ID: **W38603**	RunNo: **38603**
Prep Date:	Analysis Date: **11/11/2016**	SeqNo: **1206491** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	100	5.0	100.0	0	103	70	130			
Toluene	100	5.0	100.0	0	104	70	130			
Chlorobenzene	100	5.0	100.0	0	101	70	130			
1,1-Dichloroethene	110	5.0	100.0	0	107	70	130			
Trichloroethene (TCE)	99	5.0	100.0	0	99.0	70	130			
Surr: 1,2-Dichloroethane-d4	46		50.00		92.6	70	130			
Surr: 4-Bromofluorobenzene	47		50.00		94.8	70	130			
Surr: Dibromofluoromethane	47		50.00		94.5	70	130			
Surr: Toluene-d8	47		50.00		93.6	70	130			

Sample ID **1611262-005a msd**	SampType: **MSD**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **MW-01**	Batch ID: **W38603**	RunNo: **38603**
Prep Date:	Analysis Date: **11/11/2016**	SeqNo: **1206492** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	100	5.0	100.0	0	102	70	130	1.80	20	

Qualifiers:

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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1611262**

15-Nov-16

Client: Intera, Inc.

Project: Abq Railyard

Sample ID **1611262-005a msd**	SampType: **MSD**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **MW-01**	Batch ID: **W38603**	RunNo: **38603**
Prep Date:	Analysis Date: **11/11/2016**	SeqNo: **1206492** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Toluene	100	5.0	100.0	0	102	70	130	1.76	20	
Chlorobenzene	98	5.0	100.0	0	98.4	70	130	2.58	20	
1,1-Dichloroethene	100	5.0	100.0	0	102	70	130	4.58	20	
Trichloroethene (TCE)	99	5.0	100.0	0	99.4	70	130	0.446	20	
Surr: 1,2-Dichloroethane-d4	48		50.00		96.0	70	130	0	0	
Surr: 4-Bromofluorobenzene	48		50.00		95.7	70	130	0	0	
Surr: Dibromofluoromethane	48		50.00		95.7	70	130	0	0	
Surr: Toluene-d8	48		50.00		95.9	70	130	0	0	

Sample ID **1611262-005a ms**	SampType: **MS**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **MW-01**	Batch ID: **W38603**	RunNo: **38633**
Prep Date:	Analysis Date: **11/11/2016**	SeqNo: **1207711** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	22	1.0	20.00	0.4404	108	70	130			
Toluene	21	1.0	20.00	0	104	70	130			
Chlorobenzene	21	1.0	20.00	0	104	70	130			
1,1-Dichloroethene	22	1.0	20.00	0	108	70	130			
Trichloroethene (TCE)	21	1.0	20.00	0	107	70	130			
Surr: 1,2-Dichloroethane-d4	10		10.00		103	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		103	70	130			
Surr: Dibromofluoromethane	10		10.00		102	70	130			
Surr: Toluene-d8	9.7		10.00		97.2	70	130			

Sample ID **1611262-005a msd**	SampType: **MSD**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **MW-01**	Batch ID: **W38603**	RunNo: **38633**
Prep Date:	Analysis Date: **11/11/2016**	SeqNo: **1207712** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	20	1.0	20.00	0.4404	99.3	70	130	7.98	20	
Toluene	20	1.0	20.00	0	101	70	130	2.55	20	
Chlorobenzene	21	1.0	20.00	0	103	70	130	1.77	20	
1,1-Dichloroethene	20	1.0	20.00	0	100	70	130	7.30	20	
Trichloroethene (TCE)	20	1.0	20.00	0	99.1	70	130	8.00	20	
Surr: 1,2-Dichloroethane-d4	10		10.00		99.7	70	130	0	0	
Surr: 4-Bromofluorobenzene	10		10.00		103	70	130	0	0	
Surr: Dibromofluoromethane	9.6		10.00		96.3	70	130	0	0	
Surr: Toluene-d8	9.8		10.00		98.1	70	130	0	0	

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
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S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

Sample Log-In Check List

Client Name: INT Work Order Number: 1611262 RcptNo: 1

Received by/date: 11/04/16

Logged By: Ashley Gallegos 11/4/2016 3:30:00 PM

Completed By: Ashley Gallegos 11/4/2016 6:14:39 PM

Reviewed By: 11/07/16

Chain of Custody

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

Log In

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

Special Handling (if applicable)

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

Person Notified: Date

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

Regarding:

Client Instructions:

17. Additional remarks:

18. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.3	Good	Not Present			

Chain-of-Custody Record

lient: Intera

ailing Address: 6000 Uptown Blvd NE #220
Albuquerque NM 87110

hone #: 505-246-1600

mail or Fax#: jtracy@intera.com

A/QC Package:
✓ Standard ☐ Level 4 (Full Validation)

ccreditation
NELAP ☐ Other ____

EDD (Type) Excel

Turn-Around Time:
☑ Standard ☐ Rush

Project Name: Abq Railyard

Project #: COA.OCSS.#17

Project Manager: Joe Tracy / Eileen Marcillo

Sampler: Matt Sophy, Frank Roecker

On Ice: ☑ Yes ☐ No

Sample Temperature: 1.3

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1611262	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)						Air Bubbles (Y or N)
/14/16	0912	AQ	MW-07	VOA 3x VOA 2x	HCl SOTH	-001					X					X							
/14/16	0947	AQ	MW-06	VOA 3x VOA 2x	HCl SOTH	-002					X					X							
/14/16	1145	AQ	MW-08	VOA 3x VOA 2x	HCl SOTH	-003					X					X							
/14/16	1310	AQ	MW-02	VOA 3x VOA 2x	HCl SOTH	-004					X					X							
/14/16	1335	AQ	MW-01	VOA 3x VOA 2x	HCl SOTH	-005					X					X							
/14/16	1402	AQ	MW-03	VOA 3x VOA 3X	HCl SOTH	-006					X					X							
/14/16	1427	AQ	MW-04	VOA 3x VOA 2x	HCl SOTH	-007					X					X							
/14/16	1500	AQ	MW-05	VOA 3x VOA 2x	HCl SOTH	-008					X					X							
			Trip Blank			-009																	

ate:	Time:	Relinquished by:	Received by:	Date	Time
/4/16	1532	[signature]	[signature]	11/04/16	1538

ate:	Time:	Relinquished by:	Received by:	Date	Time

Remarks: cc results to emarcillo@intera.com

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.