

June 25, 2015

Ms. Dawn Bascomb  
NMED Petroleum Storage Tank Bureau  
121 Tijeras Avenue NE  
Albuquerque, New Mexico 87102

**RE: 2<sup>nd</sup> Semi-Annual Groundwater Monitoring Report, Barelas Bridge Site, Facility #29854; RID #54, 800 Bridge Boulevard Southwest, Albuquerque, Bernalillo County, New Mexico**

Dear Ms. Bascomb,

INTERA Incorporated (INTERA) is submitting the above-referenced report. This report completes the scope of work for deliverable identification number 3778-2. There was no reduction in scope associated with WPID # 3778. Once a deliverable acceptance letter is received the total amount that will be invoiced including NMGRT is **\$5,400.00**. Also included is a CD containing a copy of the report in PDF format.

INTERA appreciates the opportunity to work with the New Mexico Environment Department. Please do not hesitate to contact Ms. Marcillo (505) 428-0066 / [emarcillo@intera.com](mailto:emarcillo@intera.com) at (505) 428-0066 or Mr. Joseph Tracy (505) 246-1600 ext. 1219 / [jtracy@intera.com](mailto:jtracy@intera.com) if you have any questions or require further information.

Sincerely,

**INTERA Incorporated**



Eileen Marcillo  
Project Manager/Hydrologist



Joseph J. Tracy  
Principal Geologist

Enclosure

# **2<sup>nd</sup> SEMI-ANNUAL GROUNDWATER MONITORING REPORT**

**Barelas Bridge Site, Facility # 29854; Release ID # 54**

**800 Bridge Boulevard Southwest  
Albuquerque, Bernalillo County, New Mexico**



***Prepared for:***



New Mexico Environment Department  
Petroleum Storage Tank Bureau  
121 Tijeras Avenue NE  
Albuquerque, New Mexico 87102

***Prepared by:***



1435 South St. Francis Drive, Unit 103  
Santa Fe, New Mexico 87505

**June 25, 2015**



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## STATEMENT OF FAMILIARITY

I, the undersigned, am personally familiar with the information submitted in this report and the attached documents and attest that it is true and complete.

A handwritten signature in blue ink, appearing to read "Eileen Marcillo". It is placed over a solid blue horizontal line.

Eileen Marcillo  
Project Manager  
INTERA Incorporated

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## ACRONYMS AND ABBREVIATIONS

°C	degrees Celsius
°F	degrees Fahrenheit
µg/L	microgram(s) per liter
µS/cm	microSiemens per centimeter
AEHD	Albuquerque Environmental Health Department
amsl	above mean sea level
AS/SVE	air sparge/soil vapor extraction
btoc	below top of casing
DO	dissolved oxygen
EDB	1,2-dibromoethane
EPA	U.S. Environmental Protection Agency
ft	foot or feet
GT	Groundwater Technology
HEAL	Hall Environmental Analysis Laboratory
HgCl <sub>2</sub>	mercuric chloride
HNO <sub>3</sub>	nitric acid
INTERA	INTERA Incorporated
LBG	Leggette, Brashears & Graham, Inc.
L/min	liters per minute
LNAPL	light non-aqueous phase liquid
mg/L	milligram(s) per liter
mL	milliliter
mV	millivolt(s)
Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub>	sodium thiosulfate
NMAC	New Mexico Administrative Code
NMED	New Mexico Environment Department
NMWQCC	New Mexico Water Quality Control Commission
ORP	oxidation reduction potential

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PPE	personal protective equipment
PSE	potentiometric surface elevation
PSTB	Petroleum Storage Tank Bureau
Report	2 <sup>nd</sup> Semi-Annual Groundwater Monitoring Report
RL	reporting limit
Site	Barelas Bridge Site
SSHASP	Site-Specific Health and Safety Plan
UST	underground storage tank
VOC	volatile organic compound

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## 1.0 INTRODUCTION

In accordance with the work plan submitted on August 22, 2014, to the New Mexico Environment Department (NMED) Petroleum Storage Tank Bureau (PSTB), INTERA Incorporated (INTERA) is submitting this *2<sup>nd</sup> Semi-Annual Groundwater Monitoring Report* (Report) documenting the field activities at the Barelas Bridge Site (Facility #29854; Release ID # 54) (Site) in Albuquerque, New Mexico (**Figure 1**). All activities were completed by INTERA in accordance with the requirements set forth in NMED PSTB Regulations (20.5 New Mexico Administrative Code [NMAC]) and in the work plan approved by PSTB on October 15, 2014 (INTERA, 2014a). The deliverable identification number for this groundwater monitoring event and reporting is 3778-2.

### 1.1 Background

The Site is located at 800 Bridge Boulevard SW in Albuquerque, New Mexico. A gasoline service station has occupied the Site since the 1940s. Investigation and remediation activities have been ongoing since 1989, when petroleum hydrocarbon contamination was encountered during the removal of four underground storage tanks (USTs). Excavation to remove contaminated soil occurred in the former UST pit area (August 1989) and within the former gasoline station area (October 1989). During excavation activities within the former station area, an approximately 100- to 150-gallon waste-oil tank was encountered and removed. New USTs were installed at the Site in 1990 (**Figure 2**). Information pertaining to the type of petroleum fuel stored at the Site was not available (LBG, 1990). A brief summary of investigation and remediation activities completed at the Site is presented below.

- Between August 1989 and August 1990, the Albuquerque Environmental Health Department (AEHD) completed an initial hydrogeologic investigation, which included the advancement of 19 soil borings, four of which were converted to monitoring wells (MW-1 to MW-4), and the collection and chemical analyses of soil and groundwater samples (LBG, 1990).
- From October to December 1990, Leggette, Brashears & Graham, Inc. (LBG), conducted additional hydrogeologic investigation activities, which included the advancement of five soil borings, four of which were converted to monitoring wells (MW-5 to MW-8); the collection and chemical analyses of soil and groundwater samples; and short pumping tests at two monitoring well locations. LBG concluded that the horizontal extent of contamination was delineated; groundwater flow direction was to the south; the southernmost monitoring wells, MW-1, MW-2, and MW-3, did not contain petroleum hydrocarbons in groundwater at concentrations that exceeded New Mexico Water Quality Control Commission (NMWQCC) standards; and contaminants of concern included

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benzene, toluene, ethylbenzene, total xylenes, iron, and manganese (LBG, 1990) (**Figure 2**).

- In August 1992, Groundwater Technology (GT) oversaw the advancement of five soil borings. These borings were completed as multi-purpose wells for use in an air-sparge/soil vapor extraction (AS/SVE) pilot test. Results of the AS/SVE pilot test indicated that an AS/SVE system could effectively remediate the source zone; therefore, GT proposed installing a full-scale system (GT, 1992). Based on existing monitoring wells, it appears that the full-scale AS/SVE system was installed. Documents describing this system and its operation were not reviewed.
- INTERA conducted the 1<sup>st</sup> semi-annual groundwater monitoring event in December 2014. The estimated groundwater flow direction is to the south-southeast and the estimated magnitude of the hydraulic gradient is 0.002 ft/ft. Groundwater analytical results indicated that total naphthalenes and dissolved iron and manganese existed in groundwater at concentrations that exceed NMWQCC Standards (INTERA, 2014b).

## 1.2 Scope of Work

The scope of work for the 2<sup>nd</sup> semi-annual groundwater sampling event, as specified in the approved work plan (INTERA, 2014a), included the following activities:

- Conduct project planning activities.
- Remove caps from all wells to relieve pressure caused by a fluctuating water table.
- Gauge depth to water and total depth at monitoring wells MW-4, MW-7, MW-8, MW-9, VP-2, and VP-5 using an oil-water interface probe.
- Collect groundwater samples from monitoring wells MW-4, MW-7, MW-8, MW-9, VP-2, and VP-5 and analyze the samples for volatile organic compounds (VOCs) by U.S. Environmental Protection Agency (EPA) Method 8260B; 1,2-dibromoethane (EDB) by U.S. EPA Method 504.1; and dissolved iron, manganese, and lead by U.S. EPA Method 200.7.
- Prepare a report that summarizes all monitoring activities and the resulting data.

The Site-Specific Health and Safety Plan (SSHASP) was developed and reviewed by INTERA staff prior to the initiation of the project.

## 1.3 Work Plan Deviations

One work plan deviation occurred during this 2<sup>nd</sup> semi-annual groundwater monitoring event. Due to an obstruction noted in monitoring well MW-4 at 10.60 feet (ft) below top of casing (btoc); the

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groundwater sample tubing could not be successfully deployed past this obstruction. The groundwater sample tubing was not set at the mid-point of the saturated screen interval which would be located at approximately 5 ft below the water table per the approved work plan, but rather at approximately 1.5 ft below the water table. Even though the groundwater sample collected at monitoring well MW-4 was not collected at the mid-point of the saturated screen interval it is still considered representative of aquifer conditions at this monitoring location.

#### **1.4 Project Preparation**

Upon receipt of authorization to proceed from the NMED PSTB, INTERA performed the following tasks prior to commencing the 2<sup>nd</sup> semi-annual field activities:

- Contacted the NMED PSTB project manager, Ms. Dawn Bascomb, 96 hours prior to the commencement of planned on-site activities.
- Contacted the current Site owner, Roberts Oil, prior to arriving on Site (see the Access Agreement in **Appendix A**).
- Obtained required field supplies and tested required field equipment.
- Obtained sample containers from Hall Environmental Analysis Laboratory (HEAL).

## 2.0 FIELD ACTIVITIES

Field activities for this 2<sup>nd</sup> semi-annual groundwater monitoring event were conducted on May 19, 2015. The SSHASP was reviewed in detail by INTERA field staff and was strictly followed during all Site activities. Work was performed in Occupational Safety and Health Administration Level D personal protective equipment (PPE). A copy of the field notes is included in **Appendix B**.

### 2.1 Fluid Level Gauging

Fluid levels were gauged in monitoring wells MW-4, MW-7, MW-8, MW-9, VP-2, and VP-5 on May 19, 2015, using a properly decontaminated oil-water interface probe (**Figure 2**). Fluid level measurements are documented in **Table 1**. Historical fluid levels for monitoring wells not monitored during this event and for monitoring wells that were previously plugged and abandoned are included in **Appendix C**. A potentiometric surface map is provided in **Figure 3**.

### 2.2 Groundwater Sampling

On May 19, 2015, the following monitoring wells were sampled using low-flow sampling techniques: MW-4, MW-7, MW-8, MW-9, VP-2, and VP-5. Low-flow sampling was completed using a peristaltic pump and dedicated disposable polyethylene and silicone tubing. The tubing intake was lowered into the monitoring well and placed at a depth consistent with the depth sampled during the previous sampling event. In accordance with low-flow sampling techniques, the flow rate was kept below 0.5 liter per minute (L/min), and groundwater levels were monitored to ensure that the drawdown did not exceed the recommended drawdown limit of 0.33 foot (ft). Groundwater pumped from each monitoring well was conveyed through a flow-through cell where temperature, pH, specific conductivity, dissolved oxygen (DO), and oxidation reduction potential (ORP) were measured at regular intervals using a calibrated YSI 556 MPS water quality meter. Once water quality parameters stabilized for three consecutive readings, groundwater samples were conveyed directly from the peristaltic tubing (from the sampling port located immediately before the water quality meter intake) into laboratory-supplied sample bottles. A record of all water quality parameters recorded during purging and sampling of each monitoring well is documented in the field forms and field notes; a copy of each is presented in **Appendix B**. Initial and final/stabilized water quality parameter values recorded at each monitoring well prior to sample collection are summarized in **Table 2**.

The groundwater purged from all Site monitoring wells was observed to have a petroleum hydrocarbon odor.

Groundwater samples collected for analysis of VOCs were placed in 40-milliliter (mL) glass vials preserved with mercuric chloride (HgCl<sub>2</sub>). The groundwater samples collected for analysis of EDB

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were placed in 40-mL glass vials preserved with sodium thiosulfate ( $\text{Na}_2\text{S}_2\text{O}_3$ ). Groundwater samples collected for analysis of dissolved iron, manganese, and lead were filtered through 0.45-micron filters prior to collection in sample bottles preserved with nitric acid ( $\text{HNO}_3$ ). Care was taken while filtering the groundwater samples to ensure that there was no breakthrough of the groundwater sample through the filter material.

After collection, the groundwater samples were labeled and immediately packed in an ice-chilled cooler for transport to HEAL for analyses. Proper chain-of-custody procedures were adhered to during groundwater sample collection, transport, and delivery to the laboratory. Laboratory analytical results are summarized in **Table 3**, and the groundwater laboratory analytical report is included in **Appendix D**. Historical groundwater laboratory analytical results for monitoring wells not monitored during this event and for monitoring wells that were previously plugged and abandoned are included in **Appendix C**.

### **2.3 Project Health and Safety, Quality Assurance, and Investigation-Derived Waste**

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

Quality assurance practices, which were strictly adhered to, included decontaminating the oil/water interface probe with a Liquinox® solution and double-rinsing with de-ionized water between gauging and groundwater sampling activities at each well.

Laboratory data was not qualified. No contamination was noted in the trip blank. Laboratory quality control sample analyses indicated that the data were within method accuracy and precision limits with one exception. The surrogate recovery for the matrix spike was outside the control limit and therefore qualified. This will not impact the reliability of the data as the surrogate recoveries for the primary groundwater samples were not qualified (Freeman, 2015).

Purge water produced from each monitoring well during groundwater sampling was applied to an impermeable surface (asphalt and/or concrete) 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

Light non-aqueous phase liquid (LNAPL) of measurable thickness (greater than 0.01 ft) was not observed in any Site monitoring wells. Recorded depth to water measurements ranged from 7.82 ft below top of casing (btoc) at monitoring well MW-4 to 9.31 ft btoc at monitoring well MW-8. The potentiometric surface elevations (PSE) ranged from 4,935.03 ft above mean sea level (amsl) at monitoring well MW-7 to 4,935.58 ft amsl at monitoring well VP-5 (**Table 1**). When compared to the previous groundwater monitoring event conducted in December 2014, groundwater levels have increased on average 0.20 ft.

The groundwater elevation surface across the Site is relatively flat. The estimated groundwater flow direction is to the south-southeast and the estimated magnitude of the calculated hydraulic gradient is 0.002 ft/ft (**Figure 3**). Due to the lower PSE at monitoring well MW-8 compared to adjacent monitoring wells this well was not used during the contouring of the potentiometric surface.

### 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 15.11 degrees Celsius (°C) or 59.20 degrees Fahrenheit (°F) at monitoring well MW-8 to 17.49°C or 63.48°F at monitoring well VP-5. Stabilized specific conductivity values ranged from 333 microSiemens per centimeter (µS/cm) at monitoring well MW-7 to 688 µS/cm at monitoring well VP-5. Stabilized pH values ranged from 7.31 at monitoring well VP-2 to 7.86 at monitoring well MW-7. Stabilized DO concentrations ranged from 0.00 milligrams per liter (mg/L) at monitoring well VP-5 to 4.88 mg/L at monitoring well MW-8. Stabilized ORP values ranged from -257.8 millivolts (mV) at monitoring well VP-5 to -91.0 mV at monitoring well MW-4. Groundwater quality parameter values are provided in the field notes and sampling forms presented in **Appendix B**, and the initial and final/stabilized groundwater quality parameters are summarized in **Table 2**.

### 3.3 Groundwater Analytical Results

Groundwater samples collected from monitoring wells MW-4, MW-8, MW-9, and VP-5 had VOCs detected in groundwater at concentrations above the laboratory reporting limit (RL); of these four samples, three had VOCs detected at concentrations that exceed the NMWQCC Standards (**Table 3** and **Figure 4**).

Concentrations of total naphthalenes (sum of naphthalene, 1-methylnaphthalene, and 2-methylnaphthalene) greater than the NMWQCC Standard of 30 micrograms per liter ( $\mu\text{g}/\text{L}$ ) were detected in groundwater samples collected from monitoring well MW-8 (82  $\mu\text{g}/\text{L}$ ) and monitoring well VP-5 (200  $\mu\text{g}/\text{L}$ ). Total naphthalenes concentrations and groundwater elevations over time for the Site monitoring wells are presented in **Figures 5a, 6a, 7a, 8a, 9a, and 10a**.

Benzene was detected at monitoring well MW-9 at a concentration of 21  $\mu\text{g}/\text{L}$ ; this concentration exceeds the NMWQCC Standard of 10  $\mu\text{g}/\text{L}$ . **Figures 5b, 6b, 7b, 8b, 9b, and 10b** illustrate benzene concentrations and groundwater elevations over time for the Site monitoring wells. All other detected VOC concentrations were below their respective NMWQCC Standards.

Dissolved manganese was detected in groundwater at concentrations that exceed the NMWQCC Standard of 0.2 mg/L in five of the six monitoring wells sampled: MW-4 (0.74 mg/L), MW-7 (0.61 mg/L), MW-8 (0.28 mg/L), MW-9 (0.70 mg/L), and VP-2 (0.46 mg/L).

Dissolved iron was detected in the groundwater sample collected from monitoring well VP-5 at 1.2 mg/L, which exceeds the NMWQCC Standard of 1.0 mg/L. Dissolved iron was detected in five of the six monitoring wells sampled below the NMWQCC Standard of 1.0 mg/L: MW-4 (0.71 mg/L), MW-7 (0.29 mg/L), MW-8 (0.073 mg/L), MW-9 (0.22 mg/L), and VP-2 (0.070 mg/L).

Dissolved lead was detected in only one of the six groundwater samples collected above the dissolved lead laboratory RL. Dissolved lead was detected at monitoring well VP-5 at a concentration of 0.0061 mg/L below the NMWQCC Standard of 0.05 mg/L.

A summary of the analytical data, including which monitoring wells contained contaminants of concern in excess of the NMWQCC Standards, is presented in **Table 3** and **Figure 4**. A copy of the laboratory report is included in **Appendix D**.

## 4.0 CONCLUSIONS AND RECOMMENDATIONS

The objectives of INTERA's 2<sup>nd</sup> semi-annual groundwater monitoring event are to provide (1) an evaluation of groundwater flow direction, (2) an assessment of dissolved contaminant concentration trends relative to NMWQCC Standards, and (3) an evaluation of natural attenuation in the groundwater plume source area. Based on the results of the field investigation, INTERA has compiled the following conclusions and recommendations.

### 4.1 Conclusions

- LNAPL was not observed at any of the Site monitoring wells.
- The water levels at each monitoring well increased compared to the water levels measured during the previous groundwater monitoring event conducted in December 2014. On average, the water level increase was 0.20 ft.
- The potentiometric surface is relatively flat across the Site. The estimated groundwater flow is to the south-southeast and the estimated magnitude of the calculated hydraulic gradient is 0.002 ft/ft.
- Total naphthalenes were detected in groundwater at concentrations above the NMWQCC Standard in monitoring wells MW-8 and VP-5 (**Table 3** and **Figures 7a and 10a**).
- The benzene concentration detected in monitoring well MW-9 was above the NMWQCC Standard (**Figure 8b** and **Table 3**). Monitoring well MW-9 has seen dynamic fluctuations in benzene concentration during historical Site groundwater monitoring events. Benzene was detected below the NMWQCC Standard during the previous monitoring event (December 2014).
- The areal extent of the dissolved-phase contaminant plume is defined except to the northwest.
- Dissolved iron (VP-5) and manganese (MW-4, MW-7, MW-8, MW-9, and VP-2) continue to be detected at monitoring wells at concentrations that exceed the NMWQCC Standards (**Table 3** and **Figure 4**). These exceedances correspond to monitoring wells where VOCs are currently or have been historically detected in groundwater.
- A common method used to assess biodegradation at contaminated sites is to measure decreases in concentrations of terminal electron acceptors or increases in concentrations of biodegradation byproducts. The soluble species of iron and manganese are byproducts of anaerobic biodegradation. The presence of elevated dissolved iron and manganese concentrations at locations with observed decreasing petroleum hydrocarbon concentrations are evidence that biodegradation of petroleum hydrocarbons is occurring at the Site. Biodegradation, in addition to other natural attenuation processes, has been an

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effective method for the reduction of petroleum hydrocarbons at the Site (EPA, 1999; ITRC, 2009).

## 4.2 Recommendations

Based on the results of the May 19, 2015, groundwater monitoring event, INTERA makes the following recommendations:

- Continue groundwater monitoring at the Site on a semi-annual basis to assess groundwater quality and dissolved contaminant trends. Analytical results of the current sampling event indicate that dissolved-phase petroleum hydrocarbons, particularly total naphthalenes and benzene, as well as dissolved iron and manganese, continue to be a concern at the Site.
- Confirm the actual screen interval at monitoring wells VP-2 and VP-5 to verify that these monitoring wells are screened across the water table. INTERA recommends reviewing the AS/SVE remediation system as-builts and other pertinent reports to see if the screened interval for these monitoring wells is identified in these reports. If a file review cannot verify that these monitoring wells are screened across the water table, INTERA recommends video logging these wells to identify the screen intervals.
- Remove the root ball obstruction at monitoring well MW-4 to maintain the integrity of this monitoring well and prevent further damage.
- Evaluate the need to install a monitoring well northwest of monitoring well VP-5 to aid in delineating the dissolved-phase total naphthalenes plume.

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## 5.0 REFERENCES

Freeman, Andy, 2015. Hall Environmental Analysis Laboratory. Personal communication. June 17.

Groundwater Technology (GT). 1992. *Reclamation Proposal Barelas Bridge GWPA Site, 800 Bridge Blvd., SW, Albuquerque, New Mexico*. December 4.

INTERA Incorporated. 2014a. Work Plan and Cost Estimate for Semi-Annual Groundwater Monitoring, Barelas Bridge, Facility # 29854; Release ID # 54. August 22.

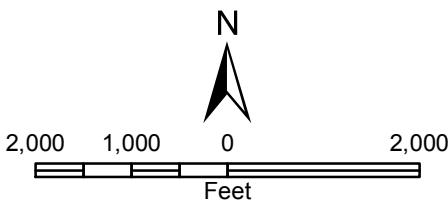
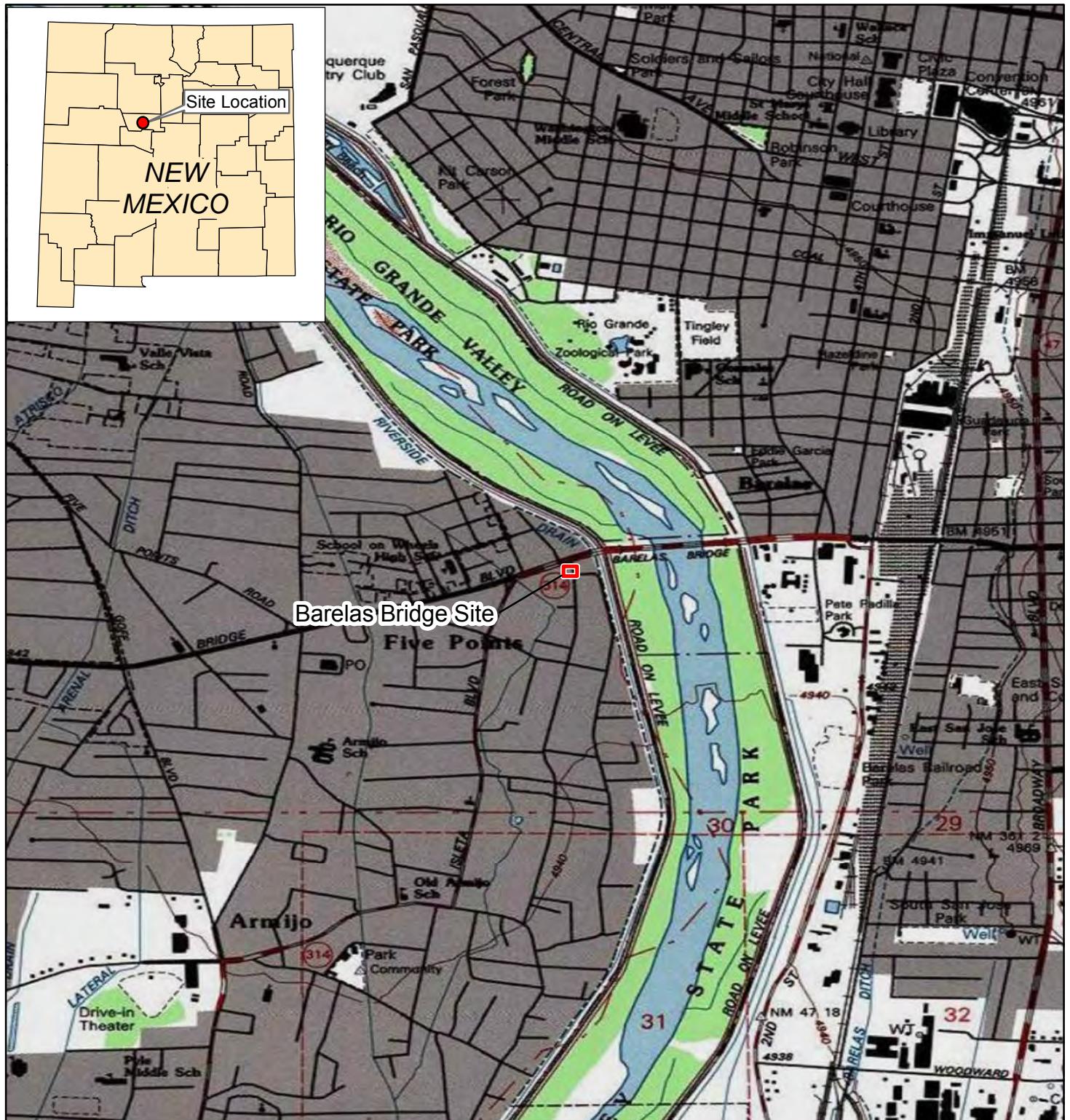
INTERA Incorporated. 2014b. 1<sup>st</sup> Semi-Annual Groundwater Monitoring Report, Barelas Bridge Site, Facility # 29854; Release ID # 54. December 23.

Interstate Technology Regulatory Council (ITRC). 2009. *Evaluating Natural Source Zone Depletion at Sites with LNAPL*. LNAPL-1. Washington, D.C.: Interstate Technology & Regulatory Council, LNAPLs Team. [www.itrcweb.org](http://www.itrcweb.org).

Leggette, Brashears & Graham, Inc. (LBG). 1990. *Hydrogeologic Investigation of the 800 Bridge Street Site, Albuquerque, New Mexico*. December.

U.S. Environmental Protection Agency (EPA). 1999. *Monitored Natural Attenuation of Petroleum Hydrocarbons*. Office of Research and Development. Washington D.C. May.

## **FIGURES**



**INTERA**

Sources:  
Topo – USA Topo Maps, ESRI web data

Figure 1

Site Location  
2nd Semi-Annual Groundwater  
Monitoring Event, May 2015,  
Barelas Bridge  
Albuquerque, New Mexico



100      50      0      100  
Feet

#### Legend

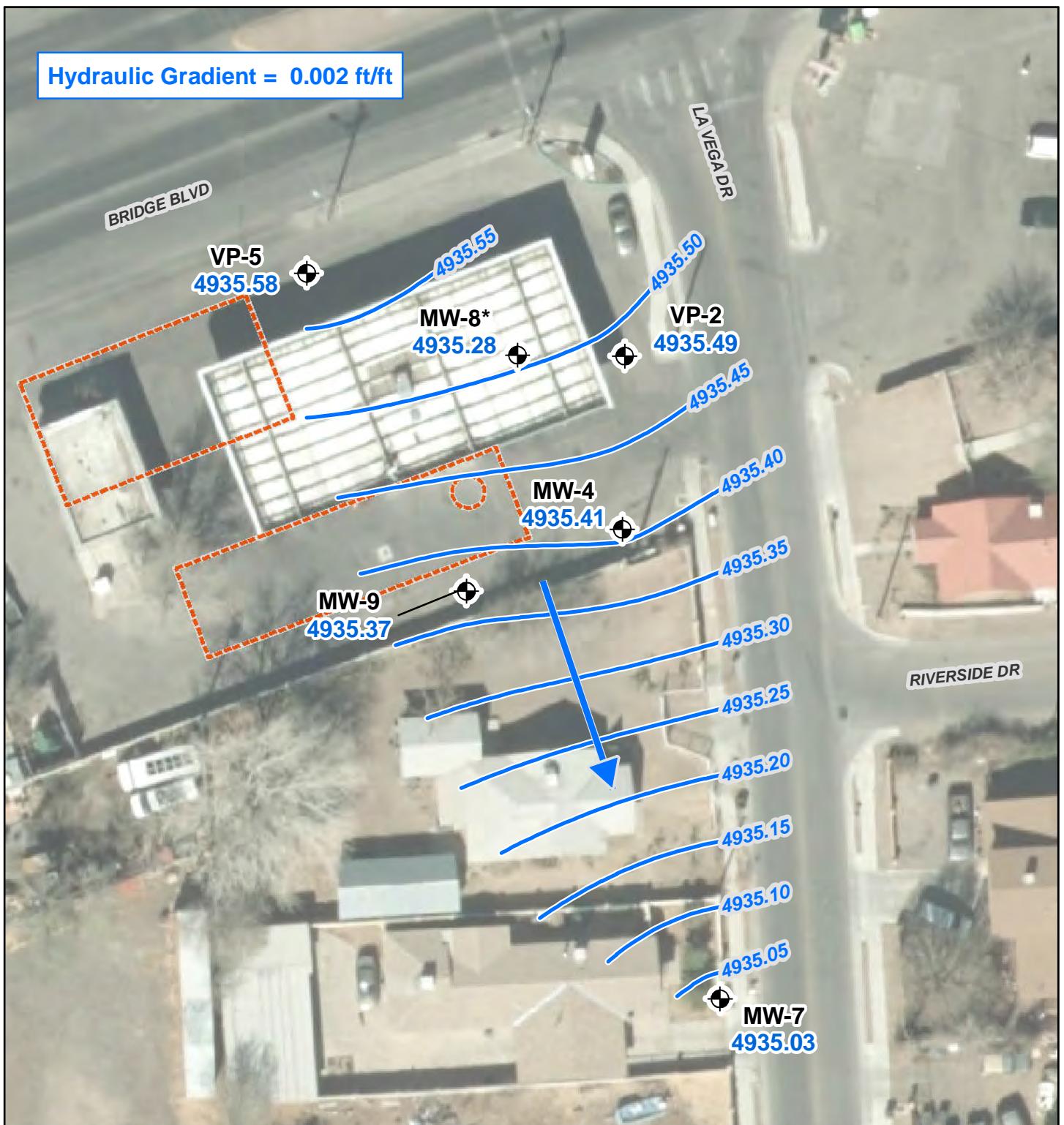
- Monitoring Well Location
- Plugged and Abandoned or Not Located

□ Former Site Feature

Figure 2  
Site Plan

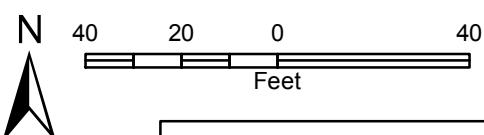
2nd Semi-Annual Groundwater  
Monitoring Event, May 2015,  
Barelas Bridge  
Albuquerque, New Mexico

Source(s): Aerial – BERNCO website, dated 2014;  
Well locations – Groundwater Technology, 1992 and Kleinfelder, 2006;  
Site features – Leggette, Brashears & Graham Inc., 1990



- Legend**
- Monitoring Well Location
  - Groundwater Elevation Contour (ft amsl)
  - Former Site Feature
  - ➡ Estimated Groundwater Flow Direction

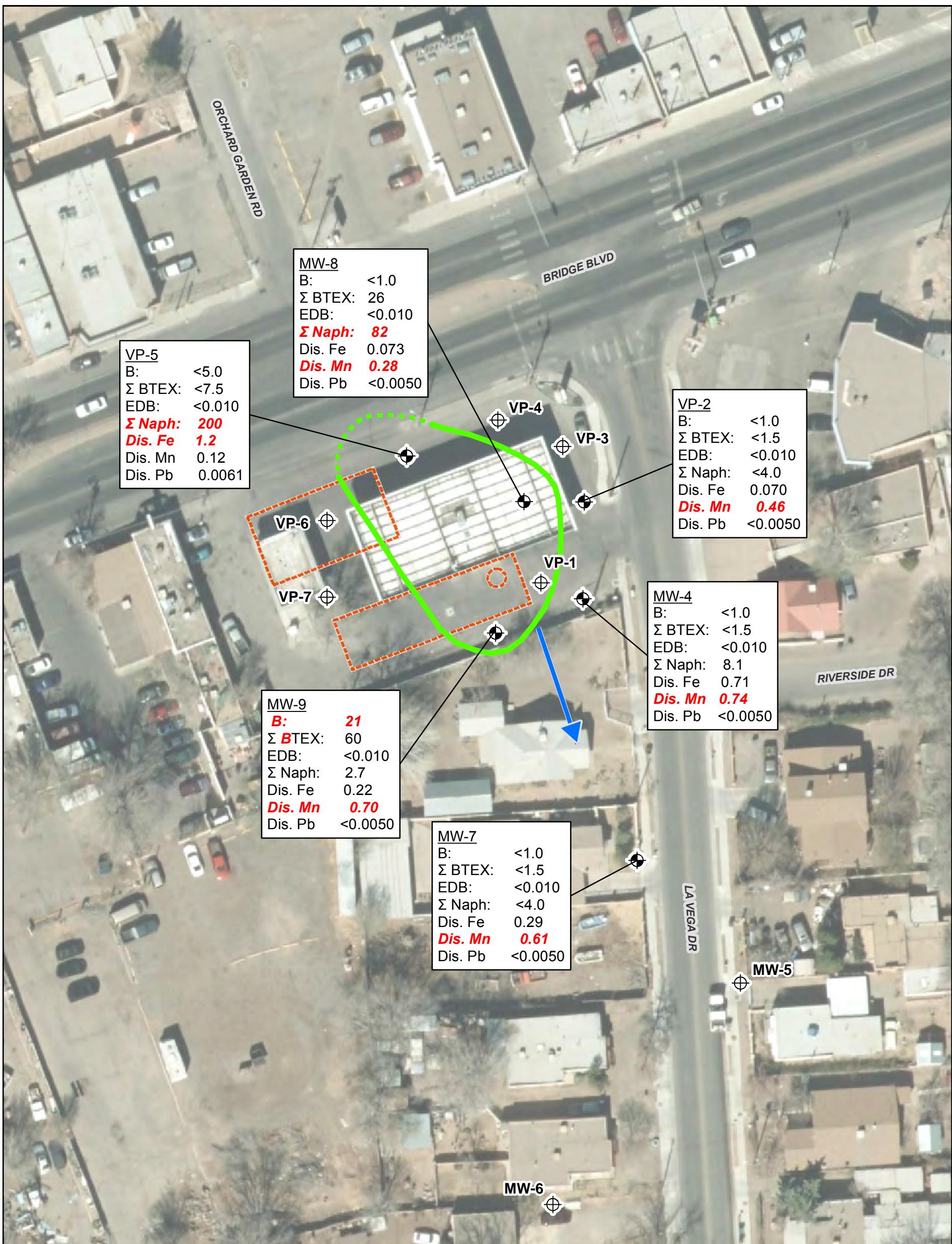
\* = MW-08 was not used in groundwater contouring.



**Figure 3**  
**Potentiometric Surface Map,**  
**May 19, 2015**  
**2nd Semi-Annual Groundwater**  
**Monitoring Event, May 2015,**  
**Barelas Bridge**  
**Albuquerque, New Mexico**

Source(s): Aerial – BERNCO website, dated 2014;  
 Well locations – Groundwater Technology, 1992 and Kleinfelder, 2006;  
 Site features – Leggette, Brashears & Graham Inc., 1990

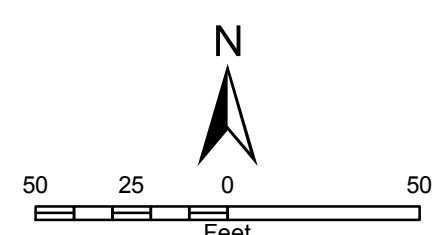




#### Legend

- Monitoring Well Location
- Plugged and Abandoned or Not Located
- Estimated Extent of Actionable Dissolved-Phase Contamination (dashed where inferred)
- Estimated Groundwater Flow Direction
- Former Site Feature

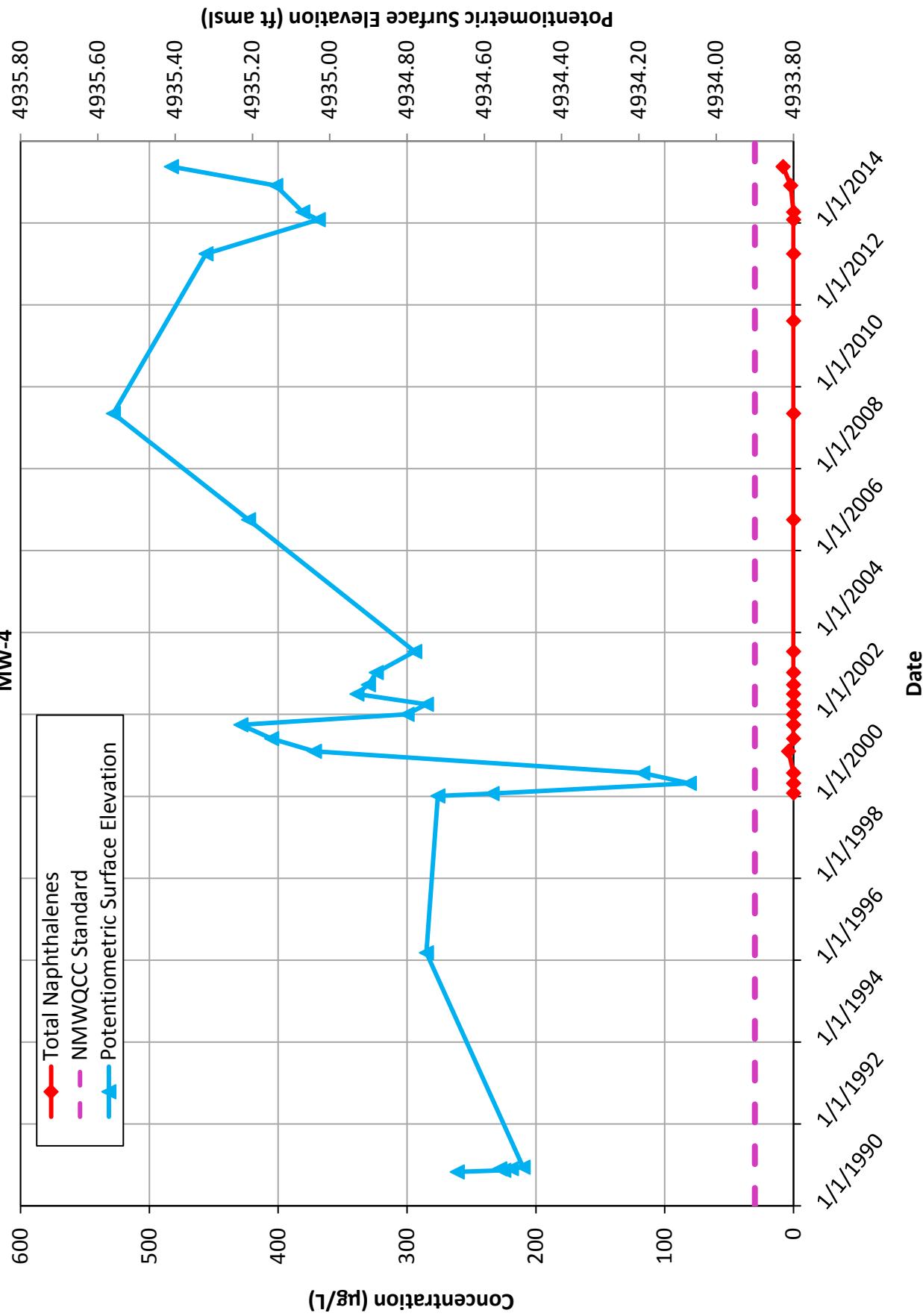
B = Benzene  
 $\Sigma$  BTEX = Benzene + Toluene + Ethylbenzene + Total Xylenes  
 EDB = 1,2-dibromoethane  
 $\Sigma$  Naph = Naphthalene + 1,Methyl naphthalene + 2, Methyl naphthalene  
 Dis. Fe = Dissolved Iron  
 Dis. Mn = Dissolved Manganese  
 Dis. Pb = Dissolved Lead



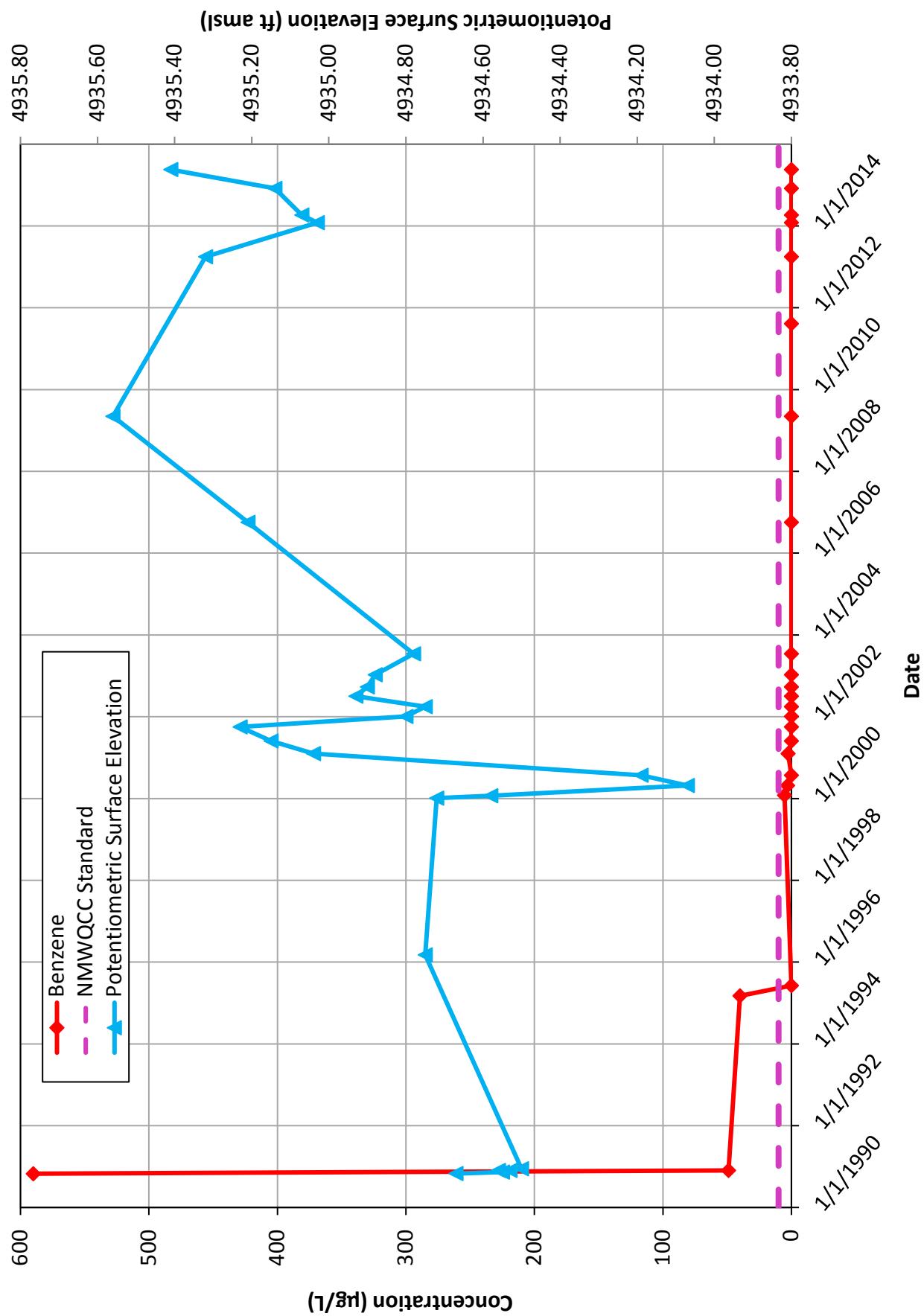
**Well ID**  
 VOC contaminant results in  $\mu\text{g/L}$  (micrograms per liter).  
 Dissolved Fe, dissolved Mn, and dissolved Pb in  $\text{mg/L}$  (milligrams per liter).  
**Red/Bold/Italic** indicates value or laboratory reporting limit in excess of the NMWQCC standards.

**Figure 4**  
**Distribution of Contaminants in**  
**Groundwater, May 19, 2015**  
 2nd Semi-Annual Groundwater  
 Monitoring Event, May 2015,  
 Barelas Bridge  
 Albuquerque, New Mexico

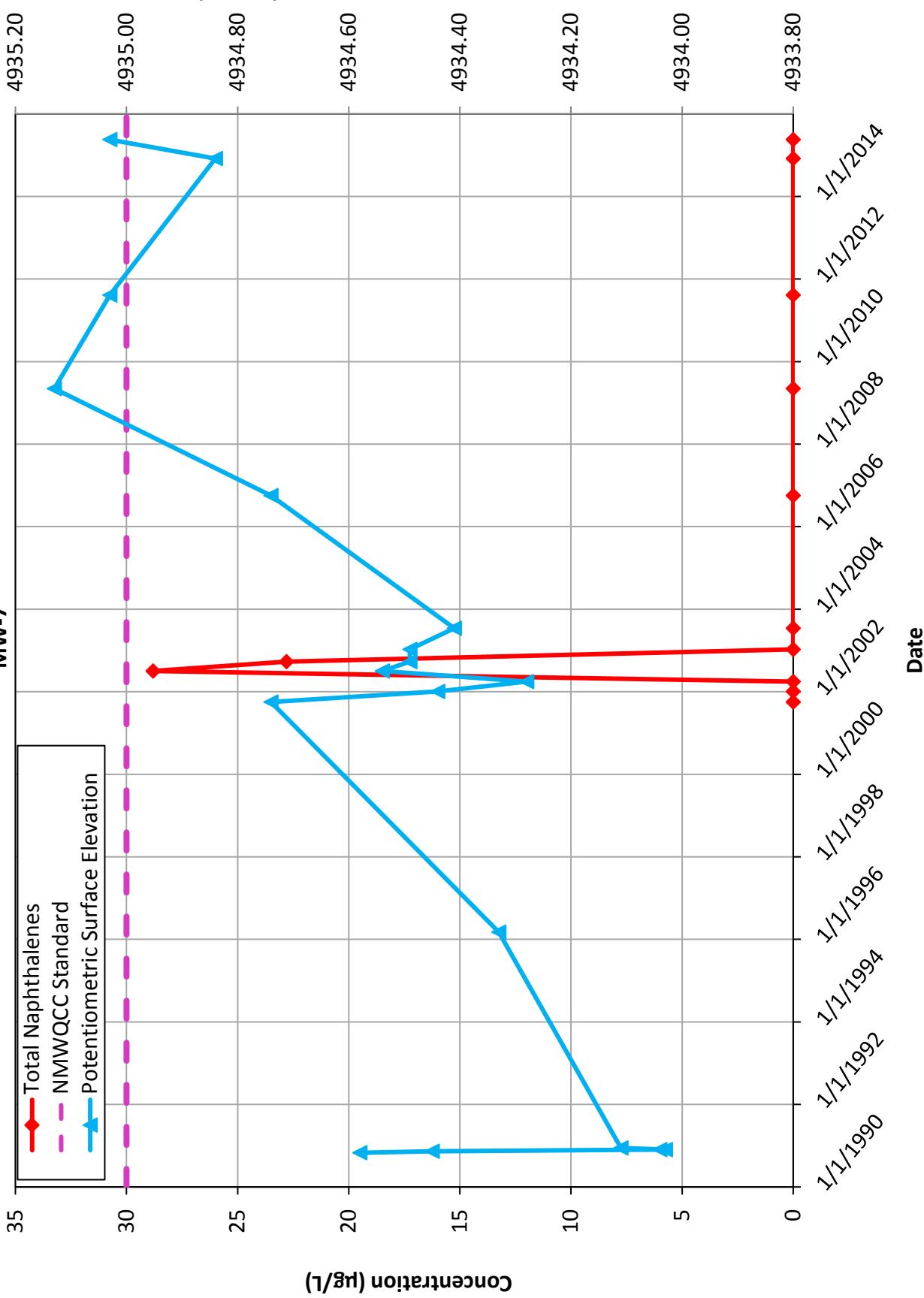
**Figure 5a: Total Naphthalenes Concentration and Groundwater Potentiometric Surface Elevation – MW-4**



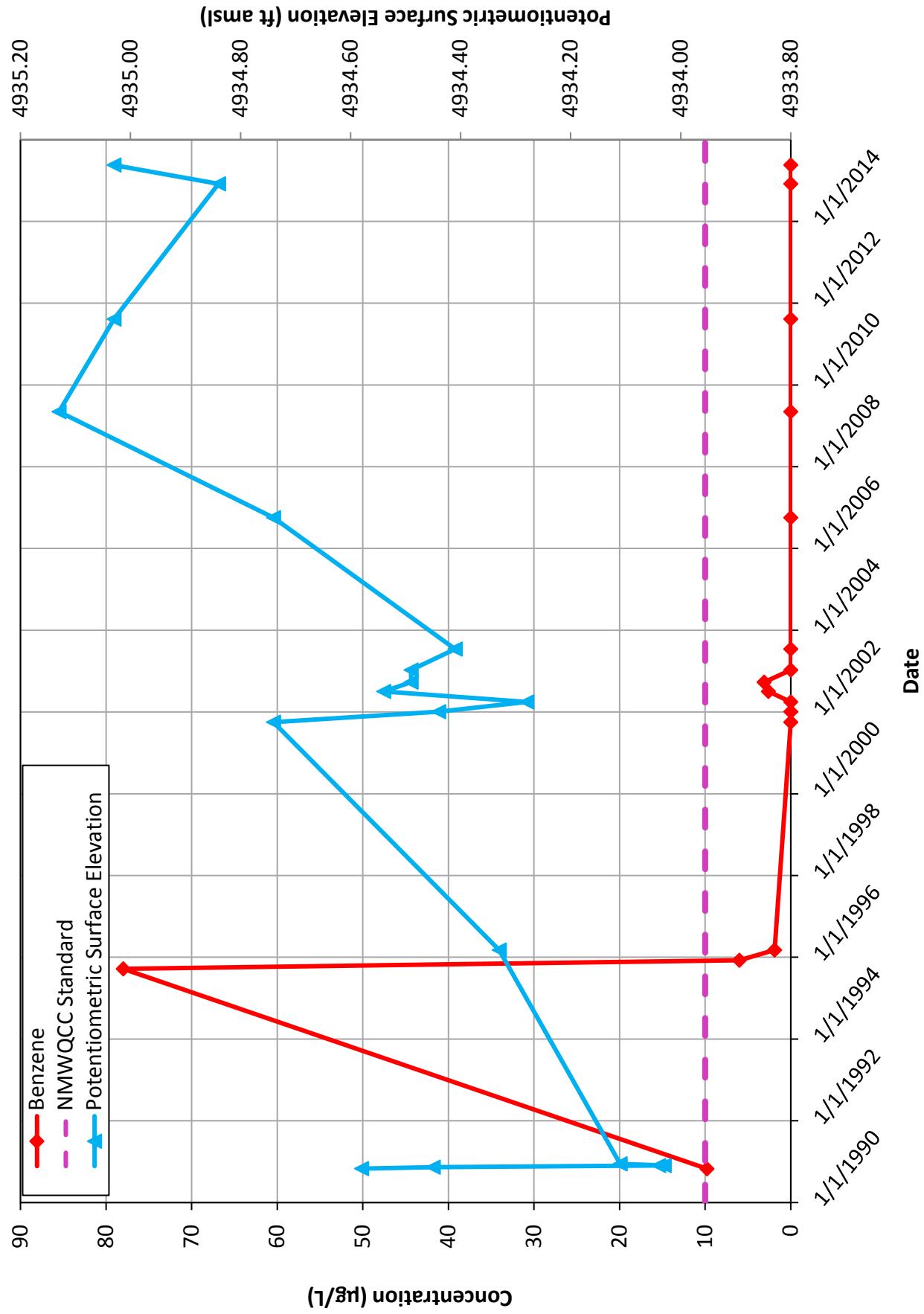
**Figure 5b: Benzene Concentration and Groundwater Potentiometric Surface Elevation vs. Time – MW-4**



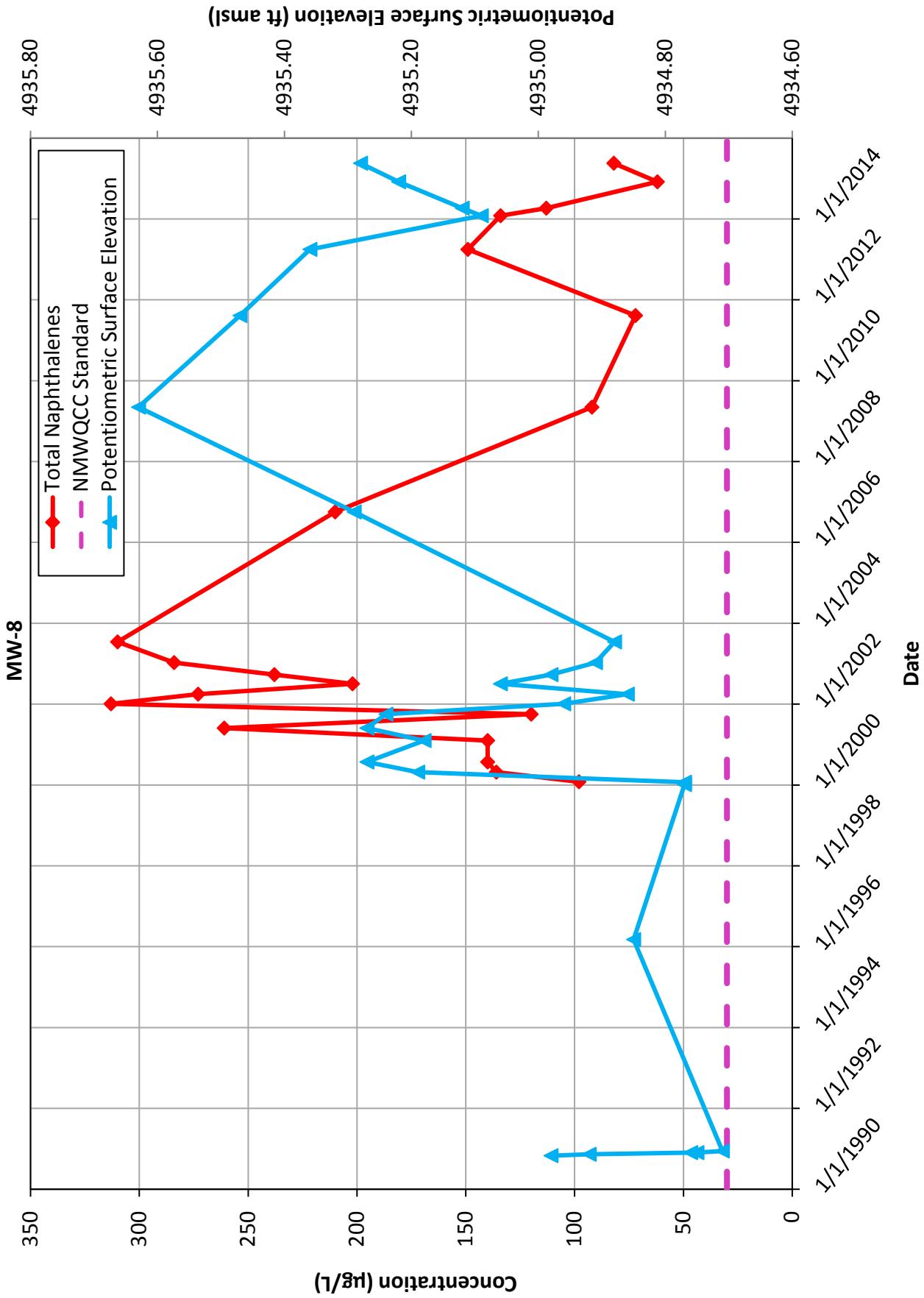
**Figure 6a: Total Naphthalenes Concentration and Groundwater Potentiometric Surface Elevation vs. Time – MW-7**



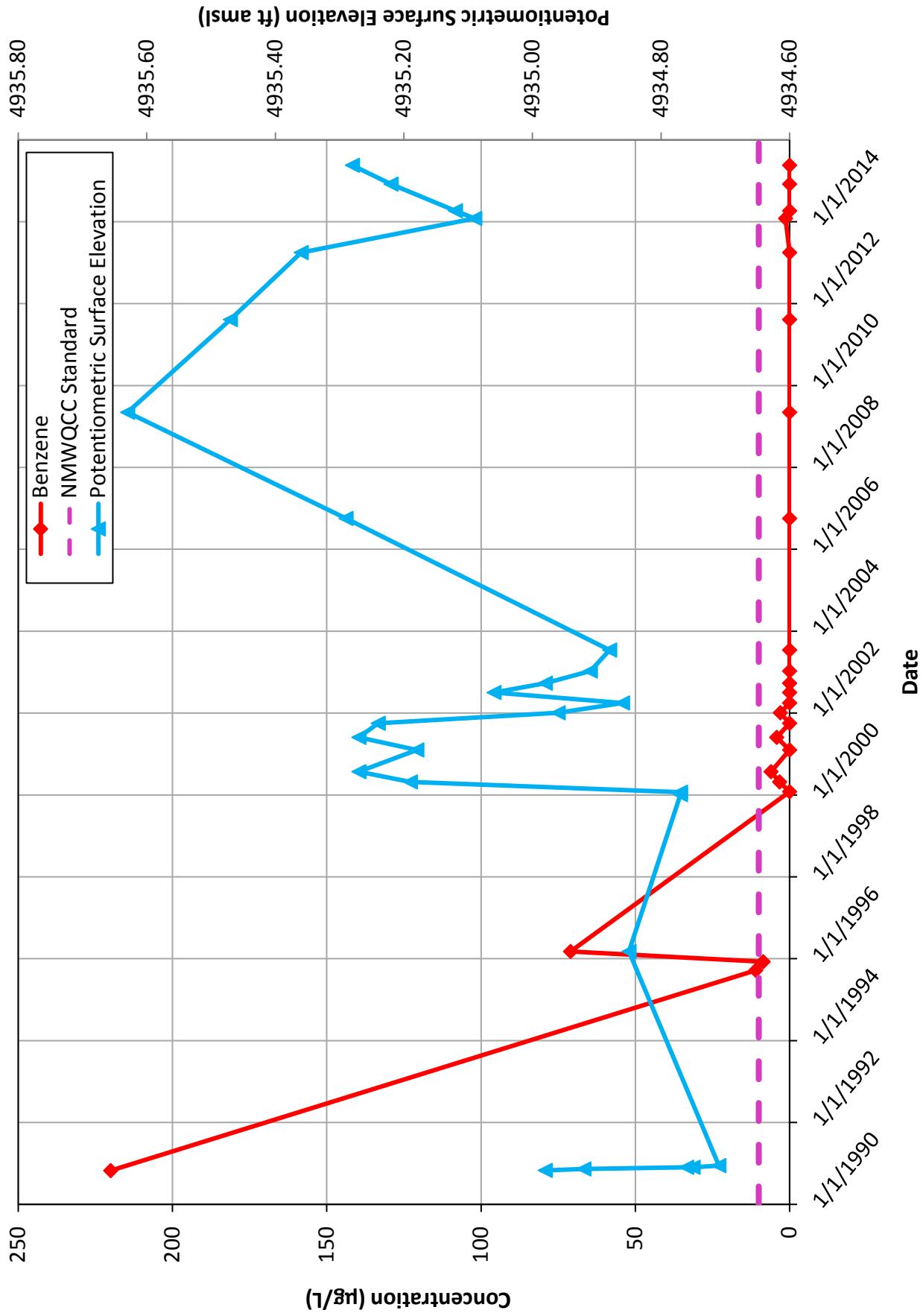
**Figure 6b: Benzene Concentration and Groundwater Potentiometric Surface Elevation vs. Time – MW-7**



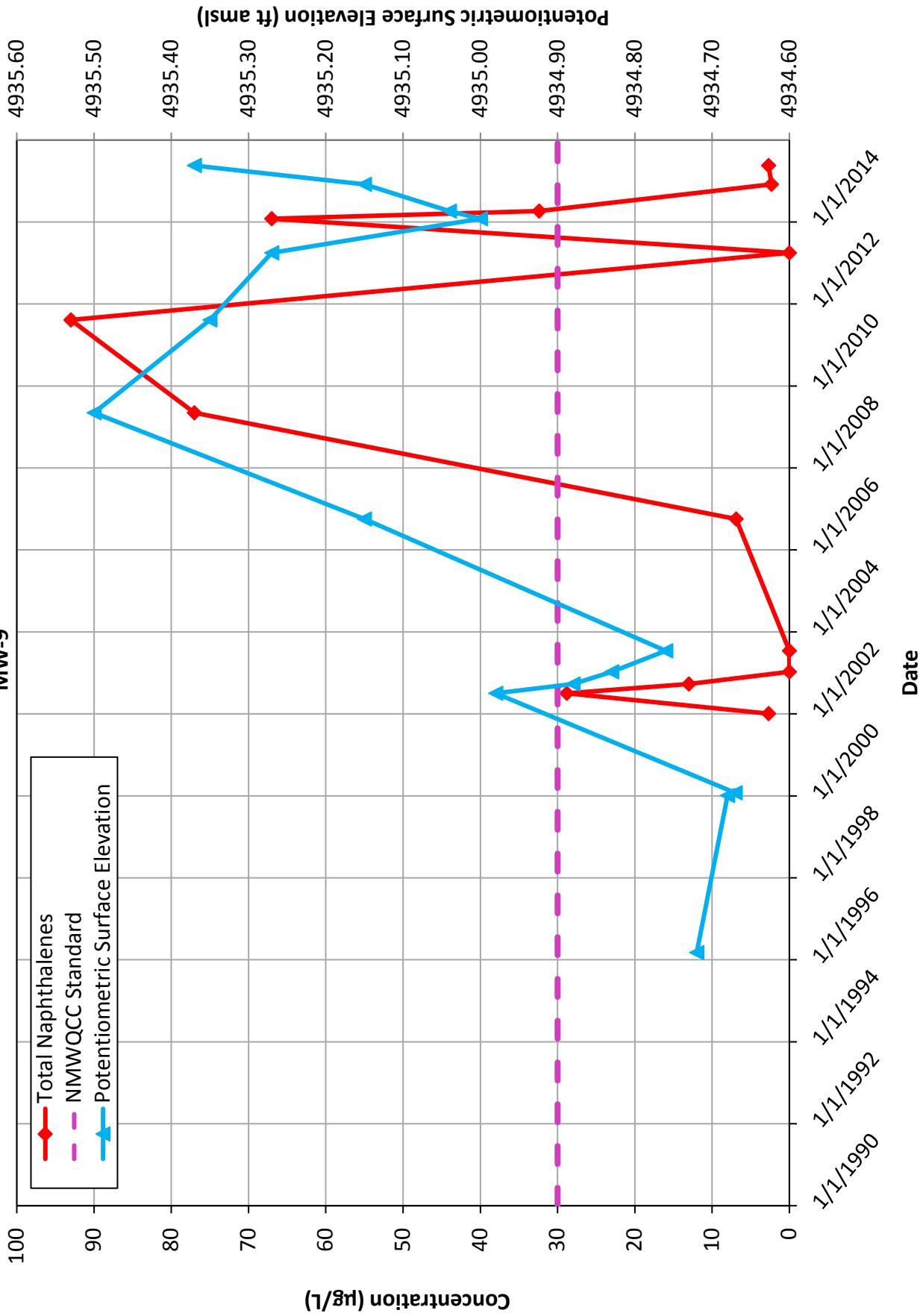
**Figure 7a: Total Naphthalenes Concentration and Groundwater Potentiometric Surface Elevation vs. Time – MW-8**



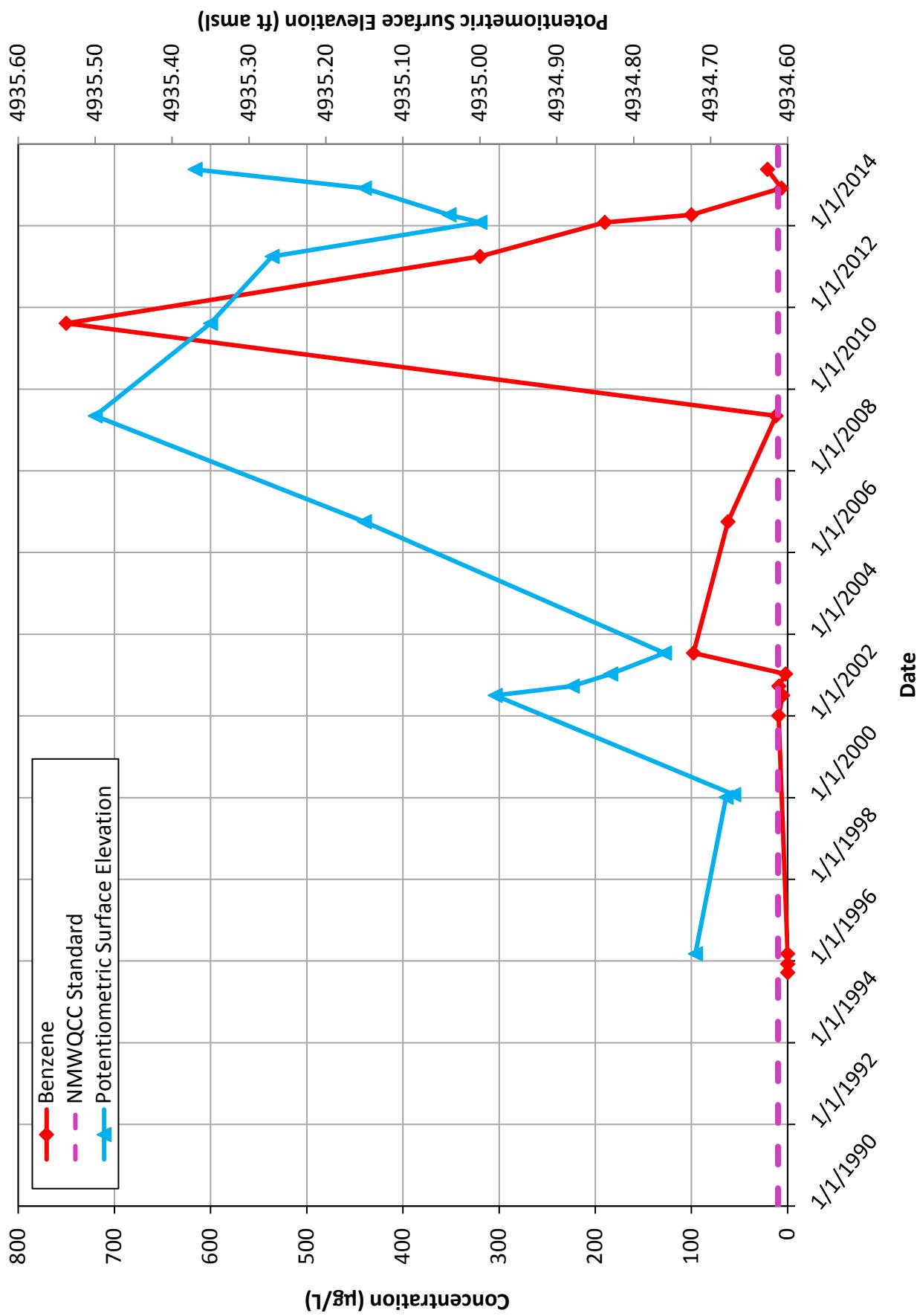
**Figure 7b: Benzene Concentration and Groundwater Potentiometric Surface Elevation vs. Time – MW-8**



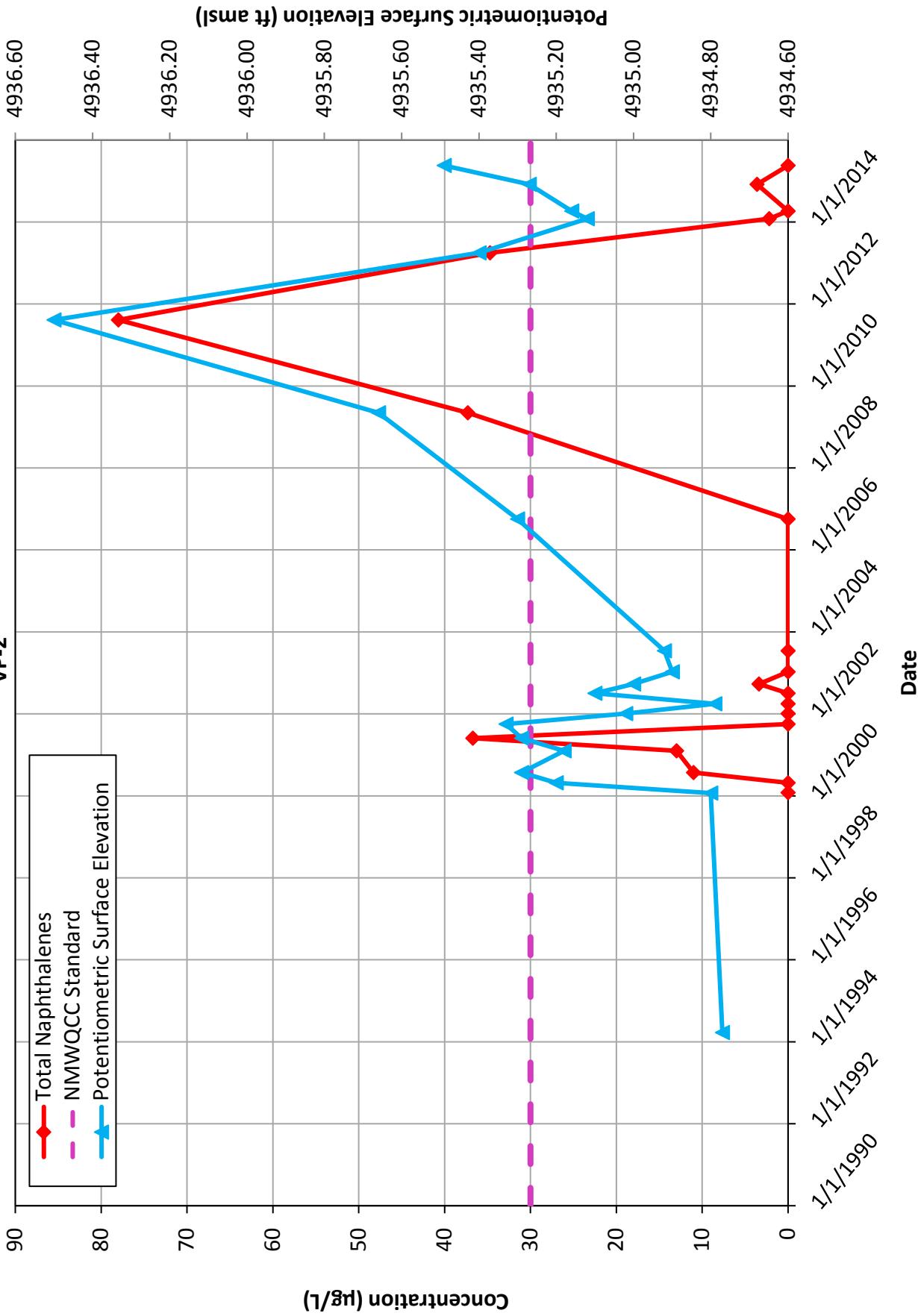
**Figure 8a: Total Naphthalenes Concentration and Groundwater Potentiometric Surface Elevation – MW-9**



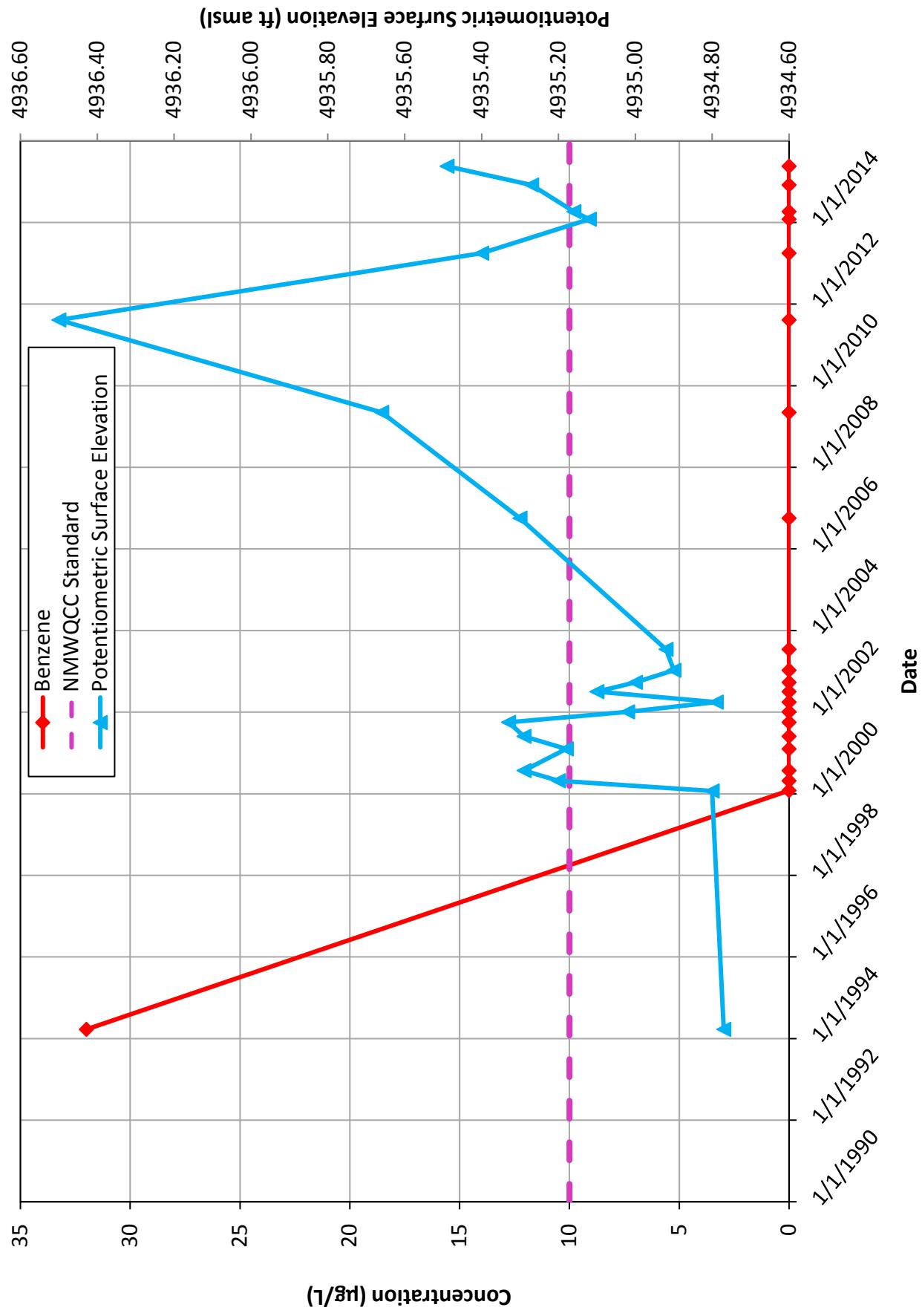
**Figure 8b: Benzene Concentration and Groundwater Potentiometric Surface Elevation vs. Time – MW-9**



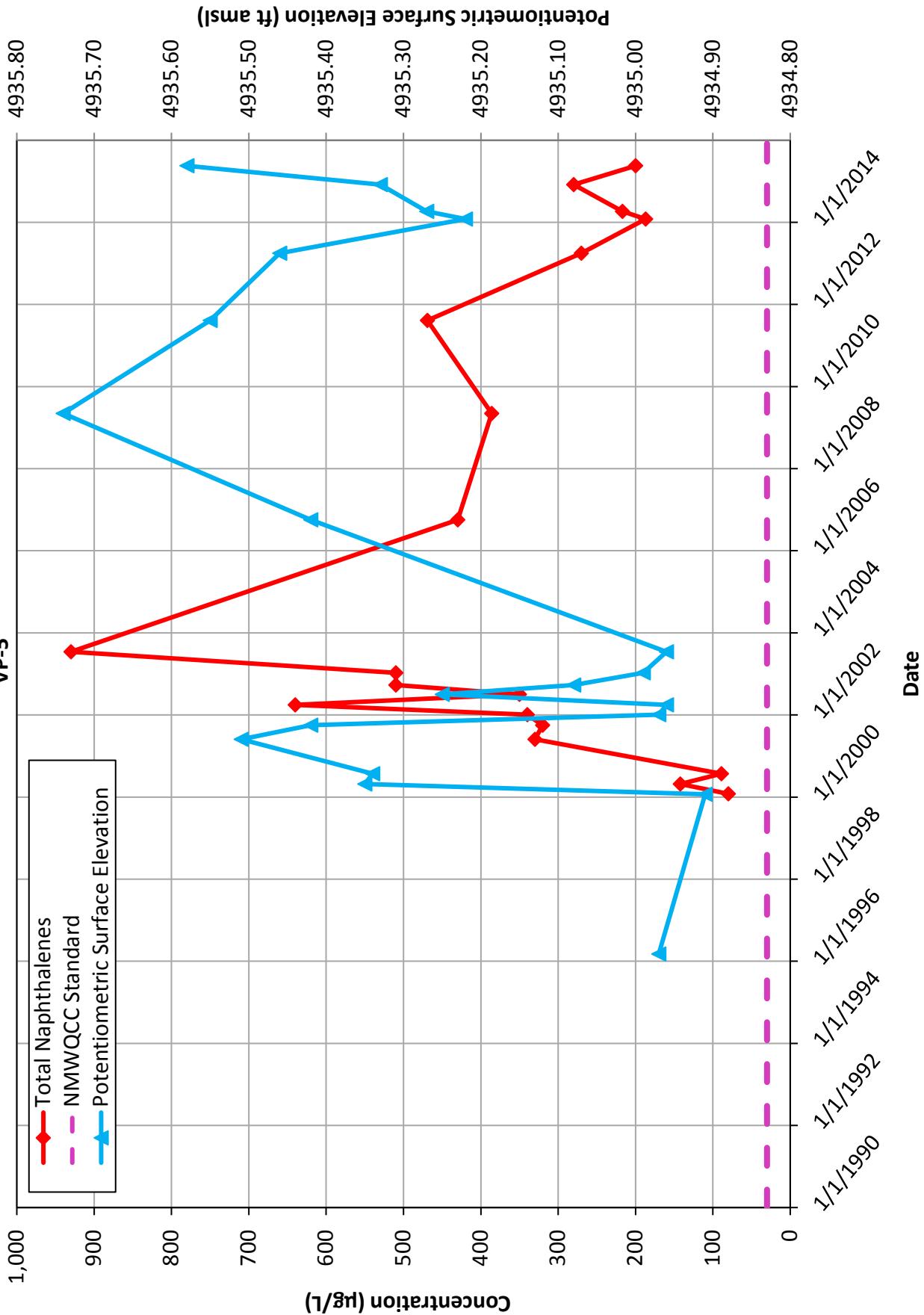
**Figure 9a: Total Naphthalenes Concentration and Groundwater Potentiometric Surface Elevation vs. Time – VP-2**



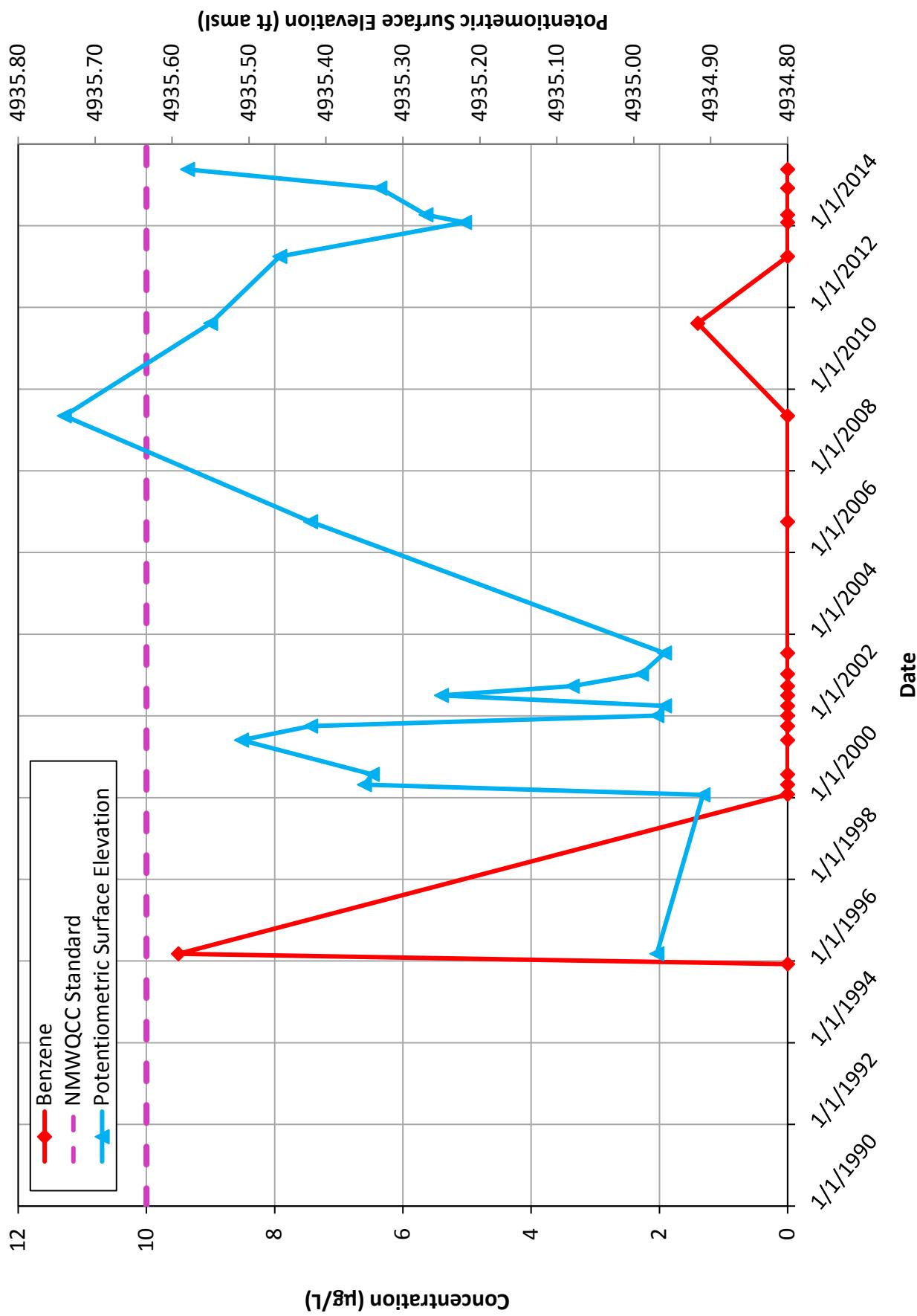
**Figure 9b: Benzene Concentration and Groundwater Potentiometric Surface Elevation vs. Time – VP-2**



**Figure 10a: Total Naphthalenes Concentration and Groundwater Potentiometric Surface Elevation vs. Time – VP-5**



**Figure 10b: Benzene Concentration and Groundwater Potentiometric Surface Elevation vs. Time – VP-5**



## **TABLES**

**TABLE 1**  
**Fluid Level Measurements**  
**2nd Semi-Annual Groundwater Monitoring Report**  
**Barelas Bridge Site, Facility # 29854; Release ID # 54**  
**Albuquerque, Bernalillo County, New Mexico**

Well ID	Date	Screen Interval (ft bgs)	Top of Casing Elevation (ft amsl)	Depth to Water (ft btoc)	Total Depth (ft btoc)	Potentiometric Surface Elevation (ft amsl) <sup>1</sup>
MW-4	2/8/1990	3.5-18.5	4943.86	---	23.5	---
	10/31/1990	3.5-18.5	4943.86	---	---	4934.67
	11/14/1990	3.5-18.5	4943.86	---	---	4934.55
	11/28/1990	3.5-18.5	4943.86	---	---	4934.56
	11/29/1990	3.5-18.5	4943.86	---	---	4934.53
	12/12/1990	3.5-18.5	4943.86	---	---	4934.50
	12/4/1992	3.5-18.5	4943.23	---	23.5	---
	3/7/1996	3.5-18.5	4943.23	8.48	16.48	4934.75
	1/6/2000	3.5-18.5	4943.23	8.51	16.48	4934.72
	1/26/2000	3.5-18.5	4943.23	8.65	16.48	4934.58
	4/26/2000	3.5-18.5	4943.23	9.16	16.48	4934.07
	7/27/2000	3.5-18.5	4943.23	9.04	16.48	4934.19
	2/6/2001	3.5-18.5	4943.23	8.19	16.48	4935.04
	5/29/2001	3.5-18.5	4943.23	8.08	16.48	4935.15
	10/1/2001	3.5-18.5	4943.23	8.00	16.5	4935.23
	1/3/2002	3.5-18.5	4943.23	8.43	16.5	4934.80
	4/1/2002	3.5-18.5	4943.23	8.48	16.5	4934.75
	7/3/2002	3.5-18.5	4943.23	8.30	16.5	4934.93
	9/24/2002	3.5-18.5	4943.23	8.33	16.5	4934.90
	1/10/2003	3.5-18.5	4943.23	8.4	16.5	4934.88
	7/17/2003	3.5-18.5	4943.23	8.5	16.5	4934.78
	10/4/2006	3.5-18.5	4943.23	8.02	20.62	4935.21
	5/8/2009	3.5-18.5	4943.23	7.67	---	4935.56
MW-7	4/2/2013	3.5-18.5	4943.23	7.91	---	4935.32
	1/30/2014	3.5-18.5	4943.23	8.20	---	4935.03
	4/9/2014	3.5-18.5	4943.23	8.16	---	4935.07
	12/2/2014	3.5-18.5	4943.23	8.09	10.60*	4935.14
	5/19/2015	3.5-18.5	4943.23	7.82	10.60*	4935.41
	10/18/1990	7-22	4942.94	---	22	---
	10/31/1990	7-22	4942.94	---	---	4934.58
	11/14/1990	7-22	4942.94	---	---	4934.45
	11/28/1990	7-22	4942.94	---	---	4934.04
	11/29/1990	7-22	4942.94	---	---	4934.03
	12/12/1990	7-22	4942.94	---	---	4934.11
	3/7/1996	7-22	4942.94	8.61	21.45	4934.33
	10/2/2001	7-22	4942.94	8.20	21.45	4934.74
	1/3/2002	7-22	4942.94	8.50	21.45	4934.44
	4/1/2002	7-22	4942.94	8.66	21.45	4934.28
	7/3/2002	7-22	4942.94	8.40	21.45	4934.54
	9/24/2002	7-22	4942.94	8.45	21.45	4934.49
	1/10/2003	7-22	4942.94	8.45	21.45	4934.49

**TABLE 1**  
**Fluid Level Measurements**  
**2nd Semi-Annual Groundwater Monitoring Report**  
**Barelas Bridge Site, Facility # 29854; Release ID # 54**  
**Albuquerque, Bernalillo County, New Mexico**

Well ID	Date	Screen Interval (ft bgs)	Top of Casing Elevation (ft amsl)	Depth to Water (ft btoc)	Total Depth (ft btoc)	Potentiometric Surface Elevation (ft amsl) <sup>1</sup>
MW-7	7/17/2003	7-22	4942.94	8.53	21.45	4934.41
	10/4/2006	7-22	4942.94	8.20	21.60	4934.74
	5/8/2009	7-22	4942.94	7.81	21.3	4935.13
	8/13/2011	7-22	4942.94	7.91	21.3	4935.03
	12/2/2014	7-22	4942.94	8.10	21.66	4934.84
	5/19/2015	7-22	4942.94	7.91	21.66	4935.03
MW-8	10/18/1990	8-13	4944.57	---	13	---
	10/31/1990	8-13	4944.57	---	---	4934.98
	11/14/1990	8-13	4944.57	---	---	4934.92
	11/28/1990	8-13	4944.57	---	---	4934.76
	11/29/1990	8-13	4944.57	---	---	4934.75
	12/12/1990	8-13	4944.57	---	---	4934.71
	3/7/1996	8-13	4944.59	9.74	13.16	4934.85
	1/6/2000	8-13	4944.59	9.82	13.16	4934.77
	1/26/2000	8-13	4944.59	9.82	13.16	4934.77
	4/26/2000	8-13	4944.59	9.4	13.16	4935.19
	7/27/2000	8-13	4944.59	9.32	13.16	4935.27
	2/6/2001	8-13	4944.59	9.41	13.16	4935.18
	5/29/2001	8-13	4944.59	9.32	13.16	4935.27
	10/2/2001	8-13	4944.59	9.35	13.16	4935.24
	1/4/2002	8-13	4944.59	9.63	13.16	4934.96
	4/1/2002	8-13	4944.59	9.73	13.16	4934.86
	7/3/2002	8-13	4944.59	9.53	13.16	4935.06
	9/24/2002	8-13	4944.59	9.61	13.16	4934.98
	1/10/2003	8-13	4944.59	9.68	13.16	4934.91
	7/17/2003	8-13	4944.59	9.71	13.16	4934.88
	10/4/2006	8-13	4944.59	9.30	13.13	4935.29
	5/8/2009	8-13	4944.59	8.96	12.8	4935.63
	8/13/2011	8-13	4944.59	9.12	12.8	4935.47
	4/2/2013	8-13	4944.59	9.23	12.8	4935.36
	1/30/2014	8-13	4944.59	9.5	12.8	4935.09
	4/9/2014	8-13	4944.59	9.47	12.8	4935.12
	12/2/2014	8-13	4944.59	9.37	13.32	4935.22
	5/19/2015	8-13	4944.59	9.31	13.32	4935.28
MW-9	8/20/1992	5-20	4943.98	---	20.0	---
	3/7/1996	5-20	4943.98	9.26	19.43	4934.72
	1/6/2000	5-20	4943.98	9.30	19.43	4934.68
	1/28/2000	5-20	4943.98	9.31	19.43	4934.67
	7/3/2002	5-20	4943.98	9.00	19.43	4934.98
	9/24/2002	5-20	4943.98	9.10	19.43	4934.88
	1/10/2003	5-20	4943.98	9.15	19.43	4934.83
	7/17/2003	5-20	4943.98	9.22	19.43	4934.76

**TABLE 1**  
**Fluid Level Measurements**  
**2nd Semi-Annual Groundwater Monitoring Report**  
**Barelas Bridge Site, Facility # 29854; Release ID # 54**  
**Albuquerque, Bernalillo County, New Mexico**

Well ID	Date	Screen Interval (ft bgs)	Top of Casing Elevation (ft amsl)	Depth to Water (ft btoc)	Total Depth (ft btoc)	Potentiometric Surface Elevation (ft amsl) <sup>1</sup>
MW-9	10/4/2006	5-20	4943.98	8.83	19.41	4935.15
	5/8/2009	5-20	4943.98	8.48	19.20	4935.5
	8/13/2011	5-20	4943.98	8.63	19.20	4935.35
	4/2/2013	5-20	4943.98	8.71	19.20	4935.27
	1/30/2014	5-20	4943.98	8.98	19.20	4935
	4/9/2014	5-20	4943.98	8.94	19.20	4935.04
	12/2/2014	5-20	4943.98	8.83	19.28	4935.15
	5/19/2015	5-20	4943.98	8.61	19.28	4935.37
VP-2	3/24/1994	---	4943.73	8.96	NA	4934.77
	1/26/2000	---	4943.73	8.93	NA	4934.80
	4/26/2000	---	4943.73	8.53	NA	4935.20
	7/27/2000	---	4943.73	8.44	12.57	4935.29
	2/6/2001	---	4943.73	8.55	12.57	4935.18
	5/29/2001	---	4943.73	8.44	12.57	4935.29
	10/1/2001	---	4943.73	8.40	12.65	4935.33
	1/3/2002	---	4943.73	8.71	12.57	4935.02
	4/1/2002	---	4943.73	8.94	12.57	4934.79
	7/3/2002	---	4943.73	8.63	12.57	4935.10
	9/24/2002	---	4943.73	8.73	12.57	4935.00
	1/10/2003	---	4943.73	8.83	12.57	4934.90
	7/17/2003	---	4943.73	8.81	12.57	4934.92
	10/4/2006	---	4943.73	8.43	12.72	4935.30
	5/8/2009	---	4943.73	8.07	12.50	4935.66
VP-5	8/13/2011	---	4943.73	7.23	12.50	4936.5
	4/2/2013	---	4943.73	8.33	12.50	4935.4
	1/30/2014	---	4943.73	8.61	12.50	4935.12
	4/9/2014	---	4943.73	8.57	12.50	4935.16
	12/2/2014	---	4943.73	8.46	12.80	4935.27
	5/19/2015	---	4943.73	8.24	12.80	4935.49
	3/7/1996	---	4943.52	8.55	NA	4934.97
	1/26/2000	---	4943.52	8.61	NA	4934.91
	4/26/2000	---	4943.52	8.17	NA	4935.35
	7/27/2000	---	4943.52	8.18	12.17	4935.34
	5/29/2001	---	4943.52	8.01	12.17	4935.51

**TABLE 1**  
**Fluid Level Measurements**  
**2nd Semi-Annual Groundwater Monitoring Report**  
**Barelas Bridge Site, Facility # 29854; Release ID # 54**  
**Albuquerque, Bernalillo County, New Mexico**

Well ID	Date	Screen Interval (ft bgs)	Top of Casing Elevation (ft amsl)	Depth to Water (ft btoc)	Total Depth (ft btoc)	Potentiometric Surface Elevation (ft amsl) <sup>1</sup>
VP-5	5/8/2009	---	4943.52	7.78	11.90	4935.74
	8/13/2011	---	4943.52	7.97	11.90	4935.55
	4/2/2013	---	4943.52	8.06	11.90	4935.46
	1/30/2014	---	4943.52	8.30	11.90	4935.22
	4/9/2014	---	4943.52	8.25	11.90	4935.27
	12/2/2014	---	4943.52	8.19	12.42	4935.33
	5/19/2015	---	4943.52	7.94	12.42	4935.58

**Notes:**

<sup>1</sup> = Value calculated from: Potentiometric Surface Elevation = Top of Casing Elevation - Depth to Water

amsl = above mean sea level

bgs = below ground surface

btoc = below top of casing

ft = feet

\* Root ball obstruction in well

**TABLE 2**  
**Groundwater Quality Parameters**

2nd Semi-Annual Groundwater Monitoring Report  
 Barelas Bridge Site, Facility # 29854; Release ID # 54  
 Albuquerque, Bernalillo County, New Mexico

Well ID	Date	Parameter Monitoring Time	DTW (ft btoc)	Temperature		Specific Conductivity ( $\mu\text{S}/\text{cm}$ )	pH	DO (mg/L)	ORP (mV)
				°C	°F				
MW-4	12/2/2014	Initial	8.09	17.10	62.78	429	7.62	35.09	-37.5
		Final	8.12	18.48	65.26	486	7.21	3.27	-141.2
	5/19/2015	Initial	7.82	17.51	63.52	373	7.47	0.35	-99.0
		Final	7.87	17.02	62.64	409	7.38	0.08	-91.0
MW-7	12/2/2014	Initial	8.11	17.39	63.30	435	7.54	6.56	-202.0
		Final	8.14	17.68	63.82	452	7.62	2.09	-174.4
	5/19/2015	Initial	7.95	18.26	64.87	350	7.84	3.82	-114.2
		Final	7.91	16.75	62.15	333	7.86	3.64	-115.9
MW-8	12/2/2014	Initial	9.37	18.35	65.03	534	7.71	10.24	-157.5
		Final	9.40	18.98	66.16	605	7.47	3.93	-262.3
	5/19/2015	Initial	9.31	15.61	60.10	376	7.62	5.32	-54.1
		Final	9.22	15.11	59.20	423	7.66	4.88	-178.9
MW-9	12/2/2014	Initial	8.83	17.91	64.24	439	7.42	8.72	-149.2
		Final	8.85	17.93	64.27	431	7.36	3.03	-230.4
	5/19/2015	Initial	8.60	16.95	62.51	425	6.97	0.24	-158.9
		Final	8.62	16.21	61.18	340	7.35	0.05	-199.3
VP-2	12/2/2014	Initial	8.48	18.73	65.71	508	2.71	6.32	199.3
		Final	8.55	18.96	66.13	509	5.99	2.35	-120.7
	5/19/2015	Initial	8.23	17.35	63.23	344	6.91	0.24	-14.3
		Final	8.30	16.94	62.49	347	7.31	0.06	-98.6
VP-5	12/2/2014	Initial	8.20	17.87	64.17	817	6.90	3.96	-130.2
		Final	8.29	18.31	64.96	735	7.23	3.52	-200.5
	5/19/2015	Initial	7.94	17.63	63.73	621	7.11	0.22	-137.4
		Final	8.02	17.49	63.48	688	7.36	0.00	-257.8

**Notes:**

°C = degrees Celsius

°F = degrees Fahrenheit

$\mu\text{S}/\text{cm}$  = microSiemens per centimeter

btoc = below top of casing

DO = dissolved oxygen

DTW= Depth to water

ft = feet

mg/L = milligrams per liter

mV = millivolts

ORP = oxidation reduction potential

**TABLE 3**  
**Laboratory Analytical Results - Groundwater**  
**2nd Semi-Annual Groundwater Monitoring Report**  
**Barelas Bridge Site, Facility # 29854; Release ID # 54**  
**Albuquerque, Bernalillo County, New Mexico**

Sample ID	Date	Organics <sup>1</sup>								Inorganics <sup>5</sup>			
		Benzene	Toluene	Ethylbenzene	Total Xylenes	BTEX <sup>2</sup>	MTBE	EDB <sup>3</sup>	EDC	Total Naphthalenes <sup>4</sup>	Dissolved Iron	Dissolved Manganese	
		Concentration (µg/L)								Concentration (mg/L)			
NMWQCC Standard		10	750	750	620	NE	100*	0.1	10	30	1.0	0.2	0.05
MW-4	10/30/1990	590	35.3	518	1,871	3,015	-	-	-	-	-	-	-
	11/29/1990	49	1.0	8.4	14	72	-	-	-	-	-	-	-
	3/7/1995	40	1.0	54	<2.0	95.0	NA	NA	NA	NA	-	-	-
	6/6/1995	<0.5	<1.0	<1.0	<2.0	<4.5	NA	NA	NA	NA	-	-	-
	1/30/2000	5.4	<1.0	<1.0	2.6	8.0	<1.0	<1.0	<1.0	<2.0	-	-	-
	4/26/2000	2.9	<1.0	<1.0	<1.0	2.9	<1.0	<1.0	<1.0	<2.0	-	-	-
	7/27/2000	<1.0	<1.0	<1.0	<1.0	<4.0	<1.0	<1.0	<1.0	<2.0	-	-	-
	2/6/2001	2.5	<1.0	<1.0	1.5	4.0	<1.0	<1.0	<1.0	3.9	1.19	1.76	<0.005
	5/29/2001	<1.0	<1.0	<1.0	<1.0	<4.0	<1.0	<1.0	<1.0	<6.0	0.17	1.97	<0.005
	10/1/2001	<1.0	<1.0	<1.0	<3.0	<6.0	<1.0	<1.0	<1.0	<15.0	-	-	-
	1/3/2002	<1.0	<1.0	<1.0	<1.0	<4.0	<1.0	<1.0	<1.0	<10	-	-	-
	4/1/2002	<1.0	<1.0	<1.0	<1.0	<4.0	<1.0	<1.0	<1.0	<10	-	-	-
	7/3/2002	<1.0	<1.0	<1.0	<1.0	<4.0	<1.0	<1.0	<1.0	<10	-	-	-
	9/24/2002	<1.0	<1.0	<1.0	<1.0	<4.0	<1.0	<1.0	<1.0	<10	-	-	-
	1/10/2003	<1.0	<1.0	<1.0	<1.0	<4.0	<1.0	<1.0	<1.0	<10	-	-	-
	7/17/2003	<1.0	<1.0	<1.0	<1.0	<4.0	<1.0	0.010	<1.0	<10	-	-	-
	10/4/2006	<1.0	<1.0	<1.0	<3.0	<3.0	<1.5	-	-	<10	-	-	-
	5/8/2009	<1.0	<1.0	<1.0	<1.5	<1.5	<1.0	-	-	<10	-	-	-
	8/13/2011	<1.0	<1.0	<1.0	<1.5	<1.5	<1.0	-	-	<4.0	-	-	-
	4/2/2013	<1.0	<1.0	<1.0	<1.5	<1.5	<1.0	-	-	<4.0	-	-	-
	1/30/2014	<1.0	<1.0	<1.0	<1.5	<1.5	<1.0	-	-	<4.0	-	-	-
	4/9/2014	<1.0	<1.0	<1.0	<1.5	<1.5	<1.0	-	-	<4.0	-	-	-
	12/2/2014	<1.0	<1.0	<1.0	<1.5	<1.5	<1.0	<0.010	<1.0	2.1	0.60	0.78	<0.0050
	5/19/2015	<1.0	<1.0	<1.0	<1.5	<1.5	<1.0	<0.010	<1.0	8.1	0.71	0.74	<0.0050

**TABLE 3**  
**Laboratory Analytical Results - Groundwater**  
**2nd Semi-Annual Groundwater Monitoring Report**  
**Barelas Bridge Site, Facility # 29854; Release ID # 54**  
**Albuquerque, Bernalillo County, New Mexico**

Sample ID	Date	Organics <sup>1</sup>								Inorganics <sup>5</sup>			
		Benzene	Toluene	Ethylbenzene	Total Xylenes	BTEX <sup>2</sup>	MTBE	EDB <sup>3</sup>	EDC	Total Naphthalenes <sup>4</sup>	Dissolved Iron	Dissolved Manganese	
		Concentration (µg/L)								Concentration (mg/L)			
NMWQCC Standard		10	750	750	620	NE	100*	0.1	10	30	1.0	0.2	0.05
MW-7	10/30/1990	9.8	3	20.8	4.9	38.5	-	-	-	-	-	-	-
	9/20/1995	78	2.1	9.9	8.7	98.7	NA	NA	NA	NA	-	-	-
	12/5/1995	6.0	1.2	2.2	<2.0	9.4	NA	NA	NA	NA	-	-	-
	3/7/1996	1.9	<1.0	<1.0	<2.0	1.9	NA	NA	NA	NA	-	-	-
	10/2/2001	<1.0	<1.0	<1.0	3.3	3.3	<1.0	<1.0	<1.0	<15	-	-	-
	1/3/2002	<1.0	<1.0	<1.0	<1.0	<4.0	<1.0	<1.0	<1.0	<10	-	-	-
	4/1/2002	<1.0	<1.0	<1.0	<1.0	<4.0	<1.0	<1.0	<1.0	<10	-	-	-
	7/3/2002	2.6	<1.0	<1.0	3.0	5.6	<1.0	<1.0	<1.0	28.8	-	-	-
	9/24/2002	3.1	<1.0	<1.0	1.7	4.8	<1.0	<1.0	<1.0	22.8	-	-	-
	1/10/2003	<1.0	<1.0	<1.0	<1.0	<4.0	<1.0	<1.0	<1.0	<10	-	-	-
	7/17/2003	<1.0	<1.0	<1.0	<1.0	<4.0	<1.0	0.010	<1.0	<10	-	-	-
	10/4/2006	<1.0	<1.0	<1.0	<3.0	<3.0	<1.5	-	-	<10	-	-	-
	5/8/2009	<1.0	<1.0	<1.0	<1.5	<1.5	<1.0	-	-	<10	-	-	-
	8/13/2011	<1.0	<1.0	<1.0	<1.5	<1.5	<1.0	-	-	<4.0	-	-	-
	12/2/2014	<1.0	<1.0	<1.0	<1.5	<1.5	<1.0	<0.010	<1.0	<4.0	0.33	0.69	<0.0050
	5/19/2015	<1.0	<1.0	<1.0	<1.5	<1.5	<1.0	<0.010	<1.0	<4.0	0.29	0.61	<0.0050
MW-8	10/30/1990	220	120	960	1,140	-	-	-	-	-	-	-	-
	9/20/1995	11	19	190	74	294.0	NA	NA	NA	NA	-	-	-
	12/5/1995	8.6	8.3	49	18	83.9	NA	NA	NA	NA	-	-	-
	3/7/1996	71	24	400	150	645.0	NA	NA	NA	NA	-	-	-
	1/30/2000	<10	<10	150.0	5.7	155.7	<10	<10	<10	98	-	-	-
	4/26/2000	3.2	2.2	<1.0	35	40.4	<1.0	<1.0	<1.0	136	-	-	-
	7/27/2000	6.0	5.2	150	61	222.2	<1.0	<1.0	<1.0	140	-	-	-

**TABLE 3**  
**Laboratory Analytical Results - Groundwater**  
**2nd Semi-Annual Groundwater Monitoring Report**  
**Barelas Bridge Site, Facility # 29854; Release ID # 54**  
**Albuquerque, Bernalillo County, New Mexico**

Sample ID	Date	Organics <sup>1</sup>								Inorganics <sup>5</sup>			
		Benzene	Toluene	Ethylbenzene	Total Xylenes	BTX <sup>2</sup>	MTBE	EDB <sup>3</sup>	EDC	Total Naphthalenes <sup>4</sup>	Dissolved Iron	Dissolved Manganese	
		Concentration ( $\mu\text{g/L}$ )								Concentration (mg/L)			
NMWQCC Standard		10	750	750	620	NE	100*	0.1	10	30	1.0	0.2	0.05
MW-8	2/6/2001	<10	<10	130	43	173	<10	<10	<10	140	0.68	0.38	<0.005
	5/29/2001	4.2	2.6	110	57	173.8	<2.0	<2.0	<2.0	261	1.12	0.36	<0.005
	10/2/2001	<10	<10	90	51	141	<10	<10	<10	120	-	-	-
	1/4/2002	3.0	3.2	35	50	91.2	<2.0	<2.0	<2.0	313	-	-	-
	4/1/2002	<5.0	<5.0	100	43	143	<5.0	<5.0	<5.0	273	-	-	-
	7/3/2002	<5.0	<5.0	86	40	126	<5.0	<5.0	<5.0	202	-	-	-
	9/24/2002	<5.0	<5.0	58	29	87	<5.0	<5.0	<5.0	238	-	-	-
	1/10/2003	<2.0	<2.0	57	38	95	<2.0	<2.0	<2.0	284	-	-	-
	7/17/2003	<5.0	<5.0	66	38	104	<5.0	0.010	<5.0	310	-	-	-
	10/4/2006	<2.0	<2.0	34	18	52	<3.0	-	-	210	-	-	-
	5/8/2009	<1.0	<1.0	24	8.0	32	<1.0	-	-	92	-	-	-
	8/13/2011	<10	<10	32	<15	32	<10	-	-	72	-	-	-
	4/2/2013	<5.0	<5.0	31	10	41	<5.0	-	-	149	-	-	-
	1/30/2014	1.3	1.4	33	8.2	44	<1.0	-	-	134	-	-	-
	4/9/2014	<1.0	1.2	32	7.3	41	<1.0	-	-	113	-	-	-
	12/2/2014	<5.0	<5.0	17	<7.5	17	<5.0	<0.010	<5.0	62	0.076	0.34	<0.0050
	5/19/2015	<1.0	<1.0	22	4.4	26	<1.0	<0.010	<1.0	82	0.073	0.28	<0.0050
MW-9	9/20/1995	<0.5	<1.0	<1.0	<2.0	<4.5	NA	NA	NA	-	-	-	-
	12/5/1995	<0.5	<1.0	<1.0	14	14	NA	NA	NA	-	-	-	-
	3/7/1996	<0.5	<1.0	<1.0	3.7	3.7	NA	NA	NA	-	-	-	-
	1/3/2002	9.4	6.9	59	51	126.3	<1.0	<1.0	<1.0	2.7	-	-	-
	7/3/2002	5.1	1.9	16	18	41.0	<1.0	<1.0	<1.0	28.8	-	-	-
	9/24/2002	9.2	<1.0	25	20	54.2	1.7	<1.0	<1.0	13	-	-	-

**TABLE 3**  
**Laboratory Analytical Results - Groundwater**  
**2nd Semi-Annual Groundwater Monitoring Report**  
**Barelas Bridge Site, Facility # 29854; Release ID # 54**  
**Albuquerque, Bernalillo County, New Mexico**

Sample ID	Date	Organics <sup>1</sup>								Inorganics <sup>5</sup>			
		Benzene	Toluene	Ethylbenzene	Total Xylenes	BTEX <sup>2</sup>	MTBE	EDB <sup>3</sup>	EDC	Total Naphthalenes <sup>4</sup>	Dissolved Iron	Dissolved Manganese	
		Concentration (µg/L)								Concentration (mg/L)			
NMWQCC Standard		10	750	750	620	NE	100*	0.1	10	30	1.0	0.2	0.05
MW-9	1/10/2003	2.2	<1.0	<1.0	<1.0	2.2	2.2	<1.0	<1.0	<10	-	-	-
	7/17/2003	98	9.9	2.4	10	120.3	7.1	0.010	<1.0	<10	-	-	-
	10/4/2006	62	44	11	42	159	<1.5	-	-	6.9	-	-	-
	5/8/2009	12	7.1	45	68	132	<1.0	-	-	77	-	-	-
	8/13/2011	750	150	270	880	2,050	12	-	-	93	-	-	-
	4/2/2013	320	34	<10	150	504	<10	-	-	<40	-	-	-
	1/30/2014	190	59	200	340	789	<2.0	-	-	67	-	-	-
	4/9/2014	100	49	72	110	331	<1.0	-	-	32.4	-	-	-
	12/2/2014	6.4	<1.0	14	5.5	26	<1.0	<0.010	<1.0	2.3	0.31	0.81	<0.0050
	5/19/2015	21	3.0	18	18	60	<1.0	<0.010	<1.0	2.7	0.22	0.70	<0.0050
VP-2	3/24/1994	32	20	94	150	296	NA	NA	NA	NA	-	-	-
	1/30/2000	<1.0	<1.0	<1.0	<1.0	<4.0	<1.0	<1.0	<1.0	<2.0	-	-	-
	4/26/2000	<1.0	<1.0	<1.0	<1.0	<4.0	<1.0	<1.0	<1.0	<2.0	-	-	-
	7/27/2000	<1.0	<1.0	<1.0	<1.0	<4.0	<1.0	<1.0	<1.0	11	-	-	-
	2/6/2001	<1.0	<1.0	<1.0	2.0	2.0	<1.0	<1.0	<1.0	13	0.70	0.92	<0.005
	5/29/2001	<1.0	<1.0	1.2	4.9	6.1	<1.0	<1.0	<1.0	36.7	0.83	1.21	<0.005
	10/1/2001	<1.0	<1.0	<1.0	<3.0	<6.0	<1.0	<1.0	<1.0	<15	-	-	-
	1/3/2002	<1.0	<1.0	<1.0	<1.0	<4.0	<1.0	<1.0	<1.0	<10	-	-	-
	4/1/2002	<1.0	<1.0	<1.0	<1.0	<4.0	<1.0	<1.0	<1.0	<10	-	-	-
	7/3/2002	<1.0	<1.0	<1.0	<1.0	<4.0	<1.0	<1.0	<1.0	<10	-	-	-
	9/24/2002	<1.0	<1.0	<1.0	<1.0	<4.0	<1.0	<1.0	<1.0	3.4	-	-	-
	1/10/2003	<1.0	<1.0	<1.0	<1.0	<4.0	<1.0	<1.0	<1.0	<10	-	-	-
	7/17/2003	<1.0	<1.0	<1.0	<1.0	<4.0	<1.0	0.010	<1.0	<10	-	-	-
	10/4/2006	<1.0	<1.0	<1.0	<3.0	<3.0	<1.5	-	-	<10	-	-	-
	5/8/2009	<1.0	<1.0	1.3	1.6	2.9	<1.0	-	-	37.3	-	-	-

**TABLE 3**  
**Laboratory Analytical Results - Groundwater**  
**2nd Semi-Annual Groundwater Monitoring Report**  
**Barelas Bridge Site, Facility # 29854; Release ID # 54**  
**Albuquerque, Bernalillo County, New Mexico**

Sample ID	Date	Organics <sup>1</sup>								Inorganics <sup>5</sup>			
		Benzene	Toluene	Ethylbenzene	Total Xylenes	BTEX <sup>2</sup>	MTBE	EDB <sup>3</sup>	EDC	Total Naphthalenes <sup>4</sup>	Dissolved Iron	Dissolved Manganese	
		Concentration ( $\mu\text{g/L}$ )								Concentration (mg/L)			
NMWQCC Standard		10	750	750	620	NE	100*	0.1	10	30	1.0	0.2	0.05
VP-2	8/13/2011	<1.0	<1.0	2.1	2.4	4.5	<1.0	-	-	78	-	-	-
	4/2/2013	<2.0	<2.0	<2.0	<3.0	<3.0	<2.0	-	-	34.7	-	-	-
	1/30/2014	<1.0	<1.0	<1.0	<1.5	<1.5	<1.0	-	-	2.2	-	-	-
	4/9/2014	<1.0	<1.0	<1.0	<1.5	<1.5	<1.0	-	-	<4.0	-	-	-
	12/2/2014	<1.0	<1.0	<1.0	<1.5	<1.5	<1.0	<0.010	<1.0	3.6	0.11	0.59	<0.0050
	5/19/2015	<1.0	<1.0	<1.0	<1.5	<1.5	<1.0	<0.010	<1.0	<4.0	0.070	0.46	<0.0050
VP-5	12/5/1995	<0.5	<1.0	<1.0	<2.0	<4.5	NA	NA	NA	NA	-	-	-
	3/7/1996	9.5	<1.0	99	81	189.5	NA	NA	NA	NA	-	-	-
	1/30/2000	<5.0	<5.0	20	10	30.0	<5.0	<5.0	<5.0	80	-	-	-
	4/26/2000	<1.0	1.4	14	7.1	22.5	<1.0	<1.0	<1.0	142	-	-	-
	7/27/2000	<1.0	1.8	20	12	33.8	<1.0	<1.0	<1.0	89	-	-	-
	5/29/2001	<1.0	1.2	21	17	39.2	<1.0	<1.0	<1.0	330	3.42	0.53	<0.005
	10/2/2001	<5.0	<5.0	44	35	79	<5.0	<5.0	<5.0	320	-	-	-
	1/3/2002	<5.0	<5.0	50	31	81	<5.0	<5.0	<5.0	340	-	-	-
	4/1/2002	<1.0	<1.0	100	44	144	<1.0	<1.0	<1.0	640	-	-	-
	7/3/2002	<5.0	<5.0	32	19	51	<5.0	<5.0	<5.0	350	-	-	-
	9/24/2002	<5.0	<5.0	34	18	52	<5.0	<5.0	<5.0	510	-	-	-
	1/10/2003	<5.0	<5.0	61	27	88	<5.0	<5.0	<5.0	510	-	-	-
	7/17/2003	<5.0	<5.0	110	54	164	<5.0	0.010	<5.0	930	-	-	-
	10/4/2006	<10	<10	21	<30	21.0	<15	-	-	430	-	-	-
	5/8/2009	<5.0	<5.0	7.1	<7.5	7.1	<5.0	-	-	386	-	-	-
	8/13/2011	1.4	1.8	12	2.4	17.6	<1.0	-	-	469	-	-	-
	4/2/2013	<2.0	<2.0	7.7	<3.0	7.7	<2.0	-	-	270	-	-	-

**TABLE 3**  
**Laboratory Analytical Results - Groundwater**  
**2nd Semi-Annual Groundwater Monitoring Report**  
**Barelas Bridge Site, Facility # 29854; Release ID # 54**  
**Albuquerque, Bernalillo County, New Mexico**

Sample ID	Date	Organics <sup>1</sup>								Inorganics <sup>5</sup>			
		Benzene	Toluene	Ethylbenzene	Total Xylenes	BTEX <sup>2</sup>	MTBE	EDB <sup>3</sup>	EDC	Total Naphthalenes <sup>4</sup>	Dissolved Iron	Dissolved Manganese	
		Concentration ( $\mu\text{g/L}$ )								Concentration (mg/L)			
NMWQCC Standard		10	750	750	620	NE	100*	0.1	10	30	1.0	0.2	0.05
VP-5	1/30/2014	<1.0	1.0	3.0	<1.5	4.0	<1.0	-	-	187	-	-	-
	4/9/2014	<1.0	1.2	4.5	<1.5	5.7	<1.0	-	-	217	-	-	-
	12/2/2014	<5.0	<10	<10	<15	<15	<10	<0.010	<5.0	280	1.0	0.12	<0.0050
	5/19/2015	<5.0	<5.0	<5.0	<7.5	<7.5	<5.0	<0.010	<5.0	200	1.2	0.12	0.0061

**Notes:**

\* = New Mexico Environment Department--Petroleum Storage Tank Bureau Action Level

- = Not Tested or Not Applicable

**Bolding** indicates values or RLs in excess of the NMWQCC Standard or Petroleum Storage Tank Bureau Action Level.

<sup>1</sup> = Analyzed by U.S. EPA Method 8260B.

<sup>2</sup> = Total BTEX includes sum of benzene, toluene, ethylbenzene, and total xylenes. RL for BTEX = highest RL for individual compounds; when summing detections, values listed as "<" RL are assumed to be 0.

<sup>3</sup> = Analyzed by U.S. EPA Method 504.1 or 8260B.

<sup>4</sup> = 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 are assumed to be 0.

<sup>5</sup> = Analyzed by U.S. EPA Method 6010.B.

BTEX = benzene, toluene, ethyl benzene, and total xylenes

EDB = 1,2-dibromoethane

EDC = 1,2-dichloroethane

EPA = U.S. Environmental Protection Agency

$\mu\text{g/L}$  = microgram(s) per liter

mg/L = milligrams per liter

MTBE = methyl tertiary-butyl ether

NE = None Established

NMWQCC = New Mexico Water Quality Control Commission

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

RL = Laboratory reporting limit

**APPENDIX A**

**Access Agreement**

5052462600

**CONSENT FOR ACCESS TO PROPERTY**

Name of Property Owner: Roberts Oil Co

Location of Property: 800 Bridge SW, Albuquerque, New Mexico

This is my consent to the New Mexico Environment Department (Department) and its authorized officers, employees, contractors, and representatives for access to the above-described Property for the following purposes:

- Collect groundwater samples from Site monitoring wells as part of groundwater monitoring activities.

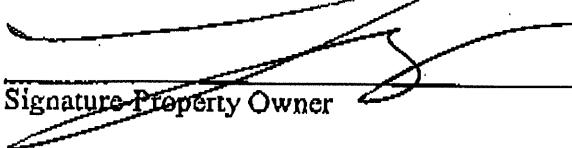
The Department or its representative will provide the Property Owner written or oral notice prior to each entrance onto Property. This notice shall be given to:

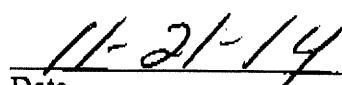
Roberts Oil Co  
408 Arizona Street SE  
Albuquerque  
New Mexico  
87108  
505.262.1607

Property Owner may observe activities on the Property, consistent with Occupational Health and Safety Regulations (see 29 CFR § 1910.120) and may split all samples collected at the Property. Property Owner is responsible for the provision of all equipment and accessories and for laboratory costs necessary to split samples.

Installations on the Property will be placed to minimize interference with the movement of vehicles and regular activities on the Property. Following completion of the project, the Department or its representative will properly abandon all wells, remove equipment, all materials, trash, fencing, and other associated items. The Department or its representative will otherwise return the property as close as possible to the pre-entrance condition.

This permission is given by me voluntarily with knowledge of my right to refuse and without coercion. I have had an opportunity to ask questions and all my questions have been answered to my satisfaction.

  
Signature - Property Owner

  
Date

**APPENDIX B**

**Field Notes and Groundwater Sampling Forms**

5/19/15 2nd Semi Annual Sampling AKA  
 0720 AKA on-site  
 0740 Well within canopy vicinity  
 located and uncovered (no preservative  
 odors), VP-5 full of water.

H+S concerns: high traffic, being  
 alone, heavy well vaults, PHE.  
 → Wear High-vis + gloves, check in  
 with PM (Eileen).

0945 H+S form filled out

Objective: Gauge fluid levels at  
 six monitoring wells +  
 collect GW samples for  
 Escherichia coli, TDS, Pb, Manganese,  
 Total Solids 100' off 1 and YS1 SS/C  
 MPS, Rental S.U.V.

0950 Go to MW-7 to gauge  
 (frustrated well)

0840 Used peristaltic pump to get water out of  
 vault.

0935 Had trouble getting tubing down casing.  
 of VP-5. Called Eileen.

5/19/15 2nd Semi Annual GW Sampling AKA 5/19/15  
 0720 Well ID Time DTP DTW ~~DTW~~ Notes  
 MW-7 0801 - 7.91 - No bolts  
 MW-9 0815 - 8.61 - He cooler  
 MW-4 0819 - 7.82 -

VP-2 0824 - 8.24 - Missing  
 MW-8 0835 - 9.31 - half  
 VP-5 0902 - 7.94 - vault full  
 off water

0905 Begin collecting YS1 SS/C  
 (Runth off from pine) to 3 pt pH, 1.413 ms  
 SOC, ~~226~~ mVORP, & DO (1.65 mm Hg)  
 240 83.8-80.9%  
 All purge water to be put on impervious surface.  
 1015 Nive on to MW-8  
 Stable parameters below (complete record on  
 field form).

PumpRate: 0.3 DO: 4.88 mg/L  
 ORP: -178.9 mV  
 Waterlevel: 9.22 EC: 423  $\mu$ s/cm  
 At Pumped: 7.1 L pH: 7.66  
 Temp: 15.11 °C

Strong H2odor / clear

1055 Sample collected,

5/19/15 2nd Semi Annual Sampling AKA  
 0720 AKA on-site  
 0740 Well within canopy vicinity  
 located and uncovered (no preservative  
 odors), VP-5 full of water.

H+S concerns: high traffic, being  
 alone, heavy well vaults, PHE.  
 → Wear High-vis + gloves, check in  
 with PM (Eileen).

0945 H+S form filled out

Objective: Gauge fluid levels at  
 six monitoring wells +  
 collect GW samples for  
 Escherichia coli, TDS, Pb, Manganese,  
 Total Solids 100' off 1 and YS1 SS/C  
 MPS, Rental S.U.V.

0950 Go to MW-7 to gauge  
 (frustrated well)

0840 Used peristaltic pump to get water out of  
 vault.

0935 Had trouble getting tubing down casing.  
 of VP-5. Called Eileen.

5/19/15 2nd Semi Annual GW Sampling AKA 5/19/15  
 0720 Well ID Time DTP DTW ~~DTW~~ Notes  
 MW-7 0801 - 7.91 - No bolts  
 MW-9 0815 - 8.61 - He cooler  
 MW-4 0819 - 7.82 -

VP-2 0824 - 8.24 - Missing  
 MW-8 0835 - 9.31 - half  
 VP-5 0902 - 7.94 - vault full  
 off water

0905 Begin collecting YS1 SS/C  
 (Runth off from pine) to 3 pt pH, 1.413 ms  
 SOC, ~~226~~ mVORP, & DO (1.65 mm Hg)  
 240 83.8-80.9%  
 All purge water to be put on impervious surface.  
 1015 Nive on to MW-8  
 Stable parameters below (complete record on  
 field form).

PumpRate: 0.3 DO: 4.88 mg/L  
 ORP: -178.9 mV  
 Waterlevel: 9.22 EC: 423  $\mu$ s/cm  
 At Pumped: 7.1 L pH: 7.66  
 Temp: 15.11 °C

Strong H2odor / clear

1055 Sample collected,

5/19/15 2nd Semi Annual GW Sampling Atcat

TP-5

Setup at

Used orange TD-water level meter

to thread tubing in order to reach water table/pump intake. Stable parameters:

Time: 11:39

Pumping Rate: 0.35 l/min ORP: -257.8mV Temp: 17.49 °C

Water level: 8.02' bgs SP: 688.45 cm

Pumped: 6.5L pH: 7.310

Notes: HC odor/clear

1140 Sample Collected

Semi

2nd Annual GW Sampling Atcat 5/19/15

1315 Set up at MW-4  
9.35' Pump intake Stable parameters:

Time: 13:45 DO: 0.08 mg/l Temp: 17.02 °C

Pump rate: 0.3 min ORP: -91.0 mV

Water Level: 7.84' bgs SP: 409.45 cm

Pumped: 4.6L pH: 7.38

Notes: Clear, HC odor

1350 Sample collected. QA for DO 5041  
collected (+ bottles total).

1223 Set up at MW-9 Stable parameters:

Time: 12:55 DO: 0.05 mg/l Temp: 16.21 °C

Pumping Rate: 0.3 min ORP: -199.8 mV

Water level: 8.62' bgs SP: 340.45 cm

Pumped: 4.4L pH: 7.35

Notes: Strong HC odor

1405 Set up at MW-2 Stable parameters:  
Time: 14:30 DO: 0.06 mg/l Temp: 16.94 °C

Pump rate: 0.3 ORP: -98.6 mV

Water Level: 8.30' bgs SP: 347.45 cm

Pumped: 4.4L pH: 7.31

Notes: clear, HC odor

Sample collected at 1300

Sample collected at 1440

5/19/15 2nd Semi Annual GW Sampling Atcat

TP-5

Setup at

Used orange TD-water level meter

to thread tubing in order to reach water table/pump intake. Stable parameters:

Time: 11:39

Pumping Rate: 0.35 l/min ORP: -257.8mV Temp: 17.49 °C

Water level: 8.02' bgs SP: 688.45 cm

Pumped: 6.5L pH: 7.310

Notes: HC odor/clear

1140 Sample Collected

Semi

2nd Annual GW Sampling Atcat 5/19/15

1315 Set up at MW-4  
9.35' Pump intake Stable parameters:

Time: 13:45 DO: 0.08 mg/l Temp: 17.02 °C

Pump rate: 0.3 min ORP: -91.0 mV

Water Level: 7.84' bgs SP: 409.45 cm

Pumped: 4.6L pH: 7.38

Notes: Clear, HC odor

1350 Sample collected. QA for DO 5041  
collected (+ bottles total).

1223 Set up at MW-9 Stable parameters:

Time: 12:55 DO: 0.05 mg/l Temp: 16.21 °C

Pumping Rate: 0.3 min ORP: -199.8 mV

Water level: 8.62' bgs SP: 340.45 cm

Pumped: 4.4L pH: 7.35

Notes: Strong HC odor

1405 Set up at MW-2 Stable parameters:  
Time: 14:30 DO: 0.06 mg/l Temp: 16.94 °C

Pump rate: 0.3 ORP: -98.6 mV

Water Level: 8.30' bgs SP: 347.45 cm

Pumped: 4.4L pH: 7.31

Notes: clear, HC odor

Sample collected at 1300

Sample collected at 1440

5/19/15 2nd Semi Annual Sampling AKA  
 0720 AKA on-site  
 0740 Well within canopy vicinity  
 located and uncovered (no preservative  
 odors), VP-5 full of water.

H+S concerns: high traffic, being  
 alone, heavy well vaults, PHE.  
 → Wear High-vis + gloves, check in  
 with PM (Eileen).

0945 H+S form filled out

Objective: Gauge fluid levels at  
 six monitoring wells +  
 collect GW samples for  
 Escherichia coli, TDS, Pb, Manganese,  
 Total Solids 100' off 1 and YS1 SS/C  
 MPS, Rental S.U.V.

0950 Go to MW-7 to gauge  
 (frustrated well)

0840 Used peristaltic pump to get water out of  
 vault.

0935 Had trouble getting tubing down casing.  
 of VP-5. Called Eileen.

5/19/15 2nd Semi Annual GW Sampling AKA 5/19/15  
 0720 Well ID Time DTP DTW ~~DTW~~ Notes  
 MW-7 0801 - 7.91 - No bolts  
 MW-9 0815 - 8.61 - He cooler  
 MW-4 0819 - 7.82 -

VP-2 0824 - 8.24 - Missing  
 MW-8 0835 - 9.31 - half  
 VP-5 0902 - 7.94 - vault full  
 off water

0905 Began collecting YS1 SS/C  
 (Runth off from pine) to 3 pt pH, 1.413 ms  
 SOC, ~~temp~~ mVORP, & DO (1.65 mm Hg)  
 240 83.8-80.9%  
 All pumpe water to be put on impervious surface.  
 1015 Nive on to MW-8  
 Stable parameters below (complete record on  
 field form).

PumpRate: 0.3 DO: 4.88 mg/L  
 ORP: -178.9 mV  
 Waterlevel: 9.22 EC: 423  $\mu$ s/cm  
 At Pumped: 7.1 L pH: 7.66  
 Temp: 15.11 °C

Strong H2odor / clear

1055 Sample collected,

5/19/15 2nd Semi Annual GW Sampling Atcat

TP-5

Setup at

Used orange TD-water level meter

to thread tubing in order to reach water table/pump intake. Stable parameters:

Time: 11:39

Pumping Rate: 0.35 l/min ORP: -257.8mV Temp: 17.49 °C

Water Level: 8.02' bgs SP: 688.45 cm

Pumped: 6.5L pH: 7.310

Notes: HC odor/clear

1140 Sample Collected

Semi

2nd Annual GW Sampling Atcat 5/19/15

1315 Set up at MW-4

1.35' Pump intake

Stable parameters:

Time: 13:45

Pump rate: 0.35 min DO: 0.08 mg/l

Water Level: 7.84' bgs SP: 409.45

Pumped: 4.6L

pH: 7.38

Notes: Clear, HC odor

1350 Sample collected. QA for DO 5041

collected (7 bottles total).

1223 Set up at MW-9

Stable parameters: DO: 0.05 mg/L Temp: 16.21 °C

Time: 14:30

Pumping Rate: 0.35 min ORP: -199.8mV

Water Level: 8.62' bgs SP: 340.45

Pumped: 4.1L pH: 7.35

Notes: Strong HC odor

1405 Set up at MW-2

Stable parameters: DO: 0.06 mg/L Temp: 16.94 °C

Time: 14:30

Pump rate: 0.3 ORP: -98.6mV

Water Level: 8.30' bgs SP: 347.45

Pumped: 4.4L pH: 7.31

Notes: clear, HC odor

Sample collected at 1440

sample collected at 1300

5/19/15 2nd Semi Annual GPM Sampling AKA

1505 Setup at MW-1

Started Stable Parameters

Time: 1535

Pump Rate: 0.34 min

DO: 3.44 mg/l

Water level: 7.91' bags

OOR: -115.9 mV

+ Pump: 3.4L

SPC: 333 us/cm

pH: 7.86

Temp: 16.75°C

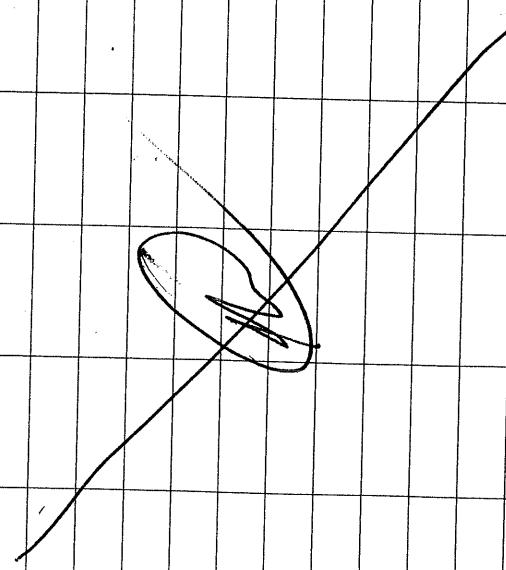
Net: Clear / NO odor

1538 sample collected.

All samples put in an ice chilled cooler

immediately after collection

1600 AEA office to deliver sample



Low-Flow Sampling Logs			
Site <u>Bonello Bridge</u>	Date <u>5/19/15</u>	Monitoring Well ID <u>AW-5 MW-8</u>	Samplers
Monitoring Well Information			
Diameter <u>2"</u>	Total Depth <u>13.32'</u>	Depth to Product <u>ND</u>	
Water Column Height		Depth to Water <u>9.31</u>	
		Screened Interval <u>8-13</u>	
Purging Information			
Type of Pump <u>Piston pump</u>	Depth of Pump intake <u>10.5</u>	Water Quality Meter <u>YSI 532e MPS (Ruthenium)</u>	
Calibration Performed <u>3 pt pH, EC, ORP, DO</u>		Depth to water after pump insertion: <u>9.31</u>	
Sample Information			
Sample Date/Time <u>5/19/15</u>	Sample ID <u>1055</u>	Sample ID <u>MW-8</u>	
Samplers <u>AKA</u>			
Analysis <u>VOCs (8240B), EDta (5040), Diss Fe, Mn, Pb (200, 7).</u>			
Comments:			
Signature <u>AJ</u>		Date <u>5/19/15</u>	

DTW = 9.31  
10210

Intake = 10,51 bgs.

$$\frac{0.5L}{45\text{ s}}$$

MW ID: MW-8

MW ID.	V	W	O	Pumping Rate (0.1-0.5 L/min)	Water Level (ft) (goal of <0.33)	Volume Pumped (L)	DO (mg/l) ±10%	ORP (mV) ±10 mV	Spc (µS/cm) ±3%	pH ±0.1 unit	Temp (C°)	Notes
1024	0.35	—	—	—	9.22	2.5	5.32	-54.1	37.6	7.16	21.51	Strong HC odor
1030	0.3	—	—	—	9.22	2.5	6.09	-162.0	39.1	7.72	15.15	✓
1033	0.3	—	—	—	9.20	3.5	6.93	-169.2	39.6	7.71	15.13	✓
1035	0.3	—	—	—	9.21	4.1	5.78	-180.8	40.9	7.68	15.13	Strong HC odor
1037	—	—	—	—	9.22	4.7	6.90	-184.8	41.4	7.16	21.13	✓
1037	0.3	—	—	—	9.22	5.3	6.99	-177.9	41.4	7.16	21.12	Strong HC odor
1039	0.3	—	—	—	9.22	5.9	4.79	-182.3	41.9	7.16	21.11	Strong HC odor
1041	0.3	—	—	—	9.22	5.9	4.79	-182.3	41.9	7.16	21.11	Strong HC odor
1043	0.3	—	—	—	9.22	6.5	4.73	-180.7	42.1	7.16	21.11	“
1044	0.3	—	—	—	9.22	7.1	4.88	-178.9	42.3	7.16	21.11	“

Low-Flow Sampling Logs			
Site	<u>Buellas Bridge</u>	Monitoring Well ID	<u>MW-9</u>
Date	<u>5/19/15</u>	Samplers	<u>AKA</u>
Monitoring Well Information			
Diameter	<u>2"</u>	Depth to Product	
Total Depth	<u>79.28</u>	Depth to Water	<u>8.61</u>
Water Column Height	<u>10.67</u>	Screened Interval	<u>5 - 20</u>
Purging Information			
Type of Pump	<u>Plastic</u>	Water Quality Meter	<u>YSI 550e (rental)</u>
Depth of Pump intake	<u>14</u>	Depth to water after pump insertion:	<u>8.60</u>
Calibration Performed	<u>3pt pH, SpC, ORP, DO</u>	Sample Information	
Comments:			
Signature	<u>A. L.</u>	Date	<u>5/19/15</u>

MW ID: MW-9

Low-Flow Sampling Logs			
Site Date	Boreles Bridge 5/19/15	Monitoring Well ID Samplers	VF-5
Monitoring Well Information			
Diameter	2"	Depth to Product	—
Total Depth	12.42	Depth to Water	7.94
Water Column Height	4.48	Screened Interval	—
Purging Information			
Type of Pump	Piston	Water Quality Meter	451 550
Depth of Pump Intake	10.30	Depth to water after pump insertion:	7.50
Calibration Performed			
Sample Information			
Sample Date/Time	5/19/15	Sample ID	VF-5
Samplers	AKA		
Analysis	VOCs (8200B), EDD (5041), Diss Fe/Mn, Pb (200,7)		
Comments:			
Signature		Date	5/19/15

MW ID: VP-5 7.94

0.350  
min

Time	Pumping Rate (0.1-0.5 L/min)	Water Level (ft) (goal of <0.33) / (ft) (goal of <0.33) %	Volume Pumped (L)	DO (mg/l) ±10%	ORP (mV) ±10 mV	Spc (µS/cm) ±3%	pH ±0.1 unit	Temp (°C)	Notes
1120	started	7.95	1.5	0.22	-137.4	621	7.11	17.63	Clean 1400ml
1123	0.35	8.02	1.5	0.12	-164.2	623	7.20	17.67	AC cooler column
1125	0.35	8.02	1.5	0.15	-189.1	616	7.28	17.40	"
1127	0.35	8.02	2.7	0.15	-212.5	707	7.30	17.79	"
1129	0.35	8.02	3.3	0.13	-217.7	702	7.32	17.44	"
1131	0.35	8.02	3.9	0.11	-214.1	703	7.33	17.47	"
1133	0.35	8.02	4.5	0.07	-241.0	700	7.33	17.47	"
1135	0.35	8.02	5.1	-0.01	-241.0	700	7.33	17.47	"
1137	0.35	8.02	5.7	-0.02	-235.2	692	7.35	17.49	"
1139	0.35	8.02	6.5	-0.02	-257.8	688	7.36	17.49	"
	stabilize			Begin sampling					

Low-Flow Sampling Logs			
Site <u>Burlesas Bridge</u>	Monitoring Well ID <u>MW-4</u>	Sampling Date <u>5/19/15</u>	Monitoring Well ID <u>MW-4</u>
Monitoring Well Information			
Diameter <u>2"</u>	Depth to Product <u>N.D.</u>	Total Depth <u>10.100 (measured previously)</u>	Depth to Water <u>7.82</u>
Water Column Height <u>2.78</u>	Screened Interval <u>3.5-18.5</u>		
Purging Information			
Type of Pump <u>Geo Resistatice</u>	Water Quality Meter <u>YSI 550e (Rental)</u>	Depth of Pump intake <u>9.35'</u>	Depth to water after pump insertion: _____
Calibration Performed <u>3pt pH, TSP, DO</u>			
Sample Information			
Sample Date/Time <u>5/19/15</u>	Sample ID <u>1350</u>	Sample ID <u>MW-4</u>	Date <u>5/19/15</u>
Samplers <u>AHA</u>	Analysis <u>VOCs (G200B), TDS, DO, Diss Fe, Manganese (200.7)</u>		
Comments: <u>00 bottles for 504.1 collected - 7 total sample bottles</u>			
Signature <u>[Signature]</u>			

MW ID: MW-4

Time	Pumping Rate (0.1-0.5 L/min)	Water Level (ft) (goal of <0.33')	Volume Pumped (L.)	DO (mg/l) ±10%	ORP (mV) ±10 mV	Spc (μS/cm) ±3%	pH ±0.1 unit	Temp (C°)	Notes
1329	—	7.82	1.0	0.35	-99.0	373	7.47	17.51	clear, H2O cold
1333	0.3	7.86	0.18	-99.8	382	7.45	7.41		
1335	0.3	7.86	0.16	-96.4	391	7.44	17.20	"	
1337	0.3	7.88	2.2	0.14	-96.4	7.42	17.20		
1339	0.3	7.86	2.8	0.12	-77.6	398	7.42	17.20	
1341	0.3	7.84	3.4	0.10	-85.2	402	7.40	17.16	
1343	0.3	7.87	7.0	0.10	-92.7	407	7.39	17.12	
1345	0.3	7.87	4.6	0.08	-91.0	409	7.38	17.02	
									stale; collect sample.

Low-Flow Sampling Logs			
Site <u>Burleson Bridge</u>	Monitoring Well ID <u>VF-2</u>	Sampling Date <u>5/19/15</u>	Samplers <u>AIA</u>
Monitoring Well Information			
Diameter <u>2"</u>	Depth to Product <u>ND</u>	Total Depth <u>12.80 (measured previously)</u>	Depth to Water <u>8.24</u>
Water Column Height <u>4.56</u>	Screened Interval		
Purging Information			
Type of Pump <u>Geo Resistive</u>	Water Quality Meter <u>YSI 550 (Rental)</u>	Depth of Pump intake <u>10.25</u>	Depth to water after pump insertion: <u> </u>
Calibration Performed <u>3pt pH, TEC, ORP, DO</u>			
Sample Information			
Sample Date/Time <u>5/19/15 1440</u>	Sample ID <u>VF-2</u>	Comments: <u> </u>	Signature <u>John</u>
Samplers <u>AIA</u>	Analysis <u>TOCs (82100B), DDP(5041), Diss Fe, Mn, Pb (2020,7)</u>	Date <u>5/19/15</u>	

MW ID: YF-2

MW ID.	Pumping Rate (0.1-0.5 L/min)	Water Level (ft) (goal of <0.33*)	Volume Pumped (L)	DO (mg/l) ±10%	ORP (mV) ±10 mV	Spc (μS/cm) ±3%	pH ±0.1 unit	Temp (C°)	Notes
1420	—	8.23							Initial
1424	0.3	8.30	0.8	0.24	-14.3	344	10.91	17.35	slightly sulfidic
1424	0.3	8.30	1.4	0.17	-50.4	343	10.45	17.44	clear, <del>H2S</del>
1428	0.3	8.29	2.0	0.09	-62.7	342	7.04	17.26	"
1430	0.3	8.30	2.6	0.11	-69.8	342	7.14	17.15	"
1432	0.3	8.30	3.2	0.07	-89.9	343	7.23	17.04	"
1434	0.3	8.30	3.8	0.06	-89.7	344	7.28	16.90	"
1436	0.3	8.30	4.4	0.06	-78.6	347	7.31	16.94	"

Parameters stable, begin collecting sample.

Low-Flow Sampling Logs			
Site <u>Buckles Bridge</u>	Monitoring Well ID <u>MW-7</u>	Samplers <u>AKA</u>	
Date <u>5/19/15</u>			
Monitoring Well Information			
Diameter <u>2"</u>	Depth to Product <u>ND</u>	Depth to Water <u>7.91</u>	
Total Depth <u>21.46' (measured previously)</u>	Screened Interval <u>7-22'</u>		
Water Column Height <u>13.75</u>			
Purging Information			
Type of Pump <u>Geo Plastics</u>	Water Quality Meter <u>YSI 550a (rental)</u>		
Depth of Pump intake <u>14.9</u>	Depth to water after pump insertion: <u> </u>		
Calibration Performed <u>3pt pH, SpC, ORP, DO</u>			
Sample Information			
Sample Date/Time <u>5/19/15 1538</u>	Sample ID <u>MW-7</u>		
Samplers <u>AKA</u>			
Analysis <u>32400B, 5041, 2007, VRS, EDPA, DISS Fe, Mn, Pb</u>			
Comments: <u> </u>			
Signature <u>A</u>	Date <u>5/19/15</u>		

MW ID: MW-7

Time	Pumping Rate (0.1-0.5 L/min)	Water Level (ft) (goal of <0.33")	Volume Pumped (L)	DO (mg/l) ±10%	ORP (mV) ±10 mV	Spc (µS/cm) ±3%	pH ±0.1 unit	Temp (C°)	Notes
1520	—	7.95	—	—	—	—	—	—	—
1527	0.30	7.91	1.0	3.82	-114.2	350	7.84	18.24	Clear/H2O odor
1529	0.30	7.91	1.6	3.55	-113.0	339	7.84	17.30	" "
1531	0.30	7.93	2.2	3.55	-112.6	334	7.83	16.99	" "
1533	0.3	7.91	2.8	3.53	-113.3	333	7.84	16.79	" "
1535	0.3	7.91	3.4	3.104	-115.9	333	7.86	16.95	" "
									Stable; begin sampling



<b>1. DEFINITIONS</b>		
1.1 "Acceptance of a sample" means the determination of HEAL to proceed with work following receipt and inspection of such sample.	5.7	The Customer shall indemnify and hold harmless HEAL from and against any and all claims, suits, judgments, damages, losses, liabilities, expenses, payments, taxes, duties, fines and/or other costs (including but not limited to liability to a third party) arising out of the presence of hazardous substances in any sample of the Customer regardless of the Customer's compliance with paragraph 5.3 hereof; accidents occurring during the transport of any sample of the Customer; c) events control, or d) negligence by the Customer in the use, evaluation, or application of Results provided by HEAL.
1.2 "Customer" means the individual or entity who may request laboratory services and his or her, successors, assigns, and representatives	5.8	Should any Customer sample, due to its matrix or constituents of its matrix, cause the operations of any HEAL instrumentation to be reduced, stopped, or altered, HEAL is entitled to compensation by the Customer for any loss of revenue due to the instrument's downtime, and/or the parts and labor necessary to bring the instruments back to its former operating condition. The amount of compensation is negotiable based upon acceptance of these Terms and Conditions and the individual circumstances warranting the reimbursement.
1.3 HEAL means Hall Environmental Analysis Laboratory its employees, servants, agents, and representative.	6. ENTIRE AGREEMENT; SEVERABILITY	
1.4 "Price schedule" means HEAL's standard price schedule, as such, document may be amended from time to time by HEAL.	6.1	These Terms and Conditions, together with any additions or revisions which may be agreed to in writing by HEAL as provided in Section 7.1, embodied in the whole agreement of the parties. There are no promises, terms, conditions, understandings, obligations or agreements other than those contained herein, unless made in accordance with Section 7.1, and these Terms and Conditions shall supersede all previous communications, representations, or agreements, either verbal or written, between the Customer and HEAL. HEAL specifically rejects all additional, inconsistent, or conflicting terms, whether printed or otherwise set forth in any purchase order or other communication from the Customer to HEAL.
1.5 "Results" mean data generated by HEAL from the analysis of one or more samples.	6.2	The invalidity or unenforceability, in whole or in part of any provision, term or condition hereof shall not affect in any way the validity or enforceability of the remainder of the Terms and Conditions, the intent of the parties being that the provisions be severable.
1.6 "Terms and Conditions" mean these Terms and Conditions of sale, including the Price Schedule, and any additions or amendments thereto which are agreed to in writing by HEAL as provided in Section 7.1	7. AMENDMENTS AND WAIVERS	
<b>2. ORDERS</b>	7.1	HEAL shall not be subject to or bound by any provision, term or condition which is in addition to or inconsistent with these Terms and Conditions. HEAL shall not be deemed to have amended or waived any provision, term or condition, or have given any required consent or approval, or to have waived any breach by the Customer of any of these Terms and Conditions unless specifically set forth in writing and executed on behalf of HEAL by a duly authorized officer. No other employee, servant, agent or representatives of HEAL has any authority whatsoever to add to, delete, alter or vary any of these Terms and Conditions in any manner, or to give any consent, approval or waiver, and HEAL shall not be bound by any such purported addition, deletion, alteration, variation, consent, approval or waiver.
2.1 The customer may order services by submitting a written purchase order to HEAL, by placing a telephone order, which will be subsequently confirmed in writing, or by negotiated contract. Any such order constitutes a) an acceptance by the Customer of HEAL's offer to do business with the Customer under these Terms and Conditions, and b) an agreement to be bound by these Terms and Conditions. The Customer's delivery of samples to HEAL constitutes the Customer's express assent to be governed by these Terms and Conditions. HEAL reserves the right to refuse to proceed with work at any time based upon an unfavorable customer credit report.	7.2	No waiver by HEAL of any provision, term or condition hereof or of any breach by or obligation of the Customer hereunder shall constitute a waiver of such provision, term or condition on any other occasion or a waiver of any other breach by or obligation of the Customer.
2.2 Any order placed by the Customer under Section 2.1 is subject to a minimum cancellation charge of \$25.00.	8. SAMPLE STORAGE	
<b>3. PAYMENT TERMS</b>	8.1	Bulk samples will be retained for thirty (30) days after the analytical report has been issued unless alternate arrangements have been made in advance. Storage of samples or extracts for long periods is by request only. Sample storage charges depend upon storage requirements and duration. Normally, a sample storage fee of \$3.00 per sample per month will be billed monthly unless other arrangements are made. If requested, unused sample material may be returned at the client's expense. Materials, which are identified as hazardous, will be returned to the client or disposed of as hazardous waste and billed at the rate of \$25.00 per sample. HEAL reserves the right to retain all otherizations/dberizations to the client.
3.1 Services performed by HEAL will be in accordance with prices quoted and later confirmed in writing or as stated on the Price Schedule, which prices are subject to change periodically without notice. The Customer should conform with HEAL the current price prior to placing an order for work.	9. SECTION HEADING	
3.2 Payment terms are net 30 days from the date of invoice by HEAL. All overdue payments are subject to an additional interest and service charge of one and one-half percent (1.5%) per month or portion thereof from the due date until the date of payment. All payments shall be made in United States currency.	9.1	The section headings of these Terms and Conditions are intended solely for convenience reference and shall not define, limit or affect in any way These Terms and Conditions or their interpretations.
3.3 The prices stated on the Price Schedule do not include any sales, use or other taxes unless specifically stated. Such taxes will be added to invoice prices when required.	10. GOVERNING LAW	
<b>4. RECEIPT OF SAMPLES AND DELIVERY OF SERVICES</b>	9.2	These Terms and Conditions, and Conditions or agreement to which they apply, shall be governed both as to interpretation and performance by the laws of the State of New Mexico.
4.1 Prior to HEAL's Acceptance of any sample (or after any revocation of Acceptance), the entire risk of loss or damage to such sample will remain with the Customer. In no event will HEAL have any responsibility or liability for the action or inaction of HEAL's carrier shipping or delivering any sample to or from HEAL's premises.	10.1	
4.2 HEAL reserves the absolute right, exercisable at any time to refuse delivery of, refuse to accept or revoke Acceptance of, any sample which in the sole judgement of HEAL a) is of unsuitable volume, b) unsuitable containers as required for the requested analyses, or c) may be of become unsuitable for, or may pose a risk in handling, transport or processing for any health, safety, environmental or other reason, whether or not due to the presence in the sample of any hazardous substance and whether or not such presence has been disclosed to HEAL by the Customer.	10.2	
4.3 Where applicable, HEAL will use analytical methodologies which are in substantial conformity with U.S. Environmental Protection Agency (EPA), state agency, American Society for Testing and Materials (ASTM), Association of Official Analytical Chemist (AOAC), Standard Methods for the examination of Water and Wastewater, or other recognized methodologies. HEAL reserves the right to deviate from these	10.3	

## **APPENDIX C**

### **Historical Fluid Levels and Groundwater Chemistry Data**

**TABLE 1**

**NEW MEXICO ENVIRONMENTAL IMPROVEMENT DIVISION  
800 BRIDGE STREET S.W. SITE  
GROUND-WATER LEVELS**

<b>DATE</b>	<b>MW-1</b>	<b>MW-2</b>	<b>MW-3</b>	<b>MW-4</b>	<b>MW-5</b>	<b>MW-6</b>	<b>MW-7</b>	<b>MW-8</b>
10/31/90	4933.50	4933.35	4933.37	4934.67	4934.28	4934.15	4934.58	4934.98
11/14/90	4933.31	4933.15	4933.13	4934.55	4934.09	4934.02	4934.45	4934.92
11/28/90	4933.08	4932.91	4932.93	4934.56	4933.62	4933.54	4934.04	4934.76
11/29/90	4933.05	4932.94	4932.91	4934.53	4933.60	4933.53	4934.03	4934.75
12/12/90	4933.04	4932.92	4932.89	4934.50	4933.58	4933.51	4934.11	4934.71

**TABLE 2**  
**NEW MEXICO ENVIRONMENTAL IMPROVEMENT DIVISION**  
**RECORDS OF WATER QUALITY**  
**COLLECTED BY LEGGETTE, BRASHEARS & GRAHAM, INC.**  
**800 BRIDGE SITE**

DATE	SAMPLE NO.	PPB	PPB	PPB	PPB	PPB	PPM
		BENZENE	TOLUENE	ETHYL-BENZENE	TOTAL XYLENES	MTBE	TVH
10/5/90	TAP WATER	U	U	U	U	U	U
	140 LaVega						
10/5/90	TAP WATER	U	U	U	U	U	U
	152 LeVega						
10/11/90	TRIP BLANK	U	U	U	1.6	U	U
10/15/90	AH-1	2	1.8	U	U	U	U
10/15/90	AH-2	2600*	1400*	1900*	14000*	U	73.6
10/15/90	AH-3	1.5	0.6	1.4	0.8	U	1
10/15/90	AH-4	23*	18	150	22	U	15.7
10/15/90	TRIP BLANK	U	U	0.7	3	U	U
10/16/90	AH-5	23*	0.8	0.7	10	U	1
10/30/90	MW-1	2.6	0.5	U	1.7		U
10/30/90	MW-2	U	0.2	U	1		U
10/30/90	MW-3	U	0.4	U	1.3		U
10/30/90	MW-4	590*	35.3	518.4	1871.1*		5
10/30/90	MW-5	U	0.5	U	1.5		U
10/30/90	MW-6	10.7*	33.3	32.7	175.5		4
10/30/90	MW-7	9.8	3	20.8	4.9		1
10/30/90	MW-8	220*	120	960*	1140*		9
10/30/90	FIELD BLANK	U	0.5	U	0.8		U
10/30/90	TRIP BLANK	U	0.7	U	1.5		U
10/31/90	TAP WATER	U	0.6	U	2		U
	153 LaVega						
11/27/90	TRIP BLANK	U	U	U	U		
11/28/90	MW-2	U	1.1	U	0.6		0.7
11/29/90	MW-4	49	1	8.4	14		0.9
<b>NMEID Action Levels</b>		10	750	750	620	100	

\* Concentration is above NMEID action level

U = Undetected

ppb = Parts per billion

ppm = Parts per million

TVH = Total volatile hydrocarbons

TABLE 3

**NEW MEXICO ENVIRONMENTAL IMPROVEMENT DIVISION**  
**RECORDS OF WATER QUALITY SAMPLES**  
**COLLECTED BY ALBUQUERQUE ENVIRONMENTAL HEALTH DEPARTMENT**  
**800 BRIDGE STREET SW**

SAMPLE DATE	LOCATION	PPB	PPB	PPB	PPB	PPM	PPM	PPM	PPM
		BENZENE	TOLUENE	ETHYL-BENZENE	XYLENES	IRON	MANGANESE	LEAD	ZINC
8/8/89	NW 800 BRDG	10*	190	0	2				
8/8/89	NE 800 BRDG	70*	220	68	44				
8/8/89	SW 800 BRDG	U	250	U	U				
8/8/89	SE 800 BRDG	500*	120	930*	370				
	A-1	1	U	U	U				
9/12/89	A-2	5700*	4100*	29000*	20700*	10.2*	1.78*	0.011	0.082
9/12/89	A-3	2.6	4.1	25	18.9	U	1.12*	U	0.02
9/12/89	A-4	U	U	U	U				
9/13/89	A-5	10000*	7000*	14500*	40500*				
9/13/89	A-6	1650*	160	1620*	930*				
9/26/89	A-7	3900*	7500*	9700*	30500*	12.5*	1.55*	0.026	0.052
9/26/89	A-8	160*	490	2100*	9500*	7.5*	0.601*	0.029	0.051
9/27/89	A-9	26*	5	8.8	7.4	0.568	1.14*	U	0.019
10/11/89	A-11	7700*	2800*	5700*	19000*	12.2*	1.35*	0.018	0.071
10/11/89	A-12	U	U	U	U	0.423	0.36*	U	0.013
10/10/89	A-13	2000*	U	U	U	6.96*	0.992*	0.012	0.034
11/8/89	A-14	U	U	U	U	0.859	0.451*	U	0.018
11/8/89	A-15	300*	U	U	U	2.45*	1.08*	0.003	0.021
11/8/89	A-16	U	U	U	U	0.289	0.41	U	U
2/19/90	MW-1	4.8	7.2	U	U				
2/19/90	MW-2	5.7	7.2	U	U				
2/19/90	MW-3	U	2.6	U	U				
2/19/90	MW-4	190*	25	280	865*				
9/13/89	145 LA VEGA	U	U	U	U				
8/10/89	183 RIVERSIDE	U	U	U	U				
8/11/89	183 RIVERSIDE	U	U	U	U				
10/4/89	154 LA VEGA	U	U	U	U				
10/4/89	152 LA VEGA	U	U	U	U				
10/16/89	153 LA VEGA	U	U	U	U				

NMEID Action Levels

10      750      750      620      1      0.2      0.05      10

\* Concentration is above NMEID Action Level

U = Undetected

Ppb = Parts per billion

Ppm = Parts per million

Barelas Bridge  
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WESTERN TECHNOLOGIES INC.

GROUND WATER ELEVATION DATA  
 TABLE 1

MONITOR WELL NUMBER	DATE	CASING RIM ELEVATION (FEET)	DEPTH TO BOTTOM (FEET)	BOTTOM OF CASING ELEVATION (FEET)	DEPTH TO GROUND WATER (FEET)	DEPTH TO PRODUCT (FEET)	PRODUCT THICKNESS (FEET)	WATER COLUMN THICKNESS (FEET)	POTENTIOMETRIC SURFACE ELEVATION (FEET)
MW-1	01/06/00	4942.99	8.24	4934.75	Dry	NA	NA	Dry	Dry
MW-2	05/30/03	Plugged and Abandoned							
	01/06/00	4942.47	5.94	4936.53	Dry	NA	NA	Dry	Dry
MW-3	05/30/03	Appears to be plugged and abandoned before May 2003							
	01/26/00	4942.03	20.47	4921.56	8.65	NA	NA	11.82	4933.38
	01/06/00	4942.03	20.47	4921.56	8.59	NA	NA	11.88	4933.44
	03/07/96	4942.03	20.47	4921.56	8.51	NA	NA	11.96	4933.52
MW-4	07/17/03	4943.23	16.50	4926.73	8.45	NA	NA	8.05	4934.78
	01/10/03	4943.23	16.50	4926.73	8.35	NA	NA	8.15	4934.88
	09/24/02	4943.23	16.50	4926.73	8.33	NA	NA	8.17	4934.90
	07/03/02	4943.23	16.50	4926.73	8.30	NA	NA	8.20	4934.93
	04/01/02	4943.23	16.50	4926.73	8.48	NA	NA	8.02	4934.75
	01/03/02	4943.23	16.50	4926.73	8.43	NA	NA	8.07	4934.80
	10/01/01	4943.23	16.50	4926.73	8.00	NA	NA	8.50	4935.23
	05/29/01	4943.23	16.48	4926.75	8.08	NA	NA	8.40	4935.15
	02/06/01	4943.23	16.48	4926.75	8.19	NA	NA	8.29	4935.04
	07/27/00	4943.23	16.48	4926.75	9.04	NA	NA	7.44	4934.19
	04/26/00	4943.23	16.48	4926.75	9.16	NA	NA	7.32	4934.07
	01/26/00	4943.23	16.48	4926.75	8.65	NA	NA	7.83	4934.58
	01/06/00	4943.23	16.48	4926.75	8.51	NA	NA	7.97	4934.72
	03/07/96	4943.23	16.48	4926.75	8.48	NA	NA	8.00	4934.75
MW-5	05/30/03	Plugged and Abandoned							
	01/26/00	4942.18	21.48	4920.70	8.23	NA	NA	13.25	4933.95
	01/06/00	4942.18	21.48	4920.70	8.14	NA	NA	13.34	4934.04
	03/07/96	4942.18	21.48	4920.70	8.07	NA	NA	13.41	4934.11

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WESTERN TECHNOLOGIES INC.

GROUND WATER ELEVATION DATA  
 TABLE 1

MONITOR WELL NUMBER	DATE	CASING RIM ELEVATION (FEET)	DEPTH TO BOTTOM (FEET)	BOTTOM OF CASING ELEVATION (FEET)	DEPTH TO GROUND WATER (FEET)	DEPTH TO PRODUCT (FEET)	PRODUCT THICKNESS (FEET)	WATER COLUMN THICKNESS (FEET)	POTENTIOMETRIC SURFACE ELEVATION (FEET)
MW-6	05/30/03	Plugged and Abandoned							
	01/26/00	4944.59	13.16	4931.43	8.36	NA	NA	4.80	4936.23
	01/06/00	4944.59	13.16	4931.43	9.37	NA	NA	3.79	4935.22
	03/07/96	4944.59	13.16	4931.43	9.22	NA	NA	3.94	4935.37
MW-7	07/17/03	4942.94	21.45	4921.49	8.53	NA	NA	12.92	4934.41
	01/10/03	4942.94	21.45	4921.49	8.45	NA	NA	13.00	4934.49
	09/24/02	4942.94	21.45	4921.49	8.45	NA	NA	13.00	4934.49
	07/03/02	4942.94	21.45	4921.49	8.40	NA	NA	13.05	4934.54
	04/01/02	4942.94	21.45	4921.49	8.66	NA	NA	12.79	4934.28
	01/03/02	4942.94	21.45	4921.49	8.50	NA	NA	12.95	4934.44
	10/02/01	4942.94	21.45	4921.49	8.20	NA	NA	13.25	4934.74
	03/07/96	4942.94	21.45	4921.49	8.61	NA	NA	12.84	4934.33
MW-8	07/17/03	4944.59	13.16	4931.43	9.71	NA	NA	3.45	4934.88
	01/10/03	4944.59	13.16	4931.43	9.68	NA	NA	3.48	4934.91
	09/24/02	4944.59	13.16	4931.43	9.61	NA	NA	3.55	4934.98
	07/03/02	4944.59	13.16	4931.43	9.53	NA	NA	3.63	4935.06
	04/01/02	4944.59	13.16	4931.43	9.73	NA	NA	3.43	4934.86
	01/04/02	4944.59	13.16	4931.43	9.63	NA	NA	3.53	4934.96
	10/02/01	4944.59	13.16	4931.43	9.35	NA	NA	3.81	4935.24
	05/29/01	4944.59	13.16	4931.43	9.32	NA	NA	3.84	4935.27
	02/06/01	4944.59	13.16	4931.43	9.41	NA	NA	3.75	4935.18
	07/27/00	4944.59	13.16	4931.43	9.32	NA	NA	3.84	4935.27
	04/26/00	4944.59	13.16	4931.43	9.40	NA	NA	3.76	4935.19
	01/26/00	4944.59	13.16	4931.43	9.82	NA	NA	3.34	4934.77
	01/06/00	4944.59	13.16	4931.43	9.82	NA	NA	3.34	4934.77
	03/07/96	4944.59	13.16	4931.43	9.74	NA	NA	3.42	4934.85

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WESTERN TECHNOLOGIES INC.

GROUND WATER ELEVATION DATA  
TABLE 1

MONITOR WELL NUMBER	DATE	CASING RIM ELEVATION (FEET)	DEPTH TO BOTTOM (FEET)	BOTTOM OF CASING ELEVATION (FEET)	DEPTH TO GROUND WATER (FEET)	DEPTH TO PRODUCT (FEET)	PRODUCT THICKNESS (FEET)	WATER COLUMN THICKNESS (FEET)	POTENTIOMETRIC SURFACE ELEVATION (FEET)
MW-9	07/17/03	4943.98	19.43	4924.55	9.22	NA	NA	10.21	4934.76
	01/10/03	4943.98	19.43	4924.55	9.15	NA	NA	10.28	4934.83
	09/24/02	4943.98	19.43	4924.55	9.10	NA	NA	10.33	4934.88
	07/03/02	4943.98	19.43	4924.55	9.00	NA	NA	10.43	4934.98
	01/26/00	4943.98	19.43	4924.55	9.31	NA	NA	10.12	4934.67
	01/06/00	4943.98	19.43	4924.55	9.30	NA	NA	10.13	4934.68
	03/07/96	4943.98	19.43	4924.55	9.26	NA	NA	10.17	4934.72
VP-1	05/30/03	Plugged and Abandoned							
	04/01/02	4943.75	13.95	4929.79	8.65	NA	NA	5.30	4935.10
	01/03/02	4943.75	13.95	4929.79	8.50	NA	NA	5.45	4935.25
	10/01/01	4943.75	13.96	4929.79	8.10	NA	NA	5.86	4935.65
	05/29/01	4943.75	13.96	4929.79	8.17	NA	NA	5.79	4935.58
	02/06/01	4943.75	13.96	4929.79	8.29	NA	NA	5.67	4935.46
	07/27/00	4943.75	13.96	4929.79	8.28	NA	NA	5.68	4935.47
	04/26/00	4943.75	13.96	4929.79	8.28	NA	NA	NA	4935.47
	01/26/00	4943.75	13.96	4929.79	NM	NA	NA	NA	NA
	01/06/00	4943.75	13.96	4929.79	8.64	NA	NA	5.32	4935.11
	01/10/96	4943.75	13.96	4929.79	8.57	NA	NA	5.39	4935.18
VP-2	07/17/03	4943.73	12.57	4931.16	8.81	NA	NA	3.76	4934.92
	01/10/03	4943.73	12.57	4931.16	8.83	NA	NA	3.74	4934.90
	09/24/02	4943.73	12.57	4931.16	8.73	NA	NA	3.84	4935.00
	07/03/02	4943.73	12.57	4931.16	8.63	NA	NA	3.94	4935.10
	04/01/02	4943.73	12.57	4931.16	8.94	NA	NA	3.63	4934.79
	01/03/02	4943.73	12.57	4931.16	8.71	NA	NA	3.86	4935.02
	10/01/01	4943.73	12.65	4931.08	8.40	NA	NA	4.25	4935.33
	05/29/01	4943.73	12.57	4931.16	8.44	8.33	0.11	4.13	4935.38
	02/06/01	4943.73	12.57	4931.16	8.55	NA	NA	4.02	4935.18
	07/27/00	4943.73	12.57	4931.16	8.44	NA	NA	4.13	4935.29
	04/26/00	4943.73	NA	NA	8.53	NA	NA	NA	4935.20
	01/26/00	4943.73	NA	NA	8.93	NA	NA	NA	4934.80
	03/24/94	4943.73	NA	NA	8.96	NA	NA	NA	4934.77

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WESTERN TECHNOLOGIES INC.

GROUND WATER ELEVATION DATA  
 TABLE 1

MONITOR WELL NUMBER	DATE	CASING RIM ELEVATION (FEET)	DEPTH TO BOTTOM (FEET)	BOTTOM OF CASING ELEVATION (FEET)	DEPTH TO GROUND WATER (FEET)	DEPTH TO PRODUCT (FEET)	PRODUCT THICKNESS (FEET)	WATER COLUMN THICKNESS (FEET)	POTENTIOMETRIC SURFACE ELEVATION (FEET)
VP-3	05/30/03	Plugged and Abandoned							
	01/26/00	4943.73	13.16	4930.57	8.85	NA	NA	4.31	4934.88
	01/06/00	4943.73	13.16	4930.57	8.84	NA	NA	4.32	4934.89
	02/09/95	4943.73	13.16	4930.57	8.93	NA	NA	4.23	4934.80
VP-4	05/30/03	Plugged and Abandoned							
	01/26/00	4943.72	12.73	4930.99	8.54	NA	NA	4.19	4935.18
	01/06/00	4943.72	12.73	4930.99	8.53	NA	NA	4.20	4935.19
	03/07/96	4943.72	12.73	4930.99	8.46	NA	NA	4.27	4935.26
VP-5	07/17/03	4943.52	12.17	4931.35	8.55	NA	NA	3.62	4934.97
	01/10/03	4943.52	12.17	4931.35	8.53	NA	NA	3.64	4934.99
	09/24/02	4943.52	12.17	4931.35	8.44	NA	NA	3.73	4935.08
	07/03/02	4943.52	12.17	4931.35	8.27	NA	NA	3.90	4935.25
	04/01/02	4943.52	12.17	4931.35	8.56	NA	NA	3.61	4934.96
	01/03/02	4943.52	12.17	4931.35	8.55	NA	NA	3.62	4934.97
	10/02/01	4943.52	12.05	4931.47	8.10	NA	NA	3.95	4935.42
	05/29/01	4943.52	12.17	4931.35	8.01	NA	NA	4.16	4935.51
	07/27/00	4943.52	12.17	4931.35	8.18	NA	NA	3.99	4935.34
	04/26/00	4943.52	NA	NA	8.17	NA	NA	NM	4935.35
	01/26/00	4943.52	NA	NA	8.61	NA	NA	NM	4934.91
	03/07/96	4943.52	NA	NA	8.55	NA	NA	NM	4934.97

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WESTERN TECHNOLOGIES INC.

GROUND WATER ELEVATION DATA  
 TABLE 1

MONITOR WELL NUMBER	DATE	CASING RIM ELEVATION (FEET)	DEPTH TO BOTTOM (FEET)	BOTTOM OF CASING ELEVATION (FEET)	DEPTH TO GROUND WATER (FEET)	DEPTH TO PRODUCT (FEET)	PRODUCT THICKNESS (FEET)	WATER COLUMN THICKNESS (FEET)	POTENTIOMETRIC SURFACE ELEVATION (FEET)
VP-6	05/30/03	Plugged and Abandoned							
	01/10/03	4943.53	12.55	4930.98	9.10	NA	NA	3.45	4934.43
	09/24/02	4943.53	12.55	4930.98	9.06	NA	NA	3.49	4934.47
	07/03/02	4943.53	12.55	4930.98	8.99	NA	NA	3.56	4934.54
	04/01/02	4943.53	12.55	4930.98	9.20	NA	NA	3.35	4934.33
	01/03/02	4943.53	12.55	4930.98	9.05	NA	NA	3.50	4934.48
	10/02/01	4943.53	12.33	4931.20	8.75	NA	NA	3.58	4934.78
	05/29/01	4943.53	12.60	4930.93	8.73	NA	NA	3.87	4934.80
	02/06/01	4943.53	12.60	4930.93	8.81	NA	NA	3.79	4934.72
	07/27/00	4943.53	12.60	4930.93	8.81	NA	NA	3.79	4934.72
	04/26/00	4943.53	12.60	4930.93	8.80	NA	NA	3.80	4934.73
	01/26/00	4943.53	12.60	4930.93	9.23	NA	NA	3.37	4934.30
	01/06/00	4943.53	12.60	4930.93	9.23	NA	NA	3.37	4934.30
	03/07/96	4943.53	12.60	4930.93	9.20	NA	NA	3.40	4934.33
VP-7	05/30/03	Plugged and Abandoned							
	01/26/00	4943.52	12.82	4930.70	9.52	NA	NA	3.30	4934.00
	01/06/00	4943.52	12.82	4930.70	9.52	NA	NA	3.30	4934.00
	03/07/96	4943.52	12.82	4930.70	9.45	NA	NA	3.37	4934.07
PR-2	05/30/03	Plugged and Abandoned							
	01/06/00	4944.09	9.18	4934.91	Dry	NA	NA	Dry	Dry
PR-3	05/30/03	Plugged and Abandoned							
	01/06/00	4944.22	8.73	4935.49	Dry	NA	NA	Dry	Dry

NM = Not Measured

NA = Not Applicable

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WESTERN TECHNOLOGIES INC.  
 SUMMARY OF WATER SAMPLE ANALYTICAL TEST RESULTS

TABLE 3

		*NAPHTHALENE (PPB)	BENZENE (PPB)	TOLUENE (PPB)	ETHYLBENZENE (PPB)	XYLENE (PPB)	**TOTAL BTEX (PPB)	MTBE (PPB)	EDB (PPB)	EDC (PPB)	
NMWQCC Regulatory Limits		30	10	750	750	620		100	0.1	10	
MONITOR WELL	DATE										
MW-1	06/06/95 03/07/95	N/A N/A	<0.5 <0.5	<1.0 <1.0	<1.0 <1.0	<2.0 <1.0	<4.5 <4.5	NA NA	NA NA	NA NA	
MW-2	09/20/95 09/08/94	N/A N/A	<0.5 <0.5	<1.0 <1.0	<1.0 <1.0	<2.0 <2.0	<4.5 <4.5	NA NA	NA NA	NA NA	
MW-3	01/30/00 12/01/94 06/02/94	<2.0 N/A N/A	<1.0 <0.5 11	<1.0 <1.0 <1.0	<1.0 <1.0 1.3	<1.0 <2.0 <2.0	<4.0 <4.0 12.3	<1.0 NA NA	<1.0 NA NA	<1.0 NA NA	
MW-4	07/17/03 01/10/03 09/24/02 07/03/02 04/01/02 01/03/02 10/01/01 05/29/01 02/06/01 07/27/00 04/26/00 01/30/00 06/06/95 03/07/95	<10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <10.0 <15.0 <6.0 3.9 <2.0 <2.0 <2.0 N/A N/A	<1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 40	<1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 1.0	<1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 54	<1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <3.0 <1.0 1.5 <1.0 <1.0 <1.0 2.6	<4.0 <4.0 <4.0 <4.0 <4.0 <4.0 <4.0 <6.0 <4.0 4.0 <4.0 <1.0 2.9 8.0	<1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 95.0	0.010 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 NA	<1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 NA	<1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 NA

Barelas Bridge  
 800 Bridge Blvd, SW  
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WESTERN TECHNOLOGIES INC.  
 SUMMARY OF WATER SAMPLE ANALYTICAL TEST RESULTS

TABLE 3

		*NAPHTHALENE (PPB)	BENZENE (PPB)	TOLUENE (PPB)	ETHYLBENZENE (PPB)	XYLENE (PPB)	**TOTAL BTEX (PPB)	MTBE (PPB)	EDB (PPB)	EDC (PPB)
NMWQCC Regulatory Limits		30	10	750	750	620		100	0.1	10
MONITOR WELL	DATE									
MW-5	01/30/00 12/05/95 09/20/95	<2.0 N/A N/A	<1.0 <0.5 <0.5	<1.0 <1.0 <1.0	<1.0 <1.0 <1.0	<1.0 <2.0 <2.0	<4.0 <4.5 <4.5	<1.0 NA NA	<1.0 NA NA	<1.0 NA NA
MW-6	01/30/00 03/07/96 12/05/95 12/01/94	<2.0 N/A N/A N/A	<1.0 1.7 1.2 29	8.3 1.4 4.2 26	18 2.0 2.8 36	54 4.2 12.0 130	80.3 9.3 20.2 221	<1.0 NA NA NA	<1.0 NA NA NA	<1.0 NA NA NA
MW-7	07/17/03 01/10/03 09/24/02 07/03/02 04/01/02 01/03/02 10/02/01 03/07/96 12/05/95 09/20/95	<10.0 <10.0 22.8 28.8 <10.0 <10.0 <10.0 <15.0 N/A N/A	<1.0 <1.0 3.1 2.6 <1.0 <1.0 <1.0 <1.0 1.9 6.0	<1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 2.1	<1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 9.9	<1.0 <1.0 1.7 3.0 <1.0 <1.0 <1.0 3.3 <2.0 <2.0	<4.0 <4.0 4.8 5.6 <4.0 <4.0 <4.0 3.3 1.9 9.4	<1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 NA NA	0.010 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 NA NA	<1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 NA NA



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WESTERN TECHNOLOGIES INC.  
 SUMMARY OF WATER SAMPLE ANALYTICAL TEST RESULTS

TABLE 3

		*NAPHTHALENE (PPB)	BENZENE (PPB)	TOLUENE (PPB)	ETHYLBENZENE (PPB)	XYLENE (PPB)	**TOTAL BTEX (PPB)	MTBE (PPB)	EDB (PPB)	EDC (PPB)
NMWQCC Regulatory Limits		30	10	750	750	620		100	0.1	10
MONITOR WELL	DATE									
MW-8	07/17/03	310	<5.0	<5.0	66	38	104	<5.0	0.010	<5.0
	01/10/03	284	<2.0	<2.0	57	38	95	<2.0	<2.0	<2.0
	09/24/02	238	< 5.0	< 5.0	58	29	87	<5.0	<5.0	<5.0
	07/03/02	202	< 5.0	< 5.0	86	40	126	<5.0	<5.0	<5.0
	04/01/02	273	<5.0	<5.0	100	43	143	<5.0	<5.0	<5.0
	01/04/02	313	3.0	3.2	35	50	91.2	<2.0	<2.0	<2.0
	10/02/01	120	<10	<10	90	51	141	<10	<10	<10
	05/29/01	261	4.2	2.6	110	57	173.8	<2.0	<2.0	<2.0
	02/06/01	140	<10	<10	130	43	173.0	<10	<10	<10
	07/27/00	140	6.0	5.2	150	61	222.2	<1.0	<1.0	<1.0
	04/26/00	136	3.2	2.2	<1.0	35.0	40.4	<1.0	<1.0	<1.0
	01/30/00	98	<10	<10	150.0	5.7	155.7	<10	<10	<10
	03/07/96	N/A	71	24	400	150	645.0	NA	NA	NA
	12/05/95	N/A	8.6	8.3	49	18	83.9	NA	NA	NA
	09/20/95	N/A	11	19	190	74	294.0	NA	NA	NA
MW-9	07/17/03	<10.0	98	9.9	2.4	10	120.3	7.1	0.010	<1.0
	01/10/03	<10.0	2.2	< 1.0	<1.0	<1.0	2.2	2.2	<1.0	<1.0
	09/24/02	13	9.2	< 1.0	25	20	54.2	1.7	<1.0	<1.0
	07/03/02	28.8	5.1	1.9	16	18	41.0	<1.0	<1.0	<1.0
	01/30/00	2.7	9.4	6.9	59	51	126.3	<1.0	<1.0	<1.0
	03/07/96	N/A	<0.5	<1.0	<1.0	3.7	3.7	NA	NA	NA
	12/05/95	N/A	<0.5	<1.0	<1.0	14.0	14.0	NA	NA	NA
	09/20/95	N/A	<0.5	<1.0	<1.0	<2.0	<4.5	NA	NA	NA

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WESTERN TECHNOLOGIES INC.  
 SUMMARY OF WATER SAMPLE ANALYTICAL TEST RESULTS

TABLE 3

		*NAPHTHALENE (PPB)	BENZENE (PPB)	TOLUENE (PPB)	ETHYLBENZENE (PPB)	XYLENE (PPB)	**TOTAL BTEX (PPB)	MTBE (PPB)	EDB (PPB)	EDC (PPB)
NMWQCC Regulatory Limits		30	10	750	750	620		100	0.1	10
MONITOR WELL	DATE									
VP-1	04/01/02	<10.0	<1.0	<1.0	<1.0	<1.0	<4.0	<1.0	<1.0	<1.0
	01/03/02	<10.0	<1.0	<1.0	<1.0	<1.0	<4.0	<1.0	<1.0	<1.0
	10/01/01	<15.0	<1.0	<1.0	<1.0	<3.0	<6.0	<1.0	<1.0	<1.0
	05/29/01	<6.0	1.9	<1.0	<1.0	2.0	3.9	<1.0	<1.0	<1.0
	02/06/01	<2.0	1.8	<1.0	<1.0	1.6	3.4	<1.0	<1.0	<1.0
	07/27/00	<2.0	3.5	<1.0	<1.0	1.4	4.9	<1.0	<1.0	<1.0
	04/26/00	<2.0	3.4	<1.0	<1.0	2.4	5.8	<1.0	<1.0	<1.0
	01/30/00	<2.0	1.3	<1.0	<1.0	<1.0	1.3	<1.0	<1.0	<1.0
	03/07/96	N/A	<0.5	1.4	<1.0	<2.0	1.4	NA	NA	NA
	12/05/95	N/A	<0.5	1.2	1.0	<2.0	2.2	NA	NA	NA
	09/20/95	N/A	<0.5	<1.0	4.3	<2.0	4.3	NA	NA	NA
VP-2	07/17/03	<10.0	<1.0	<1.0	<1.0	<1.0	<4.0	<1.0	0.010	<1.0
	01/10/03	<10.0	<1.0	<1.0	<1.0	<1.0	<4.0	<1.0	<1.0	<1.0
	09/24/02	3.4	<1.0	<1.0	<1.0	<1.0	<4.0	<1.0	<1.0	<1.0
	07/03/02	<10.0	<1.0	<1.0	<1.0	<1.0	<4.0	<1.0	<1.0	<1.0
	04/01/02	<10.0	<1.0	<1.0	<1.0	<1.0	<4.0	<1.0	<1.0	<1.0
	01/03/02	<10.0	<1.0	<1.0	<1.0	<1.0	<4.0	<1.0	<1.0	<1.0
	10/01/01	<15.0	<1.0	<1.0	<1.0	<3.0	<6.0	<1.0	<1.0	<1.0
	05/29/01	36.7	<1.0	<1.0	1.2	4.9	6.1	<1.0	<1.0	<1.0
	02/06/01	13	<1.0	<1.0	<1.0	2.0	2.0	<1.0	<1.0	<1.0
	07/27/00	11	<1.0	<1.0	<1.0	<1.0	<4.0	<1.0	<1.0	<1.0
	04/26/00	<2.0	<1.0	<1.0	<1.0	<1.0	<4.0	<1.0	<1.0	<1.0
	01/30/00	<2.0	<1.0	<1.0	<1.0	<1.0	<4.0	<1.0	<1.0	<1.0
	03/24/94	N/A	32	20	94	150	296	NA	NA	NA

Barelas Bridge  
 800 Bridge Blvd, SW  
 Albuquerque, New Mexico  
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WESTERN TECHNOLOGIES INC.  
 SUMMARY OF WATER SAMPLE ANALYTICAL TEST RESULTS

TABLE 3

		*NAPHTHALENE (PPB)	BENZENE (PPB)	TOLUENE (PPB)	ETHYLBENZENE (PPB)	XYLENE (PPB)	**TOTAL BTEX (PPB)	MTBE (PPB)	EDB (PPB)	EDC (PPB)
NMWQCC Regulatory Limits		30	10	750	750	620		100	0.1	10
MONITOR WELL	DATE									
VP-3	01/30/00 06/16/93	<2.0 N/A	<1.0 110	<1.0 7.3	<1.0 180	<1.0 74	<4.0 371.3	<1.0 NA	<1.0 NA	<1.0 NA
VP-4	01/30/00 03/07/96 09/20/95	<2.0 N/A N/A	<1.0 1.7 <0.5	<1.0 <1.0 <1.0	<1.0 <1.0 4.3	<1.0 <1.0 <2.0	<4.0 1.7 4.3	<1.0 NA NA	<1.0 NA NA	<1.0 NA NA
VP-5	07/17/03 01/10/03 09/24/02 07/03/02 04/01/02 01/03/02 10/02/01 05/29/01 07/27/00 04/26/00 01/30/00 03/07/96 12/05/95	930 510 510 350 640 340 320 330 89 142 80 N/A N/A	< 5.0 < 5.0 < 5.0 < 5.0 <1.0 <5.0 <5.0 <1.0 <1.0 <1.0 <5.0 <0.5	< 5.0 < 5.0 < 5.0 < 5.0 <1.0 <5.0 <5.0 <1.0 1.2 1.8 1.4 <5.0 <1.0	110 61 34 32 100 50 44 21 20 14 20 99 <1.0	54 27 18 19 44 31 35 17 12 7.1 10 81 <2.0	164 88 52 51 144 81 79 39.2 33.8 22.5 30.0 189.5 <4.5	<5.0 <5.0 <5.0 <5.0 <1.0 <5.0 <5.0 <1.0 <1.0 <1.0 <5.0 <5.0	0.010 <5.0 <5.0 <5.0 <1.0 <5.0 <5.0 <1.0 <1.0 <1.0 <5.0 <5.0	<5.0 <5.0 <5.0 <5.0 <1.0 <5.0 <5.0 <1.0 <1.0 <1.0 <5.0 <5.0

Barelas Bridge  
 800 Bridge Blvd, SW  
 Albuquerque, New Mexico  
 PSTB Facility #4608001 / 29854

WESTERN TECHNOLOGIES INC.  
 SUMMARY OF WATER SAMPLE ANALYTICAL TEST RESULTS

TABLE 3

		*NAPHTHALENE (PPB)	BENZENE (PPB)	TOLUENE (PPB)	ETHYLBENZENE (PPB)	XYLENE (PPB)	**TOTAL BTEX (PPB)	MTBE (PPB)	EDB (PPB)	EDC (PPB)
NMWQCC Regulatory Limits		30	10	750	750	620		100	0.1	10
MONITOR WELL	DATE									
VP-6	01/10/03	<10.0	<1.0	<1.0	<1.0	<1.0	<4.0	<1.0	<1.0	<1.0
	09/24/02	<10.0	<1.0	<1.0	<1.0	<1.0	<4.0	<1.0	<1.0	<1.0
	07/03/02	<10.0	<1.0	<1.0	<1.0	<1.0	<4.0	<1.0	<1.0	<1.0
	04/01/02	<10.0	<1.0	<1.0	<1.0	<1.0	<4.0	<1.0	<1.0	<1.0
	01/03/02	<10.0	<1.0	<1.0	<1.0	<1.0	<4.0	<1.0	<1.0	<1.0
	10/02/01	<15.0	<1.0	<1.0	<1.0	<3.0	<6.0	<1.0	<1.0	<1.0
	05/29/01	<6.0	<1.0	<1.0	<1.0	<1.0	<4.0	<1.0	<1.0	<1.0
	02/06/01	<2.0	<1.0	<1.0	<1.0	<1.0	<4.0	<1.0	<1.0	<1.0
	07/27/00	<2.0	<1.0	<1.0	<1.0	<1.0	<4.0	<1.0	<1.0	<1.0
	04/26/00	<2.0	<1.0	<1.0	<1.0	<1.0	<4.0	<1.0	<1.0	<1.0
	01/30/00	<2.0	<1.0	<1.0	<1.0	<1.0	<4.0	<1.0	<1.0	<1.0
	03/07/95	N/A	0.8	<1.0	<1.0	2.1	2.9	NA	NA	NA
	09/07/94	N/A	0.8	1.3	<1.0	<2.0	2.1	NA	NA	NA
VP-7	01/30/00	<2.0	<1.0	<1.0	<1.0	<1.0	<4.0	<1.0	<1.0	<1.0
	12/05/95	N/A	<0.5	<1.0	<1.0	<2.0	<4.5	NA	NA	NA
	06/06/95	N/A	<0.5	<1.0	<1.0	<2.0	<4.5	NA	NA	NA

\*\*Total BTEX = total benzene, toluene, ethylbenzene, and xylenes

NMWQCC = New Mexico Water Quality Control Commission

MTBE = Methyl-tert-butyl ether

EDB = 1,2,-Dibromethane

EDC = 1,2-Dichloroethane

PPB = parts per billion

N/A = Not Available

N/S = Not sampled due to presence of sheen.

<0.010\* = EDB by EPA Method 504.1

\* Naphthalene = naphthalene only by EPA Method 8310 for 01/30/00 and 04/26/00

\* Naphthalene = naphthalene, 1-methylnaphthalene, 2-methylnaphthalene by EPA Method 8260 Extended beginning 07/27/00

Barelas Bridge  
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Albuquerque, New Mexico  
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WESTERN TECHNOLOGIES INC.  
SUMMARY OF DISSOLVED METALS EPA METHOD 6010  
ANALYTICAL TEST RESULTS  
TABLE 6

MONITOR WELL	DATE	LEAD (Mg/L)	IRON (Mg/L)	MANGANESE (Mg/L)
NMWQCC Regulatory Limits		0.050*	1.0**	0.2**
MW-4	05/29/01 02/06/01	<0.005 <0.005	0.17 1.19	1.97 1.76
MW-8	05/29/01 02/06/01	<0.005 <0.005	1.12 0.68	0.39 0.38
VP-1	05/29/01 02/06/01	<0.005 <0.005	1.72 2.07	1.67 1.07
VP-2	05/29/01 02/06/01	<0.005 <0.005	0.83 0.70	1.21 0.92
VP-5	05/29/01	<0.005	3.42	0.53
VP-6	05/29/01 02/06/01	<0.005 <0.005	0.67 0.52	0.62 0.45

NMWQCC = New Mexico Water Quality Control Commission

\* = NMWQCC Regulations 20.6.2.3103.A. Human Health Standards

\*\* = NMWQCC Regulations 20.6.2.3103.B. Other Standards for Domestic Water Supply



**NEW MEXICO ENVIRONMENT DEPARTMENT**  
**BARELAS BRIDGE SITE**  
**ALBUQUERQUE, NEW MEXICO**  
**APRIL 2014**

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**Table 1**  
**Summary of Groundwater Elevation Data**  
**(All data reported in feet)**

Well No.	Monitoring Date	Top of Casing Elevation	Depth to Bottom	Depth to Water	Groundwater Elevation
MW-4	10/4/2006	4943.23	7.5	8.02	4935.21
	5/8/2009			7.67	4935.56
	8/13/2011			NM	NM
	4/2/2013			7.91	4935.32
	1/30/2014			8.20	4935.03
	4/9/2014			8.16	4935.07
MW-7	10/4/2006	4942.94	21.3	8.20	4934.74
	5/8/2009			7.81	4935.13
	8/13/2011			7.91	4935.03
	4/2/2013			7.99	4934.95
MW-8	10/4/2006	4944.59	12.8	9.30	4935.29
	5/8/2009			8.96	4935.63
	8/13/2011			9.12	4935.47
	4/2/2013			9.23	4935.36
	1/30/2014			9.50	4935.09
	4/9/2014			9.47	4935.12
MW-9	10/4/2006	4943.98	19.2	8.83	4935.15
	5/8/2009			8.48	4935.50
	8/13/2011			8.63	4935.35
	4/2/2013			8.71	4935.27
	1/30/2014			8.98	4935.00
	4/9/2014			8.94	4935.04
VP-2	10/4/2006	4943.73	12.5	8.43	4935.30
	5/8/2009			8.07	4935.66
	8/13/2011			7.23	4936.50
	4/2/2013			8.33	4935.40
	1/30/2014			8.61	4935.12
	4/9/2014			8.57	4935.16
VP-5	10/4/2006	4943.52	11.9	8.10	4935.42
	5/8/2009			7.78	4935.74
	8/13/2011			7.97	4935.55
	4/2/2013			8.06	4935.46
	1/30/2014			8.30	4935.22
	4/9/2014			8.25	4935.27

2006-2009 Data provided by the NMED

NM = Not measured (tree roots obstructing inner well)

**NEW MEXICO ENVIRONMENT DEPARTMENT**  
**BARELAS BRIDGE SITE**  
**ALBUQUERQUE, NEW MEXICO**  
**APRIL 2014**

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**Table 2**  
**Summary of Groundwater Chemistry Data**  
**(Concentrations in micrograms per liter [ $\mu\text{g/l}$  or ppb])**

Well No.	Sample Date	Benzene	Toulene	Ethylbenzene	Total Xylenes	MTBE	NAPH
MW-4	10/4/2006	<1.0	<1.0	<1.0	<3.0	<1.5	<10
	5/8/2009	<1.0	<1.0	<1.0	<1.5	<1.0	<10
	8/13/2011	<1.0	<1.0	<1.0	<1.5	<1.0	<4.0
	4/2/2013	<1.0	<1.0	<1.0	<1.5	<1.0	<4.0
	1/30/2014	<1.0	<1.0	<1.0	<1.5	<1.0	<4.0
	4/9/2014	<1.0	<1.0	<1.0	<1.5	<1.0	<4.0
MW-7	10/4/2006	<1.0	<1.0	<1.0	<3.0	<1.5	<10
	5/8/2009	<1.0	<1.0	<1.0	<1.5	<1.0	<10
	8/13/2011	<1.0	<1.0	<1.0	<1.5	<1.0	<4.0
MW-8	10/4/2006	<2.0	<2.0	34	18	<3.0	210
	5/8/2009	<1.0	<1.0	24	8.0	<1.0	92
	8/13/2011	<10	<10	32	<15	<10	72
	4/2/2013	<5.0	<5.0	31	10	<5.0	149
	1/30/2014	1.3	1.4	33	8.2	<1.0	134
	4/9/2014	<1.0	1.2	32	7.3	<1.0	113
MW-9	10/4/2006	62	44	11	42	<1.5	6.9
	5/8/2009	12	7.1	45	68	<1.0	77
	8/13/2011	750	150	270	880	12	93
	4/2/2013	320	34	<10	150	<10	<40
	1/30/2014	190	59	200	340	<2.0	67
	4/9/2014	100	49	72	110	<1.0	32.4
VP-2	10/4/2006	<1.0	<1.0	<1.0	<3.0	<1.5	<10
	5/8/2009	<1.0	<1.0	1.3	1.6	<1.0	37.3
	8/13/2011	<1.0	<1.0	2.1	2.4	<1.0	78
	4/2/2013	<2.0	<2.0	<2.0	<3.0	<2.0	34.7
	1/30/2014	<1.0	<1.0	<1.0	<1.5	<1.0	2.2
	4/9/2014	<1.0	<1.0	<1.0	<1.5	<1.0	<4.0

**NEW MEXICO ENVIRONMENT DEPARTMENT**  
**BARELAS BRIDGE SITE**  
**ALBUQUERQUE, NEW MEXICO**  
**APRIL 2014**

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**Table 2**  
**Summary of Groundwater Chemistry Data**  
**(Concentrations in micrograms per liter [ $\mu\text{g/l}$  or ppb])**

Well No.	Sample Date	Benzene	Toulene	Ethylbenzene	Total Xylenes	MTBE	NAPH
VP-5	10/4/2006	<10	<10	21	<30	<15	430
	5/8/2009	<5.0	<5.0	7.1	<7.5	<5.0	386
	8/13/2011	1.4	1.8	12	2.4	<1.0	469
	4/2/2013	<2.0	<2.0	7.7	<3.0	<2.0	270
	1/30/2014	<1.0	1.0	3.0	<1.5	<1.0	187
	4/9/2014	<1.0	1.2	4.5	<1.5	<1.0	217
NMWQCC/NMEIB Standard		10	750	750	620	100	30

2006-2009 Data provided by the NMED

NMWQCC: New Mexico Water Quality Control Commission

NMEIB: New Mexico Environmental Improvement Board

MTBE: Methyl t-butyl ether

NAPH: Total Naphthalenes

Analysis by EPA Test Method 8260.

**Shaded** cells represent concentrations exceeding applicable standard for most recent event.

**SUMMARY OF WELL COMPLETION INFORMATION**  
**BARELAS BRIDGE GWPA SITE**  
**800 BRIDGE BLVD., S.W.**  
**ALBUQUERQUE, NEW MEXICO**

WELL ID	DATE INSTALLED	MP OR TOC ELEV. (FT AMSL)	TOTAL DEPTH OF WELL (FT)	WELL DIAMETER/CONSTRUCTION	SCREENED INTERVAL/SLOT SIZE	SCREEN LENGTH (FT)	STATUS/COMMENTS
MW-1	02/07/90	4942.94	17	2" PVC	2'-17'/0.020"	15	
MW-2	02/07/90	4942.36	23	2" PVC	3'-18'/0.020"	15	
MW-3	02/07/90	4941.97	22.5	2" PVC	2.5'-17.5'/0.020"	15	
MW-4	02/08/90	4943.86	23.5	2" PVC	3.5'-18.5'/0.020"	15	
MW-5	10/16/90	4942.09	21.5	2" PVC	7'-22'/0.010"	15	
MW-6	10/16/90	4943.18	22	2" PVC	7'-22'/0.010"	15	
MW-7	10/18/90	4942.94	22	2" PVC	7'-22'/0.010"	15	
MW-8	10/18/90	4944.57	13	2" STEEL	8'-13'/0.010"	5	
MW-9	08/20/92	--	20.0	2" PVC	5'-20'/0.020"	15	
VP-1	08/19/92	--	14.5	4" PVC	9.5'-14.5'/0.020" 4.5'-9.5'/0.040"	10	Vapor extraction well
AS-1	08/19/92	--	22.2	2" PVC	20'-22'/0.010"	2	Air sparge well
PR-2	08/18/92	--	9	2" PVC	3'-5'/0.020" 7'-9'/0.020"	2'/2'	Nested vadose monitor probe
PR-3	08/18/92	--	9.3	2" PVC	3'-5'/0.020" 7'-9'/0.020"	2'/2'	Nested vadose monitor probe



**APPENDIX D**  
**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](http://www.hallenvironmental.com)

June 03, 2015

Eileen Marcillo  
Intera, Inc.  
6000 Uptown Boulevard, NE Suite 220  
Albuquerque, NM 87110  
TEL: (603) 969-4070  
FAX (505) 246-2600

RE: Barelas Bridge OrderNo.: 1505875

Dear Eileen Marcillo:

Hall Environmental Analysis Laboratory received 7 sample(s) on 5/19/2015 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](http://www.hallenvironmental.com) or the state specific web sites. In order to properly interpret your results it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

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

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

Sincerely,

A handwritten signature in black ink, appearing to read "Andy Freeman".

Andy Freeman  
Laboratory Manager  
4901 Hawkins NE  
Albuquerque, NM 87109

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1505875

Date Reported: 6/3/2015

**CLIENT:** Intera, Inc.

**Project:** Barelas Bridge

**Lab ID:** 1505875-001

**Client Sample ID:** MW-8

**Collection Date:** 5/19/2015 10:55:00 AM

**Matrix:** AQUEOUS

**Received Date:** 5/19/2015 4:20:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 6010B: DISSOLVED METALS</b>							
Iron	0.073	0.020		mg/L	1	5/26/2015 11:03:47 AM	R26400
Lead	ND	0.0050		mg/L	1	5/26/2015 11:03:47 AM	R26400
Manganese	0.28	0.0020		mg/L	1	5/26/2015 11:03:47 AM	R26400
<b>EPA METHOD 8011/504.1: EDB</b>							
1,2-Dibromoethane	ND	0.010		µg/L	1	5/21/2015 11:41:01 AM	19335
<b>EPA METHOD 8260B: VOLATILES</b>							
Benzene	ND	1.0		µg/L	1	5/22/2015 3:45:43 PM	R26391
Toluene	ND	1.0		µg/L	1	5/22/2015 3:45:43 PM	R26391
Ethylbenzene	22	1.0		µg/L	1	5/22/2015 3:45:43 PM	R26391
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	5/22/2015 3:45:43 PM	R26391
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	5/22/2015 3:45:43 PM	R26391
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	5/22/2015 3:45:43 PM	R26391
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	5/22/2015 3:45:43 PM	R26391
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	5/22/2015 3:45:43 PM	R26391
Naphthalene	37	2.0		µg/L	1	5/22/2015 3:45:43 PM	R26391
1-Methylnaphthalene	17	4.0		µg/L	1	5/22/2015 3:45:43 PM	R26391
2-Methylnaphthalene	28	4.0		µg/L	1	5/22/2015 3:45:43 PM	R26391
Acetone	ND	10		µg/L	1	5/22/2015 3:45:43 PM	R26391
Bromobenzene	ND	1.0		µg/L	1	5/22/2015 3:45:43 PM	R26391
Bromodichloromethane	ND	1.0		µg/L	1	5/22/2015 3:45:43 PM	R26391
Bromoform	ND	1.0		µg/L	1	5/22/2015 3:45:43 PM	R26391
Bromomethane	ND	3.0		µg/L	1	5/22/2015 3:45:43 PM	R26391
2-Butanone	ND	10		µg/L	1	5/22/2015 3:45:43 PM	R26391
Carbon disulfide	ND	10		µg/L	1	5/22/2015 3:45:43 PM	R26391
Carbon Tetrachloride	ND	1.0		µg/L	1	5/22/2015 3:45:43 PM	R26391
Chlorobenzene	ND	1.0		µg/L	1	5/22/2015 3:45:43 PM	R26391
Chloroethane	ND	2.0		µg/L	1	5/22/2015 3:45:43 PM	R26391
Chloroform	ND	1.0		µg/L	1	5/22/2015 3:45:43 PM	R26391
Chloromethane	ND	3.0		µg/L	1	5/22/2015 3:45:43 PM	R26391
2-Chlorotoluene	ND	1.0		µg/L	1	5/22/2015 3:45:43 PM	R26391
4-Chlorotoluene	ND	1.0		µg/L	1	5/22/2015 3:45:43 PM	R26391
cis-1,2-DCE	ND	1.0		µg/L	1	5/22/2015 3:45:43 PM	R26391
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	5/22/2015 3:45:43 PM	R26391
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	5/22/2015 3:45:43 PM	R26391
Dibromochloromethane	ND	1.0		µg/L	1	5/22/2015 3:45:43 PM	R26391
Dibromomethane	ND	1.0		µg/L	1	5/22/2015 3:45:43 PM	R26391
1,2-Dichlorobenzene	ND	1.0		µg/L	1	5/22/2015 3:45:43 PM	R26391
1,3-Dichlorobenzene	ND	1.0		µg/L	1	5/22/2015 3:45:43 PM	R26391

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

**Qualifiers:**

- \* Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
P Sample pH Not In Range  
RL Reporting Detection Limit

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order 1505875

Date Reported: 6/3/2015

**CLIENT:** Intera, Inc.

**Project:** Barelas Bridge

**Lab ID:** 1505875-001

**Matrix:** AQUEOUS

**Client Sample ID:** MW-8

**Collection Date:** 5/19/2015 10:55:00 AM

**Received Date:** 5/19/2015 4:20:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							
1,4-Dichlorobenzene	ND	1.0		µg/L	1	5/22/2015 3:45:43 PM	R26391
Dichlorodifluoromethane	ND	1.0		µg/L	1	5/22/2015 3:45:43 PM	R26391
1,1-Dichloroethane	ND	1.0		µg/L	1	5/22/2015 3:45:43 PM	R26391
1,1-Dichloroethene	ND	1.0		µg/L	1	5/22/2015 3:45:43 PM	R26391
1,2-Dichloropropane	ND	1.0		µg/L	1	5/22/2015 3:45:43 PM	R26391
1,3-Dichloropropane	ND	1.0		µg/L	1	5/22/2015 3:45:43 PM	R26391
2,2-Dichloropropane	ND	2.0		µg/L	1	5/22/2015 3:45:43 PM	R26391
1,1-Dichloropropene	ND	1.0		µg/L	1	5/22/2015 3:45:43 PM	R26391
Hexachlorobutadiene	ND	1.0		µg/L	1	5/22/2015 3:45:43 PM	R26391
2-Hexanone	ND	10		µg/L	1	5/22/2015 3:45:43 PM	R26391
Isopropylbenzene	13	1.0		µg/L	1	5/22/2015 3:45:43 PM	R26391
4-Isopropyltoluene	ND	1.0		µg/L	1	5/22/2015 3:45:43 PM	R26391
4-Methyl-2-pentanone	ND	10		µg/L	1	5/22/2015 3:45:43 PM	R26391
Methylene Chloride	ND	3.0		µg/L	1	5/22/2015 3:45:43 PM	R26391
n-Butylbenzene	4.2	3.0		µg/L	1	5/22/2015 3:45:43 PM	R26391
n-Propylbenzene	23	1.0		µg/L	1	5/22/2015 3:45:43 PM	R26391
sec-Butylbenzene	2.5	1.0		µg/L	1	5/22/2015 3:45:43 PM	R26391
Styrene	ND	1.0		µg/L	1	5/22/2015 3:45:43 PM	R26391
tert-Butylbenzene	ND	1.0		µg/L	1	5/22/2015 3:45:43 PM	R26391
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	5/22/2015 3:45:43 PM	R26391
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	5/22/2015 3:45:43 PM	R26391
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	5/22/2015 3:45:43 PM	R26391
trans-1,2-DCE	ND	1.0		µg/L	1	5/22/2015 3:45:43 PM	R26391
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	5/22/2015 3:45:43 PM	R26391
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	5/22/2015 3:45:43 PM	R26391
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	5/22/2015 3:45:43 PM	R26391
1,1,1-Trichloroethane	ND	1.0		µg/L	1	5/22/2015 3:45:43 PM	R26391
1,1,2-Trichloroethane	ND	1.0		µg/L	1	5/22/2015 3:45:43 PM	R26391
Trichloroethene (TCE)	ND	1.0		µg/L	1	5/22/2015 3:45:43 PM	R26391
Trichlorofluoromethane	ND	1.0		µg/L	1	5/22/2015 3:45:43 PM	R26391
1,2,3-Trichloropropane	ND	2.0		µg/L	1	5/22/2015 3:45:43 PM	R26391
Vinyl chloride	ND	1.0		µg/L	1	5/22/2015 3:45:43 PM	R26391
Xylenes, Total	4.4	1.5		µg/L	1	5/22/2015 3:45:43 PM	R26391
Surr: 1,2-Dichloroethane-d4	121	70-130		%REC	1	5/22/2015 3:45:43 PM	R26391
Surr: 4-Bromofluorobenzene	106	70-130		%REC	1	5/22/2015 3:45:43 PM	R26391
Surr: Dibromofluoromethane	102	70-130		%REC	1	5/22/2015 3:45:43 PM	R26391
Surr: Toluene-d8	101	70-130		%REC	1	5/22/2015 3:45:43 PM	R26391

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

**Qualifiers:**

- \* Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
P Sample pH Not In Range  
RL Reporting Detection Limit

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1505875

Date Reported: 6/3/2015

**CLIENT:** Intera, Inc.

**Project:** Barelas Bridge

**Lab ID:** 1505875-002

**Client Sample ID:** VP-5

**Collection Date:** 5/19/2015 11:40:00 AM

**Matrix:** AQUEOUS

**Received Date:** 5/19/2015 4:20:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 6010B: DISSOLVED METALS</b>							
Iron	1.2	0.10		mg/L	5	5/26/2015 12:55:31 PM	R26400
Lead	0.0061	0.0050		mg/L	1	5/26/2015 11:05:38 AM	R26400
Manganese	0.12	0.0020		mg/L	1	5/26/2015 11:05:38 AM	R26400
<b>EPA METHOD 8011/504.1: EDB</b>							
1,2-Dibromoethane	ND	0.010		µg/L	1	5/21/2015 11:54:42 AM	19335
<b>EPA METHOD 8260B: VOLATILES</b>							
Benzene	ND	5.0		µg/L	5	5/22/2015 5:08:17 PM	R26391
Toluene	ND	5.0		µg/L	5	5/22/2015 5:08:17 PM	R26391
Ethylbenzene	ND	5.0		µg/L	5	5/22/2015 5:08:17 PM	R26391
Methyl tert-butyl ether (MTBE)	ND	5.0		µg/L	5	5/22/2015 5:08:17 PM	R26391
1,2,4-Trimethylbenzene	ND	5.0		µg/L	5	5/22/2015 5:08:17 PM	R26391
1,3,5-Trimethylbenzene	ND	5.0		µg/L	5	5/22/2015 5:08:17 PM	R26391
1,2-Dichloroethane (EDC)	ND	5.0		µg/L	5	5/22/2015 5:08:17 PM	R26391
1,2-Dibromoethane (EDB)	ND	5.0		µg/L	5	5/22/2015 5:08:17 PM	R26391
Naphthalene	17	10		µg/L	5	5/22/2015 5:08:17 PM	R26391
1-Methylnaphthalene	66	20		µg/L	5	5/22/2015 5:08:17 PM	R26391
2-Methylnaphthalene	120	20		µg/L	5	5/22/2015 5:08:17 PM	R26391
Acetone	ND	50		µg/L	5	5/22/2015 5:08:17 PM	R26391
Bromobenzene	ND	5.0		µg/L	5	5/22/2015 5:08:17 PM	R26391
Bromodichloromethane	ND	5.0		µg/L	5	5/22/2015 5:08:17 PM	R26391
Bromoform	ND	5.0		µg/L	5	5/22/2015 5:08:17 PM	R26391
Bromomethane	ND	15		µg/L	5	5/22/2015 5:08:17 PM	R26391
2-Butanone	ND	50		µg/L	5	5/22/2015 5:08:17 PM	R26391
Carbon disulfide	ND	50		µg/L	5	5/22/2015 5:08:17 PM	R26391
Carbon Tetrachloride	ND	5.0		µg/L	5	5/22/2015 5:08:17 PM	R26391
Chlorobenzene	ND	5.0		µg/L	5	5/22/2015 5:08:17 PM	R26391
Chloroethane	ND	10		µg/L	5	5/22/2015 5:08:17 PM	R26391
Chloroform	ND	5.0		µg/L	5	5/22/2015 5:08:17 PM	R26391
Chloromethane	ND	15		µg/L	5	5/22/2015 5:08:17 PM	R26391
2-Chlorotoluene	ND	5.0		µg/L	5	5/22/2015 5:08:17 PM	R26391
4-Chlorotoluene	ND	5.0		µg/L	5	5/22/2015 5:08:17 PM	R26391
cis-1,2-DCE	ND	5.0		µg/L	5	5/22/2015 5:08:17 PM	R26391
cis-1,3-Dichloropropene	ND	5.0		µg/L	5	5/22/2015 5:08:17 PM	R26391
1,2-Dibromo-3-chloropropane	ND	10		µg/L	5	5/22/2015 5:08:17 PM	R26391
Dibromochloromethane	ND	5.0		µg/L	5	5/22/2015 5:08:17 PM	R26391
Dibromomethane	ND	5.0		µg/L	5	5/22/2015 5:08:17 PM	R26391
1,2-Dichlorobenzene	ND	5.0		µg/L	5	5/22/2015 5:08:17 PM	R26391
1,3-Dichlorobenzene	ND	5.0		µg/L	5	5/22/2015 5:08:17 PM	R26391

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

**Qualifiers:**

- \* Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

P Sample pH Not In Range

RL Reporting Detection Limit

Page 3 of 22

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1505875

Date Reported: 6/3/2015

**CLIENT:** Intera, Inc.

**Project:** Barelas Bridge

**Lab ID:** 1505875-002

**Client Sample ID:** VP-5

**Collection Date:** 5/19/2015 11:40:00 AM

**Matrix:** AQUEOUS

**Received Date:** 5/19/2015 4:20:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							
1,4-Dichlorobenzene	ND	5.0		µg/L	5	5/22/2015 5:08:17 PM	R26391
Dichlorodifluoromethane	ND	5.0		µg/L	5	5/22/2015 5:08:17 PM	R26391
1,1-Dichloroethane	ND	5.0		µg/L	5	5/22/2015 5:08:17 PM	R26391
1,1-Dichloroethene	ND	5.0		µg/L	5	5/22/2015 5:08:17 PM	R26391
1,2-Dichloropropane	ND	5.0		µg/L	5	5/22/2015 5:08:17 PM	R26391
1,3-Dichloropropane	ND	5.0		µg/L	5	5/22/2015 5:08:17 PM	R26391
2,2-Dichloropropane	ND	10		µg/L	5	5/22/2015 5:08:17 PM	R26391
1,1-Dichloropropene	ND	5.0		µg/L	5	5/22/2015 5:08:17 PM	R26391
Hexachlorobutadiene	ND	5.0		µg/L	5	5/22/2015 5:08:17 PM	R26391
2-Hexanone	ND	50		µg/L	5	5/22/2015 5:08:17 PM	R26391
Isopropylbenzene	27	5.0		µg/L	5	5/22/2015 5:08:17 PM	R26391
4-Isopropyltoluene	ND	5.0		µg/L	5	5/22/2015 5:08:17 PM	R26391
4-Methyl-2-pentanone	ND	50		µg/L	5	5/22/2015 5:08:17 PM	R26391
Methylene Chloride	ND	15		µg/L	5	5/22/2015 5:08:17 PM	R26391
n-Butylbenzene	ND	15		µg/L	5	5/22/2015 5:08:17 PM	R26391
n-Propylbenzene	82	5.0		µg/L	5	5/22/2015 5:08:17 PM	R26391
sec-Butylbenzene	ND	5.0		µg/L	5	5/22/2015 5:08:17 PM	R26391
Styrene	ND	5.0		µg/L	5	5/22/2015 5:08:17 PM	R26391
tert-Butylbenzene	ND	5.0		µg/L	5	5/22/2015 5:08:17 PM	R26391
1,1,1,2-Tetrachloroethane	ND	5.0		µg/L	5	5/22/2015 5:08:17 PM	R26391
1,1,2,2-Tetrachloroethane	ND	10		µg/L	5	5/22/2015 5:08:17 PM	R26391
Tetrachloroethene (PCE)	ND	5.0		µg/L	5	5/22/2015 5:08:17 PM	R26391
trans-1,2-DCE	ND	5.0		µg/L	5	5/22/2015 5:08:17 PM	R26391
trans-1,3-Dichloropropene	ND	5.0		µg/L	5	5/22/2015 5:08:17 PM	R26391
1,2,3-Trichlorobenzene	ND	5.0		µg/L	5	5/22/2015 5:08:17 PM	R26391
1,2,4-Trichlorobenzene	ND	5.0		µg/L	5	5/22/2015 5:08:17 PM	R26391
1,1,1-Trichloroethane	ND	5.0		µg/L	5	5/22/2015 5:08:17 PM	R26391
1,1,2-Trichloroethane	ND	5.0		µg/L	5	5/22/2015 5:08:17 PM	R26391
Trichloroethene (TCE)	ND	5.0		µg/L	5	5/22/2015 5:08:17 PM	R26391
Trichlorofluoromethane	ND	5.0		µg/L	5	5/22/2015 5:08:17 PM	R26391
1,2,3-Trichloropropane	ND	10		µg/L	5	5/22/2015 5:08:17 PM	R26391
Vinyl chloride	ND	5.0		µg/L	5	5/22/2015 5:08:17 PM	R26391
Xylenes, Total	ND	7.5		µg/L	5	5/22/2015 5:08:17 PM	R26391
Surr: 1,2-Dichloroethane-d4	115	70-130		%REC	5	5/22/2015 5:08:17 PM	R26391
Surr: 4-Bromofluorobenzene	103	70-130		%REC	5	5/22/2015 5:08:17 PM	R26391
Surr: Dibromofluoromethane	105	70-130		%REC	5	5/22/2015 5:08:17 PM	R26391
Surr: Toluene-d8	101	70-130		%REC	5	5/22/2015 5:08:17 PM	R26391

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

**Qualifiers:**

- \* Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
P Sample pH Not In Range  
RL Reporting Detection Limit

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1505875

Date Reported: 6/3/2015

**CLIENT:** Intera, Inc.

**Project:** Barelas Bridge

**Lab ID:** 1505875-003

**Client Sample ID:** MW-9

**Collection Date:** 5/19/2015 1:00:00 PM

**Matrix:** AQUEOUS

**Received Date:** 5/19/2015 4:20:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 6010B: DISSOLVED METALS</b>							
Iron	0.22	0.020		mg/L	1	5/26/2015 11:07:31 AM	R26400
Lead	ND	0.0050		mg/L	1	5/26/2015 11:07:31 AM	R26400
Manganese	0.70	0.0020		mg/L	1	5/26/2015 11:07:31 AM	R26400
<b>EPA METHOD 8011/504.1: EDB</b>							
1,2-Dibromoethane	ND	0.010		µg/L	1	5/21/2015 12:08:30 PM	19335
<b>EPA METHOD 8260B: VOLATILES</b>							
Benzene	21	1.0		µg/L	1	5/22/2015 5:35:42 PM	R26391
Toluene	3.0	1.0		µg/L	1	5/22/2015 5:35:42 PM	R26391
Ethylbenzene	18	1.0		µg/L	1	5/22/2015 5:35:42 PM	R26391
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	5/22/2015 5:35:42 PM	R26391
1,2,4-Trimethylbenzene	3.8	1.0		µg/L	1	5/22/2015 5:35:42 PM	R26391
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	5/22/2015 5:35:42 PM	R26391
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	5/22/2015 5:35:42 PM	R26391
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	5/22/2015 5:35:42 PM	R26391
Naphthalene	2.7	2.0		µg/L	1	5/22/2015 5:35:42 PM	R26391
1-Methylnaphthalene	ND	4.0		µg/L	1	5/22/2015 5:35:42 PM	R26391
2-Methylnaphthalene	ND	4.0		µg/L	1	5/22/2015 5:35:42 PM	R26391
Acetone	ND	10		µg/L	1	5/22/2015 5:35:42 PM	R26391
Bromobenzene	ND	1.0		µg/L	1	5/22/2015 5:35:42 PM	R26391
Bromodichloromethane	ND	1.0		µg/L	1	5/22/2015 5:35:42 PM	R26391
Bromoform	ND	1.0		µg/L	1	5/22/2015 5:35:42 PM	R26391
Bromomethane	ND	3.0		µg/L	1	5/22/2015 5:35:42 PM	R26391
2-Butanone	ND	10		µg/L	1	5/22/2015 5:35:42 PM	R26391
Carbon disulfide	ND	10		µg/L	1	5/22/2015 5:35:42 PM	R26391
Carbon Tetrachloride	ND	1.0		µg/L	1	5/22/2015 5:35:42 PM	R26391
Chlorobenzene	ND	1.0		µg/L	1	5/22/2015 5:35:42 PM	R26391
Chloroethane	ND	2.0		µg/L	1	5/22/2015 5:35:42 PM	R26391
Chloroform	ND	1.0		µg/L	1	5/22/2015 5:35:42 PM	R26391
Chloromethane	ND	3.0		µg/L	1	5/22/2015 5:35:42 PM	R26391
2-Chlorotoluene	ND	1.0		µg/L	1	5/22/2015 5:35:42 PM	R26391
4-Chlorotoluene	ND	1.0		µg/L	1	5/22/2015 5:35:42 PM	R26391
cis-1,2-DCE	ND	1.0		µg/L	1	5/22/2015 5:35:42 PM	R26391
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	5/22/2015 5:35:42 PM	R26391
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	5/22/2015 5:35:42 PM	R26391
Dibromochloromethane	ND	1.0		µg/L	1	5/22/2015 5:35:42 PM	R26391
Dibromomethane	ND	1.0		µg/L	1	5/22/2015 5:35:42 PM	R26391
1,2-Dichlorobenzene	ND	1.0		µg/L	1	5/22/2015 5:35:42 PM	R26391
1,3-Dichlorobenzene	ND	1.0		µg/L	1	5/22/2015 5:35:42 PM	R26391

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

**Qualifiers:**

- \* Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

P Sample pH Not In Range

RL Reporting Detection Limit

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1505875

Date Reported: 6/3/2015

**CLIENT:** Intera, Inc.

**Project:** Barelas Bridge

**Lab ID:** 1505875-003

**Client Sample ID:** MW-9

**Collection Date:** 5/19/2015 1:00:00 PM

**Matrix:** AQUEOUS

**Received Date:** 5/19/2015 4:20:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							
1,4-Dichlorobenzene	ND	1.0		µg/L	1	5/22/2015 5:35:42 PM	R26391
Dichlorodifluoromethane	ND	1.0		µg/L	1	5/22/2015 5:35:42 PM	R26391
1,1-Dichloroethane	ND	1.0		µg/L	1	5/22/2015 5:35:42 PM	R26391
1,1-Dichloroethene	ND	1.0		µg/L	1	5/22/2015 5:35:42 PM	R26391
1,2-Dichloropropane	ND	1.0		µg/L	1	5/22/2015 5:35:42 PM	R26391
1,3-Dichloropropane	ND	1.0		µg/L	1	5/22/2015 5:35:42 PM	R26391
2,2-Dichloropropane	ND	2.0		µg/L	1	5/22/2015 5:35:42 PM	R26391
1,1-Dichloropropene	ND	1.0		µg/L	1	5/22/2015 5:35:42 PM	R26391
Hexachlorobutadiene	ND	1.0		µg/L	1	5/22/2015 5:35:42 PM	R26391
2-Hexanone	ND	10		µg/L	1	5/22/2015 5:35:42 PM	R26391
Isopropylbenzene	1.4	1.0		µg/L	1	5/22/2015 5:35:42 PM	R26391
4-Isopropyltoluene	ND	1.0		µg/L	1	5/22/2015 5:35:42 PM	R26391
4-Methyl-2-pentanone	ND	10		µg/L	1	5/22/2015 5:35:42 PM	R26391
Methylene Chloride	ND	3.0		µg/L	1	5/22/2015 5:35:42 PM	R26391
n-Butylbenzene	ND	3.0		µg/L	1	5/22/2015 5:35:42 PM	R26391
n-Propylbenzene	1.5	1.0		µg/L	1	5/22/2015 5:35:42 PM	R26391
sec-Butylbenzene	ND	1.0		µg/L	1	5/22/2015 5:35:42 PM	R26391
Styrene	ND	1.0		µg/L	1	5/22/2015 5:35:42 PM	R26391
tert-Butylbenzene	ND	1.0		µg/L	1	5/22/2015 5:35:42 PM	R26391
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	5/22/2015 5:35:42 PM	R26391
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	5/22/2015 5:35:42 PM	R26391
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	5/22/2015 5:35:42 PM	R26391
trans-1,2-DCE	ND	1.0		µg/L	1	5/22/2015 5:35:42 PM	R26391
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	5/22/2015 5:35:42 PM	R26391
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	5/22/2015 5:35:42 PM	R26391
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	5/22/2015 5:35:42 PM	R26391
1,1,1-Trichloroethane	ND	1.0		µg/L	1	5/22/2015 5:35:42 PM	R26391
1,1,2-Trichloroethane	ND	1.0		µg/L	1	5/22/2015 5:35:42 PM	R26391
Trichloroethene (TCE)	ND	1.0		µg/L	1	5/22/2015 5:35:42 PM	R26391
Trichlorofluoromethane	ND	1.0		µg/L	1	5/22/2015 5:35:42 PM	R26391
1,2,3-Trichloropropane	ND	2.0		µg/L	1	5/22/2015 5:35:42 PM	R26391
Vinyl chloride	ND	1.0		µg/L	1	5/22/2015 5:35:42 PM	R26391
Xylenes, Total	18	1.5		µg/L	1	5/22/2015 5:35:42 PM	R26391
Surr: 1,2-Dichloroethane-d4	101	70-130		%REC	1	5/22/2015 5:35:42 PM	R26391
Surr: 4-Bromofluorobenzene	101	70-130		%REC	1	5/22/2015 5:35:42 PM	R26391
Surr: Dibromofluoromethane	104	70-130		%REC	1	5/22/2015 5:35:42 PM	R26391
Surr: Toluene-d8	99.5	70-130		%REC	1	5/22/2015 5:35:42 PM	R26391

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

**Qualifiers:**

- \* Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
P Sample pH Not In Range  
RL Reporting Detection Limit

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1505875

Date Reported: 6/3/2015

**CLIENT:** Intera, Inc.

**Project:** Barelas Bridge

**Lab ID:** 1505875-004

**Client Sample ID:** MW-4

**Collection Date:** 5/19/2015 1:50:00 PM

**Matrix:** AQUEOUS

**Received Date:** 5/19/2015 4:20:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 6010B: DISSOLVED METALS</b>							
Iron	0.71	0.020		mg/L	1	5/26/2015 11:16:17 AM	R26400
Lead	ND	0.0050		mg/L	1	5/26/2015 11:16:17 AM	R26400
Manganese	0.74	0.0020		mg/L	1	5/26/2015 11:16:17 AM	R26400
<b>EPA METHOD 8011/504.1: EDB</b>							
1,2-Dibromoethane	ND	0.010		µg/L	1	5/21/2015 12:22:20 PM	19335
<b>EPA METHOD 8260B: VOLATILES</b>							
Benzene	ND	1.0		µg/L	1	5/22/2015 6:03:07 PM	R26391
Toluene	ND	1.0		µg/L	1	5/22/2015 6:03:07 PM	R26391
Ethylbenzene	ND	1.0		µg/L	1	5/22/2015 6:03:07 PM	R26391
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	5/22/2015 6:03:07 PM	R26391
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	5/22/2015 6:03:07 PM	R26391
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	5/22/2015 6:03:07 PM	R26391
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	5/22/2015 6:03:07 PM	R26391
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	5/22/2015 6:03:07 PM	R26391
Naphthalene	8.1	2.0		µg/L	1	5/22/2015 6:03:07 PM	R26391
1-Methylnaphthalene	ND	4.0		µg/L	1	5/22/2015 6:03:07 PM	R26391
2-Methylnaphthalene	ND	4.0		µg/L	1	5/22/2015 6:03:07 PM	R26391
Acetone	ND	10		µg/L	1	5/22/2015 6:03:07 PM	R26391
Bromobenzene	ND	1.0		µg/L	1	5/22/2015 6:03:07 PM	R26391
Bromodichloromethane	ND	1.0		µg/L	1	5/22/2015 6:03:07 PM	R26391
Bromoform	ND	1.0		µg/L	1	5/22/2015 6:03:07 PM	R26391
Bromomethane	ND	3.0		µg/L	1	5/22/2015 6:03:07 PM	R26391
2-Butanone	ND	10		µg/L	1	5/22/2015 6:03:07 PM	R26391
Carbon disulfide	ND	10		µg/L	1	5/22/2015 6:03:07 PM	R26391
Carbon Tetrachloride	ND	1.0		µg/L	1	5/22/2015 6:03:07 PM	R26391
Chlorobenzene	ND	1.0		µg/L	1	5/22/2015 6:03:07 PM	R26391
Chloroethane	ND	2.0		µg/L	1	5/22/2015 6:03:07 PM	R26391
Chloroform	ND	1.0		µg/L	1	5/22/2015 6:03:07 PM	R26391
Chloromethane	ND	3.0		µg/L	1	5/22/2015 6:03:07 PM	R26391
2-Chlorotoluene	ND	1.0		µg/L	1	5/22/2015 6:03:07 PM	R26391
4-Chlorotoluene	ND	1.0		µg/L	1	5/22/2015 6:03:07 PM	R26391
cis-1,2-DCE	ND	1.0		µg/L	1	5/22/2015 6:03:07 PM	R26391
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	5/22/2015 6:03:07 PM	R26391
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	5/22/2015 6:03:07 PM	R26391
Dibromochloromethane	ND	1.0		µg/L	1	5/22/2015 6:03:07 PM	R26391
Dibromomethane	ND	1.0		µg/L	1	5/22/2015 6:03:07 PM	R26391
1,2-Dichlorobenzene	ND	1.0		µg/L	1	5/22/2015 6:03:07 PM	R26391
1,3-Dichlorobenzene	ND	1.0		µg/L	1	5/22/2015 6:03:07 PM	R26391

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

**Qualifiers:**

- \* Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

P Sample pH Not In Range

RL Reporting Detection Limit

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1505875

Date Reported: 6/3/2015

**CLIENT:** Intera, Inc.

**Project:** Barelas Bridge

**Lab ID:** 1505875-004

**Client Sample ID:** MW-4

**Collection Date:** 5/19/2015 1:50:00 PM

**Matrix:** AQUEOUS

**Received Date:** 5/19/2015 4:20:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							
1,4-Dichlorobenzene	ND	1.0		µg/L	1	5/22/2015 6:03:07 PM	R26391
Dichlorodifluoromethane	ND	1.0		µg/L	1	5/22/2015 6:03:07 PM	R26391
1,1-Dichloroethane	ND	1.0		µg/L	1	5/22/2015 6:03:07 PM	R26391
1,1-Dichloroethene	ND	1.0		µg/L	1	5/22/2015 6:03:07 PM	R26391
1,2-Dichloropropane	ND	1.0		µg/L	1	5/22/2015 6:03:07 PM	R26391
1,3-Dichloropropane	ND	1.0		µg/L	1	5/22/2015 6:03:07 PM	R26391
2,2-Dichloropropane	ND	2.0		µg/L	1	5/22/2015 6:03:07 PM	R26391
1,1-Dichloropropene	ND	1.0		µg/L	1	5/22/2015 6:03:07 PM	R26391
Hexachlorobutadiene	ND	1.0		µg/L	1	5/22/2015 6:03:07 PM	R26391
2-Hexanone	ND	10		µg/L	1	5/22/2015 6:03:07 PM	R26391
Isopropylbenzene	8.3	1.0		µg/L	1	5/22/2015 6:03:07 PM	R26391
4-Isopropyltoluene	ND	1.0		µg/L	1	5/22/2015 6:03:07 PM	R26391
4-Methyl-2-pentanone	ND	10		µg/L	1	5/22/2015 6:03:07 PM	R26391
Methylene Chloride	ND	3.0		µg/L	1	5/22/2015 6:03:07 PM	R26391
n-Butylbenzene	ND	3.0		µg/L	1	5/22/2015 6:03:07 PM	R26391
n-Propylbenzene	7.2	1.0		µg/L	1	5/22/2015 6:03:07 PM	R26391
sec-Butylbenzene	ND	1.0		µg/L	1	5/22/2015 6:03:07 PM	R26391
Styrene	ND	1.0		µg/L	1	5/22/2015 6:03:07 PM	R26391
tert-Butylbenzene	ND	1.0		µg/L	1	5/22/2015 6:03:07 PM	R26391
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	5/22/2015 6:03:07 PM	R26391
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	5/22/2015 6:03:07 PM	R26391
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	5/22/2015 6:03:07 PM	R26391
trans-1,2-DCE	ND	1.0		µg/L	1	5/22/2015 6:03:07 PM	R26391
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	5/22/2015 6:03:07 PM	R26391
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	5/22/2015 6:03:07 PM	R26391
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	5/22/2015 6:03:07 PM	R26391
1,1,1-Trichloroethane	ND	1.0		µg/L	1	5/22/2015 6:03:07 PM	R26391
1,1,2-Trichloroethane	ND	1.0		µg/L	1	5/22/2015 6:03:07 PM	R26391
Trichloroethene (TCE)	ND	1.0		µg/L	1	5/22/2015 6:03:07 PM	R26391
Trichlorofluoromethane	ND	1.0		µg/L	1	5/22/2015 6:03:07 PM	R26391
1,2,3-Trichloropropane	ND	2.0		µg/L	1	5/22/2015 6:03:07 PM	R26391
Vinyl chloride	ND	1.0		µg/L	1	5/22/2015 6:03:07 PM	R26391
Xylenes, Total	ND	1.5		µg/L	1	5/22/2015 6:03:07 PM	R26391
Surr: 1,2-Dichloroethane-d4	102	70-130		%REC	1	5/22/2015 6:03:07 PM	R26391
Surr: 4-Bromofluorobenzene	109	70-130		%REC	1	5/22/2015 6:03:07 PM	R26391
Surr: Dibromofluoromethane	101	70-130		%REC	1	5/22/2015 6:03:07 PM	R26391
Surr: Toluene-d8	103	70-130		%REC	1	5/22/2015 6:03:07 PM	R26391

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

**Qualifiers:**

- \* Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
P Sample pH Not In Range  
RL Reporting Detection Limit

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1505875

Date Reported: 6/3/2015

**CLIENT:** Intera, Inc.

**Project:** Barelas Bridge

**Lab ID:** 1505875-005

**Client Sample ID:** VP-2

**Collection Date:** 5/19/2015 2:40:00 PM

**Matrix:** AQUEOUS

**Received Date:** 5/19/2015 4:20:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 6010B: DISSOLVED METALS</b>							
Iron	0.070	0.020		mg/L	1	5/26/2015 11:18:09 AM	R26400
Lead	ND	0.0050		mg/L	1	5/26/2015 11:18:09 AM	R26400
Manganese	0.46	0.0020		mg/L	1	5/26/2015 11:18:09 AM	R26400
<b>EPA METHOD 8011/504.1: EDB</b>							
1,2-Dibromoethane	ND	0.010		µg/L	1	5/21/2015 1:03:33 PM	19335
<b>EPA METHOD 8260B: VOLATILES</b>							
Benzene	ND	1.0		µg/L	1	5/22/2015 6:30:37 PM	R26391
Toluene	ND	1.0		µg/L	1	5/22/2015 6:30:37 PM	R26391
Ethylbenzene	ND	1.0		µg/L	1	5/22/2015 6:30:37 PM	R26391
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	5/22/2015 6:30:37 PM	R26391
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	5/22/2015 6:30:37 PM	R26391
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	5/22/2015 6:30:37 PM	R26391
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	5/22/2015 6:30:37 PM	R26391
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	5/22/2015 6:30:37 PM	R26391
Naphthalene	ND	2.0		µg/L	1	5/22/2015 6:30:37 PM	R26391
1-Methylnaphthalene	ND	4.0		µg/L	1	5/22/2015 6:30:37 PM	R26391
2-Methylnaphthalene	ND	4.0		µg/L	1	5/22/2015 6:30:37 PM	R26391
Acetone	ND	10		µg/L	1	5/22/2015 6:30:37 PM	R26391
Bromobenzene	ND	1.0		µg/L	1	5/22/2015 6:30:37 PM	R26391
Bromodichloromethane	ND	1.0		µg/L	1	5/22/2015 6:30:37 PM	R26391
Bromoform	ND	1.0		µg/L	1	5/22/2015 6:30:37 PM	R26391
Bromomethane	ND	3.0		µg/L	1	5/22/2015 6:30:37 PM	R26391
2-Butanone	ND	10		µg/L	1	5/22/2015 6:30:37 PM	R26391
Carbon disulfide	ND	10		µg/L	1	5/22/2015 6:30:37 PM	R26391
Carbon Tetrachloride	ND	1.0		µg/L	1	5/22/2015 6:30:37 PM	R26391
Chlorobenzene	ND	1.0		µg/L	1	5/22/2015 6:30:37 PM	R26391
Chloroethane	ND	2.0		µg/L	1	5/22/2015 6:30:37 PM	R26391
Chloroform	ND	1.0		µg/L	1	5/22/2015 6:30:37 PM	R26391
Chloromethane	ND	3.0		µg/L	1	5/22/2015 6:30:37 PM	R26391
2-Chlorotoluene	ND	1.0		µg/L	1	5/22/2015 6:30:37 PM	R26391
4-Chlorotoluene	ND	1.0		µg/L	1	5/22/2015 6:30:37 PM	R26391
cis-1,2-DCE	ND	1.0		µg/L	1	5/22/2015 6:30:37 PM	R26391
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	5/22/2015 6:30:37 PM	R26391
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	5/22/2015 6:30:37 PM	R26391
Dibromochloromethane	ND	1.0		µg/L	1	5/22/2015 6:30:37 PM	R26391
Dibromomethane	ND	1.0		µg/L	1	5/22/2015 6:30:37 PM	R26391
1,2-Dichlorobenzene	ND	1.0		µg/L	1	5/22/2015 6:30:37 PM	R26391
1,3-Dichlorobenzene	ND	1.0		µg/L	1	5/22/2015 6:30:37 PM	R26391

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

**Qualifiers:**

- \* Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

P Sample pH Not In Range

RL Reporting Detection Limit

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order **1505875**

Date Reported: **6/3/2015**

**CLIENT:** Intera, Inc.

**Project:** Barelas Bridge

**Lab ID:** 1505875-005

**Client Sample ID:** VP-2

**Collection Date:** 5/19/2015 2:40:00 PM

**Matrix:** AQUEOUS

**Received Date:** 5/19/2015 4:20:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							
1,4-Dichlorobenzene	ND	1.0		µg/L	1	5/22/2015 6:30:37 PM	R26391
Dichlorodifluoromethane	ND	1.0		µg/L	1	5/22/2015 6:30:37 PM	R26391
1,1-Dichloroethane	ND	1.0		µg/L	1	5/22/2015 6:30:37 PM	R26391
1,1-Dichloroethene	ND	1.0		µg/L	1	5/22/2015 6:30:37 PM	R26391
1,2-Dichloropropane	ND	1.0		µg/L	1	5/22/2015 6:30:37 PM	R26391
1,3-Dichloropropane	ND	1.0		µg/L	1	5/22/2015 6:30:37 PM	R26391
2,2-Dichloropropane	ND	2.0		µg/L	1	5/22/2015 6:30:37 PM	R26391
1,1-Dichloropropene	ND	1.0		µg/L	1	5/22/2015 6:30:37 PM	R26391
Hexachlorobutadiene	ND	1.0		µg/L	1	5/22/2015 6:30:37 PM	R26391
2-Hexanone	ND	10		µg/L	1	5/22/2015 6:30:37 PM	R26391
Isopropylbenzene	ND	1.0		µg/L	1	5/22/2015 6:30:37 PM	R26391
4-Isopropyltoluene	ND	1.0		µg/L	1	5/22/2015 6:30:37 PM	R26391
4-Methyl-2-pentanone	ND	10		µg/L	1	5/22/2015 6:30:37 PM	R26391
Methylene Chloride	ND	3.0		µg/L	1	5/22/2015 6:30:37 PM	R26391
n-Butylbenzene	ND	3.0		µg/L	1	5/22/2015 6:30:37 PM	R26391
n-Propylbenzene	ND	1.0		µg/L	1	5/22/2015 6:30:37 PM	R26391
sec-Butylbenzene	ND	1.0		µg/L	1	5/22/2015 6:30:37 PM	R26391
Styrene	ND	1.0		µg/L	1	5/22/2015 6:30:37 PM	R26391
tert-Butylbenzene	ND	1.0		µg/L	1	5/22/2015 6:30:37 PM	R26391
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	5/22/2015 6:30:37 PM	R26391
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	5/22/2015 6:30:37 PM	R26391
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	5/22/2015 6:30:37 PM	R26391
trans-1,2-DCE	ND	1.0		µg/L	1	5/22/2015 6:30:37 PM	R26391
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	5/22/2015 6:30:37 PM	R26391
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	5/22/2015 6:30:37 PM	R26391
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	5/22/2015 6:30:37 PM	R26391
1,1,1-Trichloroethane	ND	1.0		µg/L	1	5/22/2015 6:30:37 PM	R26391
1,1,2-Trichloroethane	ND	1.0		µg/L	1	5/22/2015 6:30:37 PM	R26391
Trichloroethene (TCE)	ND	1.0		µg/L	1	5/22/2015 6:30:37 PM	R26391
Trichlorofluoromethane	ND	1.0		µg/L	1	5/22/2015 6:30:37 PM	R26391
1,2,3-Trichloropropane	ND	2.0		µg/L	1	5/22/2015 6:30:37 PM	R26391
Vinyl chloride	ND	1.0		µg/L	1	5/22/2015 6:30:37 PM	R26391
Xylenes, Total	ND	1.5		µg/L	1	5/22/2015 6:30:37 PM	R26391
Surr: 1,2-Dichloroethane-d4	104	70-130		%REC	1	5/22/2015 6:30:37 PM	R26391
Surr: 4-Bromofluorobenzene	112	70-130		%REC	1	5/22/2015 6:30:37 PM	R26391
Surr: Dibromofluoromethane	100	70-130		%REC	1	5/22/2015 6:30:37 PM	R26391
Surr: Toluene-d8	99.7	70-130		%REC	1	5/22/2015 6:30:37 PM	R26391

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

**Qualifiers:**

- \* Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit      Page 10 of 22  
P Sample pH Not In Range  
RL Reporting Detection Limit

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1505875

Date Reported: 6/3/2015

**CLIENT:** Intera, Inc.

**Project:** Barelas Bridge

**Lab ID:** 1505875-006

**Client Sample ID:** MW-7

**Collection Date:** 5/19/2015 3:38:00 PM

**Matrix:** AQUEOUS

**Received Date:** 5/19/2015 4:20:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 6010B: DISSOLVED METALS</b>							
Iron	0.29	0.020		mg/L	1	5/26/2015 11:19:59 AM	R26400
Lead	ND	0.0050		mg/L	1	5/26/2015 11:19:59 AM	R26400
Manganese	0.61	0.0020		mg/L	1	5/26/2015 11:19:59 AM	R26400
<b>EPA METHOD 8011/504.1: EDB</b>							
1,2-Dibromoethane	ND	0.010		µg/L	1	5/21/2015 1:31:07 PM	19335
<b>EPA METHOD 8260B: VOLATILES</b>							
Benzene	ND	1.0		µg/L	1	5/22/2015 6:58:04 PM	R26391
Toluene	ND	1.0		µg/L	1	5/22/2015 6:58:04 PM	R26391
Ethylbenzene	ND	1.0		µg/L	1	5/22/2015 6:58:04 PM	R26391
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	5/22/2015 6:58:04 PM	R26391
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	5/22/2015 6:58:04 PM	R26391
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	5/22/2015 6:58:04 PM	R26391
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	5/22/2015 6:58:04 PM	R26391
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	5/22/2015 6:58:04 PM	R26391
Naphthalene	ND	2.0		µg/L	1	5/22/2015 6:58:04 PM	R26391
1-Methylnaphthalene	ND	4.0		µg/L	1	5/22/2015 6:58:04 PM	R26391
2-Methylnaphthalene	ND	4.0		µg/L	1	5/22/2015 6:58:04 PM	R26391
Acetone	ND	10		µg/L	1	5/22/2015 6:58:04 PM	R26391
Bromobenzene	ND	1.0		µg/L	1	5/22/2015 6:58:04 PM	R26391
Bromodichloromethane	ND	1.0		µg/L	1	5/22/2015 6:58:04 PM	R26391
Bromoform	ND	1.0		µg/L	1	5/22/2015 6:58:04 PM	R26391
Bromomethane	ND	3.0		µg/L	1	5/22/2015 6:58:04 PM	R26391
2-Butanone	ND	10		µg/L	1	5/22/2015 6:58:04 PM	R26391
Carbon disulfide	ND	10		µg/L	1	5/22/2015 6:58:04 PM	R26391
Carbon Tetrachloride	ND	1.0		µg/L	1	5/22/2015 6:58:04 PM	R26391
Chlorobenzene	ND	1.0		µg/L	1	5/22/2015 6:58:04 PM	R26391
Chloroethane	ND	2.0		µg/L	1	5/22/2015 6:58:04 PM	R26391
Chloroform	ND	1.0		µg/L	1	5/22/2015 6:58:04 PM	R26391
Chloromethane	ND	3.0		µg/L	1	5/22/2015 6:58:04 PM	R26391
2-Chlorotoluene	ND	1.0		µg/L	1	5/22/2015 6:58:04 PM	R26391
4-Chlorotoluene	ND	1.0		µg/L	1	5/22/2015 6:58:04 PM	R26391
cis-1,2-DCE	ND	1.0		µg/L	1	5/22/2015 6:58:04 PM	R26391
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	5/22/2015 6:58:04 PM	R26391
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	5/22/2015 6:58:04 PM	R26391
Dibromochloromethane	ND	1.0		µg/L	1	5/22/2015 6:58:04 PM	R26391
Dibromomethane	ND	1.0		µg/L	1	5/22/2015 6:58:04 PM	R26391
1,2-Dichlorobenzene	ND	1.0		µg/L	1	5/22/2015 6:58:04 PM	R26391
1,3-Dichlorobenzene	ND	1.0		µg/L	1	5/22/2015 6:58:04 PM	R26391

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

**Qualifiers:**

- \* Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit      Page 11 of 22  
P Sample pH Not In Range  
RL Reporting Detection Limit

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1505875

Date Reported: 6/3/2015

**CLIENT:** Intera, Inc.

**Project:** Barelas Bridge

**Lab ID:** 1505875-006

**Client Sample ID:** MW-7

**Collection Date:** 5/19/2015 3:38:00 PM

**Matrix:** AQUEOUS

**Received Date:** 5/19/2015 4:20:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							
1,4-Dichlorobenzene	ND	1.0		µg/L	1	5/22/2015 6:58:04 PM	R26391
Dichlorodifluoromethane	ND	1.0		µg/L	1	5/22/2015 6:58:04 PM	R26391
1,1-Dichloroethane	ND	1.0		µg/L	1	5/22/2015 6:58:04 PM	R26391
1,1-Dichloroethene	ND	1.0		µg/L	1	5/22/2015 6:58:04 PM	R26391
1,2-Dichloropropane	ND	1.0		µg/L	1	5/22/2015 6:58:04 PM	R26391
1,3-Dichloropropane	ND	1.0		µg/L	1	5/22/2015 6:58:04 PM	R26391
2,2-Dichloropropane	ND	2.0		µg/L	1	5/22/2015 6:58:04 PM	R26391
1,1-Dichloropropene	ND	1.0		µg/L	1	5/22/2015 6:58:04 PM	R26391
Hexachlorobutadiene	ND	1.0		µg/L	1	5/22/2015 6:58:04 PM	R26391
2-Hexanone	ND	10		µg/L	1	5/22/2015 6:58:04 PM	R26391
Isopropylbenzene	ND	1.0		µg/L	1	5/22/2015 6:58:04 PM	R26391
4-Isopropyltoluene	ND	1.0		µg/L	1	5/22/2015 6:58:04 PM	R26391
4-Methyl-2-pentanone	ND	10		µg/L	1	5/22/2015 6:58:04 PM	R26391
Methylene Chloride	ND	3.0		µg/L	1	5/22/2015 6:58:04 PM	R26391
n-Butylbenzene	ND	3.0		µg/L	1	5/22/2015 6:58:04 PM	R26391
n-Propylbenzene	ND	1.0		µg/L	1	5/22/2015 6:58:04 PM	R26391
sec-Butylbenzene	ND	1.0		µg/L	1	5/22/2015 6:58:04 PM	R26391
Styrene	ND	1.0		µg/L	1	5/22/2015 6:58:04 PM	R26391
tert-Butylbenzene	ND	1.0		µg/L	1	5/22/2015 6:58:04 PM	R26391
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	5/22/2015 6:58:04 PM	R26391
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	5/22/2015 6:58:04 PM	R26391
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	5/22/2015 6:58:04 PM	R26391
trans-1,2-DCE	ND	1.0		µg/L	1	5/22/2015 6:58:04 PM	R26391
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	5/22/2015 6:58:04 PM	R26391
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	5/22/2015 6:58:04 PM	R26391
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	5/22/2015 6:58:04 PM	R26391
1,1,1-Trichloroethane	ND	1.0		µg/L	1	5/22/2015 6:58:04 PM	R26391
1,1,2-Trichloroethane	ND	1.0		µg/L	1	5/22/2015 6:58:04 PM	R26391
Trichloroethene (TCE)	ND	1.0		µg/L	1	5/22/2015 6:58:04 PM	R26391
Trichlorofluoromethane	ND	1.0		µg/L	1	5/22/2015 6:58:04 PM	R26391
1,2,3-Trichloropropane	ND	2.0		µg/L	1	5/22/2015 6:58:04 PM	R26391
Vinyl chloride	ND	1.0		µg/L	1	5/22/2015 6:58:04 PM	R26391
Xylenes, Total	ND	1.5		µg/L	1	5/22/2015 6:58:04 PM	R26391
Surr: 1,2-Dichloroethane-d4	101	70-130		%REC	1	5/22/2015 6:58:04 PM	R26391
Surr: 4-Bromofluorobenzene	103	70-130		%REC	1	5/22/2015 6:58:04 PM	R26391
Surr: Dibromofluoromethane	104	70-130		%REC	1	5/22/2015 6:58:04 PM	R26391
Surr: Toluene-d8	100	70-130		%REC	1	5/22/2015 6:58:04 PM	R26391

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

**Qualifiers:**

- \* Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit      Page 12 of 22  
P Sample pH Not In Range  
RL Reporting Detection Limit

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1505875

Date Reported: 6/3/2015

**CLIENT:** Intera, Inc.

**Project:** Barelas Bridge

**Lab ID:** 1505875-007

**Client Sample ID:** Trip Blank

**Collection Date:**

**Matrix:** TRIP BLANK

**Received Date:** 5/19/2015 4:20:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8011/504.1: EDB</b>							
1,2-Dibromoethane	ND	0.010		µg/L	1	5/21/2015 1:45:00 PM	19335
<b>EPA METHOD 8260B: VOLATILES</b>							
Benzene	ND	1.0		µg/L	1	5/22/2015 7:25:41 PM	R26391
Toluene	ND	1.0		µg/L	1	5/22/2015 7:25:41 PM	R26391
Ethylbenzene	ND	1.0		µg/L	1	5/22/2015 7:25:41 PM	R26391
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	5/22/2015 7:25:41 PM	R26391
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	5/22/2015 7:25:41 PM	R26391
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	5/22/2015 7:25:41 PM	R26391
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	5/22/2015 7:25:41 PM	R26391
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	5/22/2015 7:25:41 PM	R26391
Naphthalene	ND	2.0		µg/L	1	5/22/2015 7:25:41 PM	R26391
1-Methylnaphthalene	ND	4.0		µg/L	1	5/22/2015 7:25:41 PM	R26391
2-Methylnaphthalene	ND	4.0		µg/L	1	5/22/2015 7:25:41 PM	R26391
Acetone	ND	10		µg/L	1	5/22/2015 7:25:41 PM	R26391
Bromobenzene	ND	1.0		µg/L	1	5/22/2015 7:25:41 PM	R26391
Bromodichloromethane	ND	1.0		µg/L	1	5/22/2015 7:25:41 PM	R26391
Bromoform	ND	1.0		µg/L	1	5/22/2015 7:25:41 PM	R26391
Bromomethane	ND	3.0		µg/L	1	5/22/2015 7:25:41 PM	R26391
2-Butanone	ND	10		µg/L	1	5/22/2015 7:25:41 PM	R26391
Carbon disulfide	ND	10		µg/L	1	5/22/2015 7:25:41 PM	R26391
Carbon Tetrachloride	ND	1.0		µg/L	1	5/22/2015 7:25:41 PM	R26391
Chlorobenzene	ND	1.0		µg/L	1	5/22/2015 7:25:41 PM	R26391
Chloroethane	ND	2.0		µg/L	1	5/22/2015 7:25:41 PM	R26391
Chloroform	ND	1.0		µg/L	1	5/22/2015 7:25:41 PM	R26391
Chloromethane	ND	3.0		µg/L	1	5/22/2015 7:25:41 PM	R26391
2-Chlorotoluene	ND	1.0		µg/L	1	5/22/2015 7:25:41 PM	R26391
4-Chlorotoluene	ND	1.0		µg/L	1	5/22/2015 7:25:41 PM	R26391
cis-1,2-DCE	ND	1.0		µg/L	1	5/22/2015 7:25:41 PM	R26391
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	5/22/2015 7:25:41 PM	R26391
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	5/22/2015 7:25:41 PM	R26391
Dibromochloromethane	ND	1.0		µg/L	1	5/22/2015 7:25:41 PM	R26391
Dibromomethane	ND	1.0		µg/L	1	5/22/2015 7:25:41 PM	R26391
1,2-Dichlorobenzene	ND	1.0		µg/L	1	5/22/2015 7:25:41 PM	R26391
1,3-Dichlorobenzene	ND	1.0		µg/L	1	5/22/2015 7:25:41 PM	R26391
1,4-Dichlorobenzene	ND	1.0		µg/L	1	5/22/2015 7:25:41 PM	R26391
Dichlorodifluoromethane	ND	1.0		µg/L	1	5/22/2015 7:25:41 PM	R26391
1,1-Dichloroethane	ND	1.0		µg/L	1	5/22/2015 7:25:41 PM	R26391
1,1-Dichloroethene	ND	1.0		µg/L	1	5/22/2015 7:25:41 PM	R26391
1,2-Dichloropropane	ND	1.0		µg/L	1	5/22/2015 7:25:41 PM	R26391

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

**Qualifiers:**

- \* Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit      Page 13 of 22  
P Sample pH Not In Range  
RL Reporting Detection Limit

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1505875

Date Reported: 6/3/2015

**CLIENT:** Intera, Inc.

**Project:** Barelas Bridge

**Lab ID:** 1505875-007

**Client Sample ID:** Trip Blank

**Collection Date:**

**Matrix:** TRIP BLANK

**Received Date:** 5/19/2015 4:20:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							
1,3-Dichloropropane	ND	1.0		µg/L	1	5/22/2015 7:25:41 PM	R26391
2,2-Dichloropropane	ND	2.0		µg/L	1	5/22/2015 7:25:41 PM	R26391
1,1-Dichloropropene	ND	1.0		µg/L	1	5/22/2015 7:25:41 PM	R26391
Hexachlorobutadiene	ND	1.0		µg/L	1	5/22/2015 7:25:41 PM	R26391
2-Hexanone	ND	10		µg/L	1	5/22/2015 7:25:41 PM	R26391
Isopropylbenzene	ND	1.0		µg/L	1	5/22/2015 7:25:41 PM	R26391
4-Isopropyltoluene	ND	1.0		µg/L	1	5/22/2015 7:25:41 PM	R26391
4-Methyl-2-pentanone	ND	10		µg/L	1	5/22/2015 7:25:41 PM	R26391
Methylene Chloride	ND	3.0		µg/L	1	5/22/2015 7:25:41 PM	R26391
n-Butylbenzene	ND	3.0		µg/L	1	5/22/2015 7:25:41 PM	R26391
n-Propylbenzene	ND	1.0		µg/L	1	5/22/2015 7:25:41 PM	R26391
sec-Butylbenzene	ND	1.0		µg/L	1	5/22/2015 7:25:41 PM	R26391
Styrene	ND	1.0		µg/L	1	5/22/2015 7:25:41 PM	R26391
tert-Butylbenzene	ND	1.0		µg/L	1	5/22/2015 7:25:41 PM	R26391
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	5/22/2015 7:25:41 PM	R26391
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	5/22/2015 7:25:41 PM	R26391
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	5/22/2015 7:25:41 PM	R26391
trans-1,2-DCE	ND	1.0		µg/L	1	5/22/2015 7:25:41 PM	R26391
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	5/22/2015 7:25:41 PM	R26391
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	5/22/2015 7:25:41 PM	R26391
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	5/22/2015 7:25:41 PM	R26391
1,1,1-Trichloroethane	ND	1.0		µg/L	1	5/22/2015 7:25:41 PM	R26391
1,1,2-Trichloroethane	ND	1.0		µg/L	1	5/22/2015 7:25:41 PM	R26391
Trichloroethene (TCE)	ND	1.0		µg/L	1	5/22/2015 7:25:41 PM	R26391
Trichlorofluoromethane	ND	1.0		µg/L	1	5/22/2015 7:25:41 PM	R26391
1,2,3-Trichloropropane	ND	2.0		µg/L	1	5/22/2015 7:25:41 PM	R26391
Vinyl chloride	ND	1.0		µg/L	1	5/22/2015 7:25:41 PM	R26391
Xylenes, Total	ND	1.5		µg/L	1	5/22/2015 7:25:41 PM	R26391
Surr: 1,2-Dichloroethane-d4	103	70-130		%REC	1	5/22/2015 7:25:41 PM	R26391
Surr: 4-Bromofluorobenzene	104	70-130		%REC	1	5/22/2015 7:25:41 PM	R26391
Surr: Dibromofluoromethane	107	70-130		%REC	1	5/22/2015 7:25:41 PM	R26391
Surr: Toluene-d8	100	70-130		%REC	1	5/22/2015 7:25:41 PM	R26391

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

**Qualifiers:**

- \* Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit      Page 14 of 22  
P Sample pH Not In Range  
RL Reporting Detection Limit

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1505875

03-Jun-15

Client: Intera, Inc.

Project: Barelas Bridge

Sample ID	MB-19335	SampType:	MBLK	TestCode:	EPA Method 8011/504.1: EDB						
Client ID:	PBW	Batch ID:	19335	RunNo:	26361						
Prep Date:	5/21/2015	Analysis Date:	5/21/2015	SeqNo:	783443	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-19335	SampType:	LCS	TestCode:	EPA Method 8011/504.1: EDB						
Client ID:	LCSW	Batch ID:	19335	RunNo:	26361						
Prep Date:	5/21/2015	Analysis Date:	5/21/2015	SeqNo:	783444	Units:	µg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
1,2-Dibromoethane	0.12	0.010	0.1000	0	121	70	130				

Sample ID	1505875-004BMS	SampType:	MS	TestCode:	EPA Method 8011/504.1: EDB						
Client ID:	MW-4	Batch ID:	19335	RunNo:	26361						
Prep Date:	5/21/2015	Analysis Date:	5/21/2015	SeqNo:	783450	Units:	µg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
1,2-Dibromoethane	0.13	0.010	0.1000	0	126	48.9	131				

Sample ID	1505875-004BMSD	SampType:	MSD	TestCode:	EPA Method 8011/504.1: EDB						
Client ID:	MW-4	Batch ID:	19335	RunNo:	26361						
Prep Date:	5/21/2015	Analysis Date:	5/21/2015	SeqNo:	783451	Units:	µg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
1,2-Dibromoethane	0.12	0.010	0.1000	0	125	48.9	131	0.797	20		

**Qualifiers:**

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- S Spike Recovery outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH Not In Range
- RL Reporting Detection Limit

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1505875

03-Jun-15

**Client:** Intera, Inc.**Project:** Barelas Bridge

Sample ID	5ml-rb	SampType:	MBLK	TestCode: EPA Method 8260B: VOLATILES							
Client ID:	PBW	Batch ID:	R26391	RunNo: 26391							
Prep Date:		Analysis Date:	5/22/2015	SeqNo: 784294 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.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH Not In Range
- RL Reporting Detection Limit

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1505875

03-Jun-15

**Client:** Intera, Inc.**Project:** Barelas Bridge

Sample ID	<b>5ml-rb</b>	SampType:	<b>MBLK</b>	TestCode: <b>EPA Method 8260B: VOLATILES</b>							
Client ID:	<b>PBW</b>	Batch ID:	<b>R26391</b>	RunNo: <b>26391</b>							
Prep Date:		Analysis Date:	<b>5/22/2015</b>	SeqNo: <b>784294</b> Units: <b>µg/L</b>							
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	11		10.00		109	70	130				
Surr: 4-Bromofluorobenzene	11		10.00		105	70	130				
Surr: Dibromofluoromethane	11		10.00		105	70	130				
Surr: Toluene-d8	10		10.00		101	70	130				

Sample ID	<b>100ng lcs</b>	SampType:	<b>LCS</b>	TestCode: <b>EPA Method 8260B: VOLATILES</b>							
Client ID:	<b>LCSW</b>	Batch ID:	<b>R26391</b>	RunNo: <b>26391</b>							
Prep Date:		Analysis Date:	<b>5/22/2015</b>	SeqNo: <b>784296</b> Units: <b>µg/L</b>							
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene		22	1.0	20.00	0	108	70	130			
Toluene		21	1.0	20.00	0	104	70	130			
Chlorobenzene		21	1.0	20.00	0	106	70	130			

**Qualifiers:**

- \* Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH Not In Range
- RL Reporting Detection Limit

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1505875

03-Jun-15

Client: Intera, Inc.

Project: Barelas Bridge

Sample ID	100ng lcs	SampType:	LCS	TestCode: EPA Method 8260B: VOLATILES							
Client ID:	LCSW	Batch ID:	R26391	RunNo: 26391							
Prep Date:		Analysis Date:	5/22/2015	SeqNo: 784296		Units: µg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
1,1-Dichloroethene	23	1.0	20.00	0	116	75.6	144				
Trichloroethene (TCE)	19	1.0	20.00	0	92.8	70	130				
Surr: 1,2-Dichloroethane-d4	10		10.00		102	70	130				
Surr: 4-Bromofluorobenzene	10		10.00		102	70	130				
Surr: Dibromofluoromethane	10		10.00		103	70	130				
Surr: Toluene-d8	9.7		10.00		96.9	70	130				

Sample ID	1505875-001a ms	SampType:	MS	TestCode: EPA Method 8260B: VOLATILES							
Client ID:	MW-8	Batch ID:	R26391	RunNo: 26391							
Prep Date:		Analysis Date:	5/22/2015	SeqNo: 784303		Units: µg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Benzene	24	1.0	20.00	0	122	70	130				
Toluene	22	1.0	20.00	0.6602	109	70	130				
Chlorobenzene	21	1.0	20.00	0	105	70	130				
1,1-Dichloroethene	24	1.0	20.00	0	122	70	130				
Trichloroethene (TCE)	20	1.0	20.00	0	99.3	70	130				
Surr: 1,2-Dichloroethane-d4	13		10.00		131	70	130				S
Surr: 4-Bromofluorobenzene	11		10.00		108	70	130				
Surr: Dibromofluoromethane	11		10.00		110	70	130				
Surr: Toluene-d8	9.7		10.00		96.5	70	130				

Sample ID	1505875-001a msd	SampType:	MSD	TestCode: EPA Method 8260B: VOLATILES							
Client ID:	MW-8	Batch ID:	R26391	RunNo: 26391							
Prep Date:		Analysis Date:	5/22/2015	SeqNo: 784304		Units: µg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Benzene	24	1.0	20.00	0	119	70	130	1.85	20		
Toluene	22	1.0	20.00	0.6602	106	70	130	2.33	20		
Chlorobenzene	21	1.0	20.00	0	107	70	130	1.97	20		
1,1-Dichloroethene	24	1.0	20.00	0	120	70	130	1.36	20		
Trichloroethene (TCE)	20	1.0	20.00	0	98.7	70	130	0.639	20		
Surr: 1,2-Dichloroethane-d4	12		10.00		124	70	130	0	0		
Surr: 4-Bromofluorobenzene	11		10.00		114	70	130	0	0		
Surr: Dibromofluoromethane	11		10.00		110	70	130	0	0		
Surr: Toluene-d8	9.8		10.00		98.3	70	130	0	0		

**Qualifiers:**

- \* Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH Not In Range
- RL Reporting Detection Limit

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1505875

03-Jun-15

**Client:** Intera, Inc.**Project:** Barelas Bridge

Sample ID	b2	SampType:	MBLK	TestCode: EPA Method 8260B: VOLATILES							
Client ID:	PBW	Batch ID:	R26391	RunNo: 26391							
Prep Date:		Analysis Date:	5/22/2015	SeqNo: 784329 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.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH Not In Range
- RL Reporting Detection Limit

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1505875

03-Jun-15

Client: Intera, Inc.

Project: Barelas Bridge

Sample ID	b2	SampType:	MBLK	TestCode: EPA Method 8260B: VOLATILES							
Client ID:	PBW	Batch ID:	R26391	RunNo: 26391							
Prep Date:		Analysis Date:	5/22/2015	SeqNo: 784329 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	10		10.00		103	70	130				
Surr: 4-Bromofluorobenzene	10		10.00		102	70	130				
Surr: Dibromofluoromethane	10		10.00		102	70	130				
Surr: Toluene-d8	10		10.00		101	70	130				

Sample ID	100ng lcs2	SampType:	LCS	TestCode: EPA Method 8260B: VOLATILES							
Client ID:	LCSW	Batch ID:	R26391	RunNo: 26391							
Prep Date:		Analysis Date:	5/22/2015	SeqNo: 784330 Units: µg/L							
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene		22	1.0	20.00	0	112	70	130			
Toluene		22	1.0	20.00	0	112	70	130			
Chlorobenzene		22	1.0	20.00	0	110	70	130			

**Qualifiers:**

- \* Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH Not In Range
- RL Reporting Detection Limit

# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1505875

03-Jun-15

**Client:** Intera, Inc.

**Project:** Barelas Bridge

Sample ID <b>100ng lcs2</b>		SampType: <b>LCS</b>		TestCode: <b>EPA Method 8260B: VOLATILES</b>						
Client ID: <b>LCSW</b>		Batch ID: <b>R26391</b>		RunNo: <b>26391</b>						
Prep Date:		Analysis Date: <b>5/22/2015</b>		SeqNo: <b>784330</b>		Units: <b>µg/L</b>				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1-Dichloroethene	24	1.0	20.00	0	119	75.6	144			
Trichloroethene (TCE)	20	1.0	20.00	0	99.8	70	130			
Surr: 1,2-Dichloroethane-d4	10		10.00		100	70	130			
Surr: 4-Bromofluorobenzene	11		10.00		106	70	130			
Surr: Dibromofluoromethane	10		10.00		104	70	130			
Surr: Toluene-d8	9.9		10.00		99.3	70	130			

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**Qualifiers:**

- \* Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH Not In Range
- RL Reporting Detection Limit

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1505875

03-Jun-15

**Client:** Intera, Inc.**Project:** Barelas Bridge

Sample ID	<b>MB</b>	SampType:	<b>MLBK</b>	TestCode: <b>EPA Method 6010B: Dissolved Metals</b>							
Client ID:	<b>PBW</b>	Batch ID:	<b>R26400</b>	RunNo: <b>26400</b>							
Prep Date:		Analysis Date:	<b>5/26/2015</b>	SeqNo: <b>784514</b> Units: <b>mg/L</b>							
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Iron		ND	0.020								
Lead		ND	0.0050								
Manganese		ND	0.0020								

Sample ID	<b>LCS</b>	SampType:	<b>LCS</b>	TestCode: <b>EPA Method 6010B: Dissolved Metals</b>							
Client ID:	<b>LCSW</b>	Batch ID:	<b>R26400</b>	RunNo: <b>26400</b>							
Prep Date:		Analysis Date:	<b>5/26/2015</b>	SeqNo: <b>784515</b> Units: <b>mg/L</b>							
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Iron		0.47	0.020	0.5000	0	93.6	80	120			
Lead		0.47	0.0050	0.5000	0	93.9	80	120			
Manganese		0.46	0.0020	0.5000	0	92.7	80	120			

Sample ID	<b>MB</b>	SampType:	<b>MLBK</b>	TestCode: <b>EPA Method 6010B: Dissolved Metals</b>							
Client ID:	<b>PBW</b>	Batch ID:	<b>R26400</b>	RunNo: <b>26400</b>							
Prep Date:		Analysis Date:	<b>5/26/2015</b>	SeqNo: <b>784516</b> Units: <b>mg/L</b>							
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Iron		ND	0.020								
Lead		ND	0.0050								
Manganese		ND	0.0020								

Sample ID	<b>LCS</b>	SampType:	<b>LCS</b>	TestCode: <b>EPA Method 6010B: Dissolved Metals</b>							
Client ID:	<b>LCSW</b>	Batch ID:	<b>R26400</b>	RunNo: <b>26400</b>							
Prep Date:		Analysis Date:	<b>5/26/2015</b>	SeqNo: <b>784517</b> Units: <b>mg/L</b>							
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Iron		0.46	0.020	0.5000	0	91.5	80	120			
Lead		0.47	0.0050	0.5000	0	94.0	80	120			
Manganese		0.47	0.0020	0.5000	0	93.6	80	120			

**Qualifiers:**

- \* Value exceeds Maximum Contaminant Level.
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- P Sample pH Not In Range
- RL Reporting Detection Limit

## Sample Log-In Check List

Client Name: INT

Work Order Number: 1505875

ReptNo: 1

Received by/date:	CS	05/19/15
Logged By:	Celina Sessa	5/19/2015 4:20:00 PM
Completed By:	Celina Sessa	5/19/2015 4:40:11 PM
Reviewed By:	IO	05/19/15

*Celina Sessa*  
*Celina Sessa*

### 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   
Samples were collected the same day and chilled.
6. Sample(s) in proper container(s)? Yes  No
7. Sufficient sample volume for indicated test(s)? Yes  No
8. Are samples (except VOA and ONG) properly preserved? Yes  No
9. Was preservative added to bottles? Yes  No  NA
10. VOA vials have zero headspace? Yes  No  No VOA Vials
11. Were any sample containers received broken? Yes  No
12. Does paperwork match bottle labels?  
(Note discrepancies on chain of custody) Yes  No
13. Are matrices correctly identified on Chain of Custody? Yes  No
14. Is it clear what analyses were requested? Yes  No
15. Were all holding times able to be met?  
(If no, notify customer for authorization.) Yes  No

# of preserved bottles checked for pH:  
*6*  
<2 or >12 unless noted)  
Adjusted? *No*  
Checked by: *JM*

### Special Handling (if applicable)

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

Person Notified:	Date
By Whom:	Via: <input type="checkbox"/> eMail <input type="checkbox"/> Phone <input type="checkbox"/> Fax <input type="checkbox"/> 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	11.8	Good	Not Present			

