

# Groundwater Monitoring Report

**Fairview Station**  
**1626 N. Riverside Drive**  
**Española, Rio Arriba County, New Mexico**

January 19, 2015  
Terracon Project No. 66127029.7



**Prepared for:**

Mr. José C. Roybal c/o Ms. Lucille Roybal, P.E.  
Albuquerque, New Mexico

**Prepared by:**

Terracon Consultants, Inc.  
Albuquerque, New Mexico

Offices Nationwide  
Employee-Owned

Established in 1965  
[terracon.com](http://terracon.com)

# Terracon

Geotechnical ■ Environmental ■ Construction Materials ■ Facilities

January 19, 2015



Ms. Lucille Roybal, P.E.  
2312 Via Seville Court NW  
Albuquerque, New Mexico 87104  
P: (972) 284-6655

Re: Groundwater Monitoring Report  
Fairview Station  
1626 N. Riverside Drive  
Española, Rio Arriba County, New Mexico  
Facility I.D. #: 28779  
Release I.D. #: 4657  
Work Plan I.D. #: 17351  
Terracon Project No. 66127029.7

Dear Ms. Roybal:

Terracon Consultants, Inc. (Terracon) is pleased to submit this Groundwater Monitoring report that consists of a single groundwater monitoring event for the above referenced site. This investigation was performed in accordance with Terracon's Work Plan dated November 17, 2014, which was approved by the New Mexico Environment Department Petroleum Storage Tank Bureau on November 24, 2014.

We appreciate the opportunity to perform these services for you. Please contact Mark Hillier at (505) 797-4287 if you have questions regarding the information provided in the report.

Sincerely,  
**Terracon Consultants, Inc.**

A handwritten signature in blue ink that reads "Missy Halick".

Missy A. Halick  
Project Manager

A handwritten signature in blue ink that reads "Mark R. Hillier".

Mark R. Hillier, P.G. (TX)  
Department Manager

Attachments



Terracon Consultants Inc, 4905 Hawkins NE Albuquerque, NM 87109  
P [505] 797-4287 F [505] 797-4288



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**GROUNDWATER MONITORING REPORT**  
**FAIRVIEW STATION**  
**1626 N. RIVERSIDE DRIVE**  
**ESPAÑOLA, RIO ARriba COUNTY, NEW MEXICO**  
Facility I.D. # - 28779 Release I.D. # - 4657 Work Plan I.D. # - 17351  
Terracon Project No. 66127029.7  
January 19, 2015

## **EXECUTIVE SUMMARY**

The former Fairview Station is located at 1626 N. Riverside Drive, Española, Rio Arriba County, New Mexico (the site). The site was initially developed as a gas station in the 1970s. As part of this Groundwater Monitoring report, Terracon Consultants, Inc. (Terracon) performed a single groundwater monitoring event, which included sampling of 10 groundwater monitoring wells for benzene, toluene, ethylbenzene, total xylenes (BTEX), methyl tert-butyl ether (MTBE), 1,2-dibromoethane (EDB), 1,2-dichloroethane (EDC), naphthalene, 1-methylnaphthalene, and 2-methylnaphthalene. Groundwater sampling took place on December 9 and 10, 2014 and groundwater and non-aqueous phase liquid (NAPL) elevation measurements were re-gauged on January 9, 2015. During the groundwater sampling event, NAPL was removed from monitoring wells as applicable and groundwater was only sampled if product was not present after purging of the wells.

Groundwater samples were collected from monitoring wells MW-2, MW-4, MW-5, MW-6, MW-7, MW-9, MW-10, MW-12, MW-13 and MW-14 and were submitted for laboratory analysis. Samples were not collected from monitoring wells MW-1, MW-3, MW-8 and MW-11 due to the presence of NAPL in the wells after purging. Prior to purging, NAPL was observed in monitoring wells MW-1, MW-2, MW-3, MW-6, MW-8, MW-11, and MW-14 prior to purging. Groundwater samples from monitoring wells MW-2, MW-5, MW-6, MW-7, MW-9, MW-10, MW-12, MW-13, and MW-14 exhibited concentrations of benzene that exceed the New Mexico Water Quality Control Commission (WQCC) standards.

Based on the results of this groundwater monitoring event, Terracon recommends the following:

- The installation of additional monitoring wells to delineate the horizontal extent of NAPL and dissolved-phase groundwater contaminants exceeding WQCC standards, and,
- Interim removal of NAPL from the monitoring wells.

## **1.0 INTRODUCTION**

### **1.1 Site Description**

<b>Site Name</b>	Fairview Station, Facility ID#: 28779
<b>Site Location/Address</b>	1626 N. Riverside Drive, Española, Rio Arriba County, New Mexico
<b>General Site Description</b>	An approximate 0.5-acre tract of land developed with an approximate 600 square-foot (SF) former gas station building

A topographic map depicting the site location is included as Exhibit 1 in Appendix A.

### **1.2 Scope of Services**

The proposed scope of work has been designed in accordance with a request from the New Mexico Environment Department (NMED) Petroleum Storage Tank Bureau (PSTB) for one groundwater sampling event for the 14 existing monitoring wells associated with the gasoline release at the site.

### **1.3 Standard of Care**

Terracon's services were performed in a manner consistent with generally accepted practices of the profession undertaken in similar studies in the same geographical area during the same time period. Terracon makes no warranties, either express or implied, regarding the findings, conclusions or recommendations. Please note that Terracon does not warrant the work of laboratories, regulatory agencies or other third parties supplying information used in the preparation of the report. These services were performed in accordance with the scope of work agreed with you, our client, as set forth in our proposal and were not intended to be in strict conformance with ASTM E1903-97.

### **1.4 Additional Scope Limitations**

Findings, conclusions and recommendations resulting from these services are based upon information derived from the on-site activities and other services performed under this scope of work; such information is subject to change over time. Certain indicators of the presence of hazardous substances, petroleum products, or other constituents may have been latent, inaccessible, unobservable, non-detectable or not present during these services, and we cannot represent that the site contains no hazardous substances, toxic materials, petroleum products, or other latent conditions beyond those identified during this Groundwater Monitoring report. Subsurface conditions may vary from those encountered at specific borings or during other surveys, tests, assessments, investigations or exploratory services; the data, interpretations, findings, and our recommendations are based solely upon data obtained at the time and within the scope of these services.

## **1.5 Reliance**

This report has been prepared for the exclusive use of Ms. Lucille Roybal, P.E. and the NMED PSTB, and any authorization for use or reliance by any other party (except a governmental entity having jurisdiction over the site) is prohibited without the express written authorization of Ms. Lucille Roybal, P.E. and Terracon. Any unauthorized distribution or reuse is at the client's sole risk. Notwithstanding the foregoing, reliance by authorized parties will be subject to the terms, conditions and limitations stated in the Work Plan, Groundwater Monitoring report, and Terracon's Terms and Conditions. The limitation of liability defined in the terms and conditions is the aggregate limit of Terracon's liability to the client and all relying parties unless otherwise agreed in writing.

## **2.0 CHRONOLOGY OF EVENTS**

- 1970s – Site initially developed with the Fairview Station operating two underground storage tanks (USTs).
- December 1, 1988 – The two original USTs are removed from the site with no releases reported. The Fairview Station is temporarily closed pending installation of replacement USTs.
- August 7, 1989 – Two 8,000-gallon and one 10,000-gallon gasoline UST and four dispensers are installed at the site.
- July 5, 2012 – The three on-site USTs and associated piping and dispensers are removed. Field observations indicate a release has occurred.
- August 6, 2012 – The NMED PSTB issues a release confirmation letter to Mr. José C. Roybal, the site owner.
- November 16, 2012 - Terracon submits a Minimum Site Assessment (MSA) Work Plan to the NMED PSTB.
- December 13, 2012 – NMED PSTB approves Terracon's MSA Work Plan.
- January 31, 2012 – Terracon mobilizes to the site to conduct MSA field activities.
- March 12, 2013 – Terracon submits the MSA report to the NMED PSTB.
- June 21, 2013 – Mr. José C. Roybal, the site owner, is notified by the NMED PSTB that the on-site facility is in compliance with all requirements and provisions of regulations adopted by the board under Subsection C of Section 74-4-4 NMSA 1978.
- August 2, 2013 – Terracon submits an Addendum Minimum Site Assessment (AMSA) Work Plan to the NMED PSTB.
- August 23, 2013 – NMED PSTB approves Terracon's AMSA Work Plan and assigns Work Plan ID No. 16836.

## Groundwater Monitoring Report

Fairview Station ■ Española, NM

January 19, 2015 ■ Terracon Project No. 66127029.7



- October 23, 2013 – Terracon mobilizes to the site to conduct AMSA field activities.
- December 23, 2013 – Terracon submits an AMSA report to the NMED PSTB.
- February 5, 2014 – Terracon submits a second AMSA Work Plan to the NMED PSTB.
- February 18, 2014 – NMED PSTB approves Terracon's second AMSA Work Plan and assigns Work Plan ID No. 17029.
- July 18, 2014 – Terracon mobilizes to the site to conduct additional AMSA field activities.
- August 21, 2014 – Terracon mobilizes to the site to conduct additional AMSA field activities.
- October 13, 2014 – Terracon submits a second AMSA report to the NMED PSTB.
- November 17, 2014 – Terracon submits a Work Plan to complete a single groundwater monitoring event to the NMED PSTB.
- November 24, 2014 – NMED PSTB approves Terracon's Groundwater Monitoring Work Plan and assigns Work Plan ID No. 17351.
- December 9-10, 2014 – Terracon mobilizes to the site to conduct groundwater monitoring and NAPL removal as applicable.
- January 9, 2015 – Terracon mobilizes to the site to re-gauge groundwater elevations and NAPL thickness.
- January 19, 2015 – Terracon submits this Groundwater Monitoring report to the NMED PSTB.

## 3.0 SITE INVESTIGATION

### 3.1 Groundwater Monitoring and NAPL Removal

On December 9, through December 10, 2014, groundwater elevation and non-aqueous phase liquid (NAPL) thickness measurements were collected from the 14 monitoring wells associated with the site. The monitoring wells were purged by removing three casing volumes of water with a new disposable bailer prior to sampling each well. In addition, NAPL was removed from monitoring wells MW-1, MW-2, MW-3, MW-8, MW-11 and MW-14. Subsequent to purging and recharge, groundwater samples were collected from monitoring wells MW-2, MW-4, MW-5, MW-6, MW-7, MW-9, MW-10, MW-12, MW-13 and MW-14. Samples were not collected from monitoring wells MW-1, MW-3, MW-8 and MW-11 due to the presence of NAPL in the wells after purging. Groundwater samples were collected and placed in laboratory prepared glassware, sealed with custody tape, and placed on ice in a cooler which was secured with a custody seal. The sample cooler and completed chain-of-custody form were relinquished to Hall Environmental Analysis Laboratory in Albuquerque, New Mexico for analysis.



The original groundwater elevation and NAPL thickness measurements for monitoring wells MW-4, MW-5, MW-7 and MW-13 were lost prior to preparation of this report. Therefore, the 14 monitoring wells were re-gauged on January 9, 2015. A map of NAPL thicknesses is presented as Exhibit 4 in Appendix A. A groundwater gradient map is presented as Exhibit 3 in Appendix A.

### **3.2 Extent of Groundwater Contamination**

NAPL was observed in monitoring wells MW-1, MW-2, MW-3, MW-8, MW-11 and MW-14, at thicknesses ranging from 0.04 feet to 6.90 feet, prior to purging. Based on the results of laboratory analyses, the groundwater samples collected from monitoring wells MW-2, MW-5, MW-6, MW-7, MW-9, MW-10, MW-12, MW-13, and MW-14 exhibited concentrations of benzene exceeding New Mexico Water WQCC standards. In addition, the groundwater samples collected from each of these monitoring wells, with the exception of monitoring well MW-13, exhibited concentrations of toluene, ethylbenzene, total xylenes, MTBE, EDC, EDB, naphthalene, 1-methylnaphthalene and/or 2-methylnaphthalene exceeding New Mexico Water WQCC standards.

A cumulative summary of groundwater analytical results is presented as Table 2 in Appendix B. The executed chain-of-custody form and laboratory data sheets are provided in Appendix C. A groundwater concentration map is provided as Exhibit 2 in Appendix A.

Based on depth to groundwater data and NAPL thickness data collected on January 9, 2015 from the seven off-site monitoring wells and the seven on-site monitoring wells, the groundwater flow direction at the site was towards the south. A correction factor of 0.729, commonly accepted as the density of gasoline, was used for the purpose of correcting the static groundwater elevation in these wells. The actual density of the NAPL observed in the wells has not been evaluated and differences in density from the assumed value would affect the calculated groundwater gradient direction. A total volume of 30 gallons of NAPL was removed from monitoring wells MW-1, MW-2, MW-3, MW-8, MW-11 and MW-14 during the sampling activities. The NAPL was stored in a 55-gallon drum staged on the east side of the on-site building. A cumulative summary of groundwater and NAPL measurements is presented as Table 1 in Appendix B. A groundwater gradient map is provided as Exhibit 3 in Appendix A. A map of NAPL thickness is presented as Exhibit 4 in Appendix A.

## **4.0 AMENDMENTS / UNANTICIPATED SITE CONDITIONS**

Unanticipated site conditions were not encountered during Terracon's assessment activities.



## 5.0 CONCLUSIONS AND RECOMMENDATIONS

Fourteen monitoring wells were gauged and sampled and/or purged of NAPL at the Fairview Station facility located at 1626 N. Riverside Drive in Española, Rio Arriba County, New Mexico. Based on the results of Terracon's assessment activities, Terracon concludes the following:

- The depths to groundwater, corrected for NAPL thickness, at the site ranged from 14.40 to 16.80 feet bgs on January 9, 2015 with a gradient generally towards the south.
- NAPL was observed in monitoring wells MW-1, MW-2, MW-3, MW-8, MW-11 and MW-14 prior to purging. The groundwater samples collected from monitoring wells MW-2, MW-5, MW-6, MW-7, MW-9, MW-10, MW-12, MW-13, and MW-14 exhibited concentrations of benzene exceeding New Mexico Water WQCC standards.
- All groundwater samples collected, except for monitoring well MW-4, exhibited concentrations of toluene, ethylbenzene, total xylenes, MTBE, EDC, EDB, naphthalene, 1-methylnaphthalene and/or 2-methylnaphthalene exceeding New Mexico Water WQCC standards.
- NAPL was observed in monitoring wells MW-1, MW-2, MW-3, MW-8, MW-11 and MW-14, at thicknesses ranging from 0.04 feet to 6.90 feet, prior to purging. A total volume of 30 gallons of NAPL was removed from monitoring wells MW-1, MW-2, MW-3, MW-8, MW-11 and MW-14 during the sampling activities.

Based on the results of this Groundwater Monitoring Report, Terracon recommends the following:

- The installation of additional monitoring wells to delineate the horizontal extent of NAPL and dissolved-phase groundwater contaminants exceeding WQCC standards, and,
- Interim removal of NAPL from the monitoring wells.

## 6.0 STATEMENT OF FAMILIARITY

This report was prepared by Ms. Missy A. Halick and was reviewed by Mr. Mark R. Hillier, P.G. whom is personally familiar with the information submitted in this report and the attached documents and attests that it is true and complete.

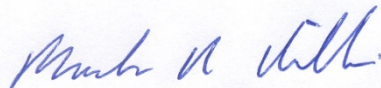
Prepared by:  
Missy A. Halick



Signature \_\_\_\_\_

Affiliation: Terracon Consultants, Inc.  
Title: Project Manager  
Date: January 19, 2015

Supervised by:  
Mark R. Hillier, P.G. (TX #4454)

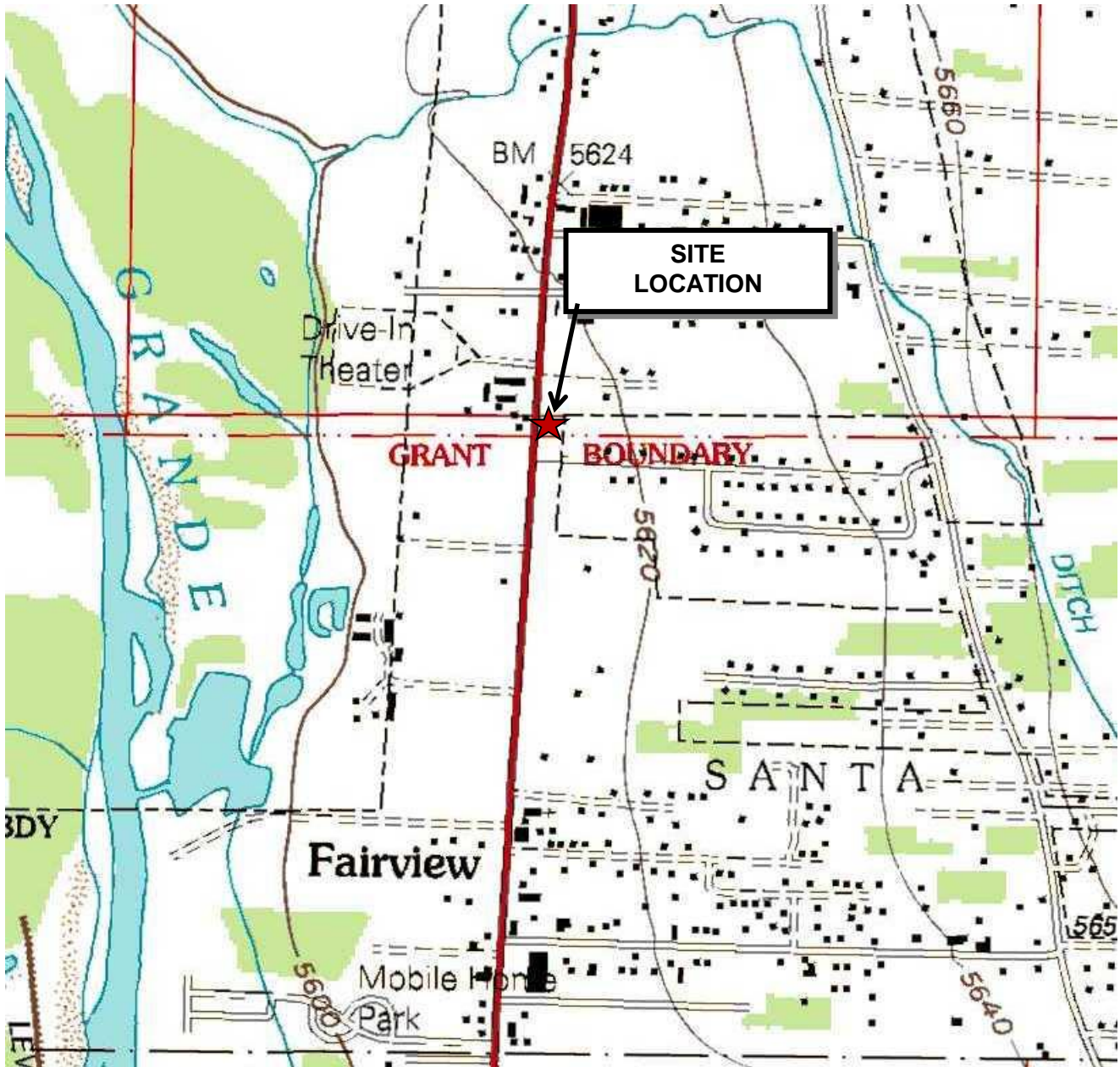


Signature: \_\_\_\_\_

Affiliation: Terracon Consultants, Inc.  
Title: Office Manager  
Date: January 19, 2015

## **APPENDIX A**

### **Exhibits**



USGS San Juan Pueblo, NM published 1977 (1:24,000)

DIAGRAM IS FOR GENERAL LOCATION ONLY, AND IS NOT  
INTENDED FOR CONSTRUCTION PURPOSES



Project Manager:	MRH
Drawn by:	JAS
Checked by:	MAH
Approved by:	MRH
Project No.	66127029.7
Scale:	1" = 1,000'
File Name:	
Date:	3/6/13

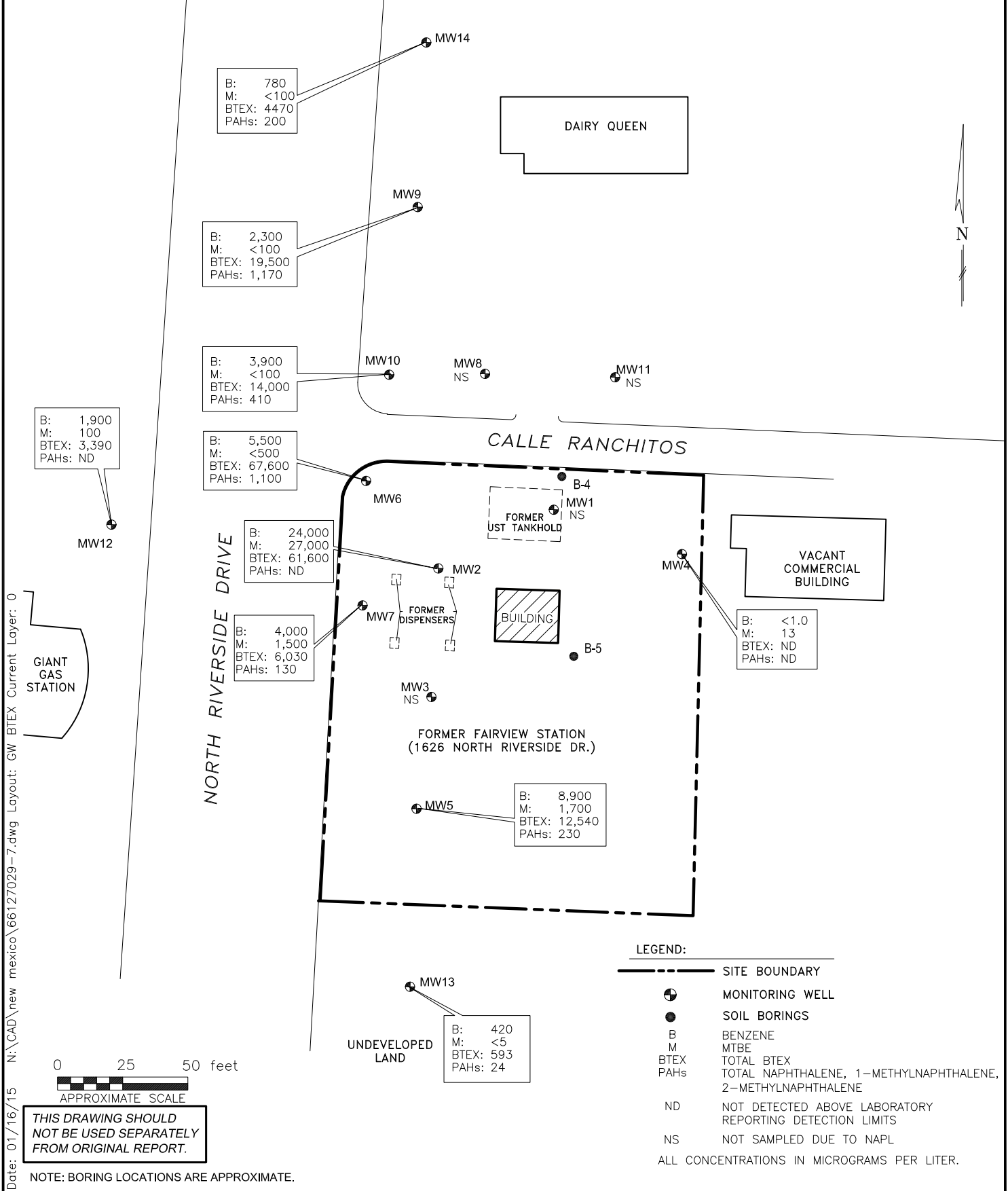
**Terracon**  
Consulting Engineers & Scientists  
4905 Hawkins, NE Albuquerque, New Mexico 87109  
PH. (505) 797-4287 FAX. (505) 797-4288

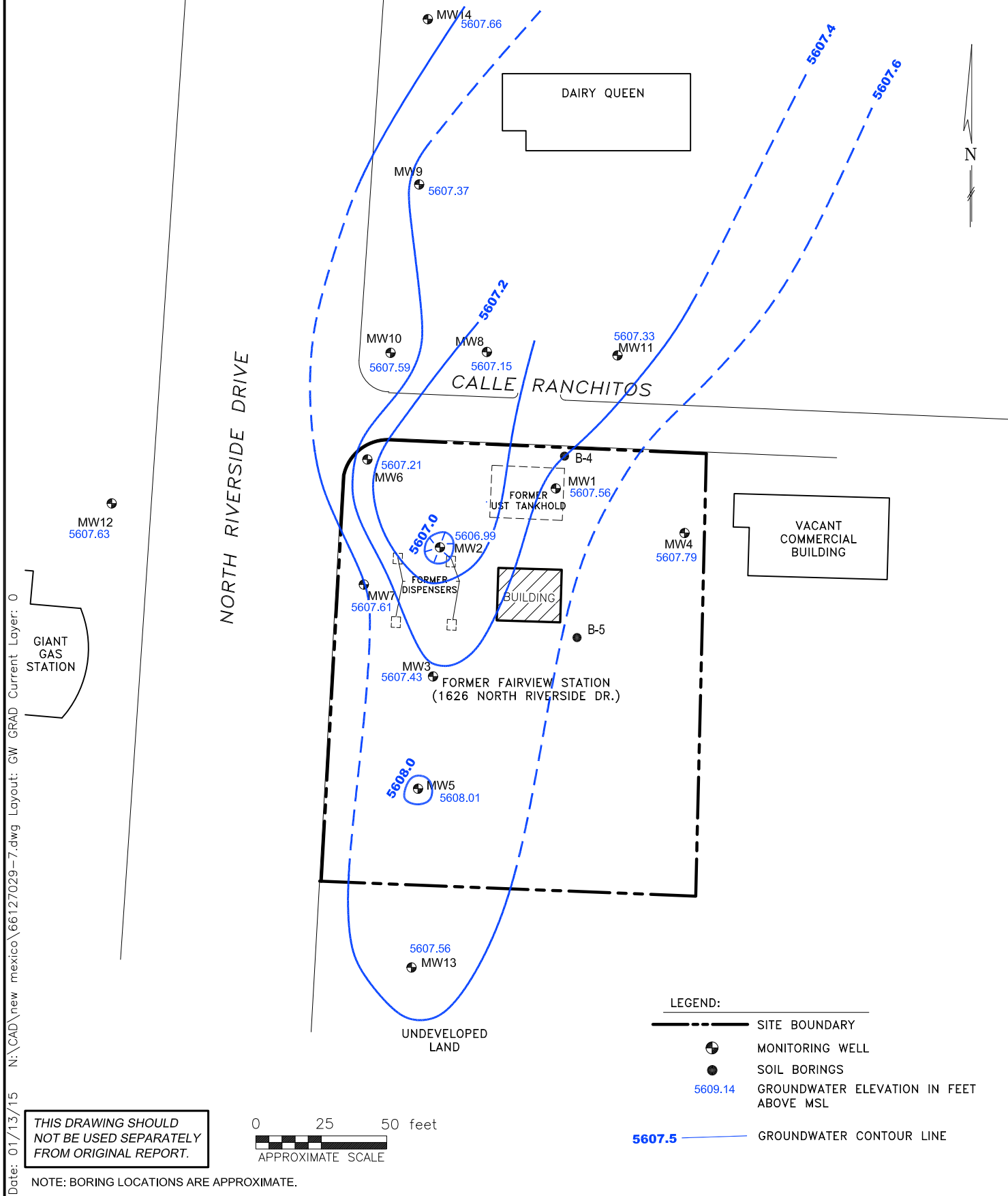
## SITE TOPOGRAPHIC MAP

FAIRVIEW STATION  
1626 NORTH RIVERSIDE DRIVE  
ESPANOLA, RIO ARriba COUNTY, NEW MEXICO

EXHIBIT

1





Project Mng'r:	MRH	Project No.	66127029.7	 Consulting Engineers and Scientists  4905 Hawkins NE Albuquerque, New Mexico 87109 PH. (505) 797-4287 FAX. (505) 797-4288	<b>GROUNDWATER GRADIENT MAP 1-9-15</b>	EXHIBIT	
Drawn By:	JJD	Scale:	AS SHOWN			FAIRVIEW STATION 1626 NORTH RIVERSIDE DRIVE ESPANOLA, RIO ARriba COUNTY, NEW MEXICO	3
Checked By:	MRH	Date:	01/13/15				
Approved By:	MRH						





## **APPENDIX B**

**Table 1 – Groundwater and NAPL Measurements**

**Table 2 – Groundwater Analytical Results**

**TABLE 1**  
**GROUND WATER AND NAPL MEASUREMENTS**

**Fairview Station**  
**Facility # 28779, Release ID# 4657, WP ID# 17351**  
**1626 N. Riverside Drive, Espanola, New Mexico**

Monitor Well	Gauging Date	Total Depth From TOC <sup>1</sup> (feet)	Screened Interval (feet)	Top of Casing Elevation (feet)	Depth to Groundwater From TOC (feet)	Depth to NAPL (feet)	NAPL Thickness (feet)	NAPL Removed (gallons)	Cumulative NAPL Removed (gallons)	Groundwater Elevation <sup>2</sup> (feet)
MW-1	2/1/2013	28	13-28	5622.71	not measured	not measured		0.0	0.0	
	2/4/2013			5622.71	not measured	not measured		0.0	0.0	
	2/27/2013			5622.71	14.40	14.06	0.34	0.0	0.0	5608.56
	6/3/2013			5622.71	14.20	13.92	0.28	0.5	0.5	5608.71
	6/27/2013			5622.71	14.80	14.43	0.37	0.1	0.6	5608.18
	7/10/2013			5622.71	14.45	14.21	0.24	0.0	0.6	5608.43
	10/29/2013			5622.71	15.25	13.36	1.89	1.5	2.1	5608.84
	11/12/2013			5622.71	15.83	15.37	0.46	0.3	2.4	5607.22
	11/26/2013			5622.71	14.90	13.82	1.08	0.3	2.7	5608.60
	10/3/2014			5622.71	14.85	14.81	0.04	0.0	2.7	5607.89
	12/10/2014			5622.71	18.71	15.51	3.20	not measured		5606.33
	1/9/2015			5622.71	17.69	14.20	3.49	not measured	2.7	5607.56
MW-2	2/1/2013	28	13-28	5622.99	not measured	not measured		4.5	4.5	
	2/4/2013			5622.99	not measured	not measured		5.0	9.5	
	2/27/2013			5622.99	18.56	13.11	5.45	0.0	9.5	5608.40
	6/3/2013			5622.99	17.39	13.42	3.97	4.5	14.0	5608.49
	6/27/2013			5622.99	18.20	13.98	4.22	3.0	17.0	5607.87
	7/10/2013			5622.99	17.50	13.67	3.83	2.5	19.5	5608.28
	10/29/2013			5622.99	18.68	12.66	6.02	3.5	23.0	5608.70
	11/12/2013			5622.99	19.40	14.34	5.06	2.8	25.8	5607.28
	11/26/2013			5622.99	18.56	12.95	5.61	3.0	28.8	5608.52
	10/3/2014			5622.99	15.05	14.97	0.08	0.0	28.8	5608.00
	12/10/2014			5622.99	18.64	15.77	2.87	not measured		5606.44
	1/9/2015			5622.99	18.73	14.99	3.74	not measured	28.8	5606.99

**TABLE 1 Con't.**  
**GROUND WATER AND NAPL MEASUREMENTS**  
**Fairview Station**  
**Facility # 28779, Release ID# 4657, WP ID# 17351**  
**1626 N. Riverside Drive, Espanola, New Mexico**

Monitor Well	Gauging Date	Total Depth From TOC <sup>1</sup> (feet)	Screened Interval (feet)	Top of Casing Elevation (feet)	Depth to Groundwater From TOC (feet)	Depth to NAPL (feet)	NAPL Thickness (feet)	NAPL Removed (gallons)	Cumulative NAPL Removed (gallons)	Groundwater Elevation <sup>2</sup> (feet)
MW-3	2/1/2013	28	13-28	5623.02	not measured	not measured		0.5	0.5	
	2/4/2013			5623.02	not measured	not measured		2.0	2.5	
	2/27/2013			5623.02	16.69	13.80	2.89	0.0	2.5	5608.44
	6/3/2013			5623.02	17.57	13.46	4.11	4.5	7.0	5608.45
	6/27/2013			5623.02	18.33	13.88	4.45	3.5	10.5	5607.93
	7/10/2013			5623.02	17.68	13.70	3.98	3.0	13.5	5608.24
	10/29/2013			5623.02	19.46	12.50	6.96	7.0	20.5	5608.63
	11/12/2013			5623.02	20.62	13.19	7.43	5.0	25.5	5607.82
	11/26/2013			5623.02	19.02	13.02	6.00	4.3	29.8	5608.37
	10/3/2014			5623.02	16.91	13.96	2.95	0.0	29.8	5608.26
	12/10/2014			5623.02	22.26	14.75	7.51	not measured		5606.23
	1/9/2015			5623.02	20.62	13.72	6.90	not measured	29.8	5607.43
MW-4	10/29/2013	27	12-27	5623.67	14.13	14.13	0.00	0.0		5609.54
	11/12/2013			5623.67	15.12	15.12	0.00	0.0		5608.55
	11/26/2013			5623.67	15.20	15.20	0.00	0.0		5608.47
	10/3/2014			5623.67	16.21	16.21	0.00	0.0		5607.46
	12/9/2014			5623.67	Data Lost					
	1/9/2015			5623.67	15.88	15.88	0.00	0.0		5607.79
MW-5	10/29/2013	25	10-25	5622.41	13.77	13.77	0.00	0.0		5608.64
	11/12/2013			5622.41	13.93	13.93	0.00	0.0		5608.48
	11/26/2013			5622.41	14.07	14.07	0.00	0.0		5608.34
	10/3/2014			5622.41	14.48	14.48	0.00	0.0		5607.93
	12/9/2014			5622.41	Data Lost					
	1/9/2015			5622.41	14.40	14.40	0.00	0.0		5608.01
MW-6	10/29/2013	25	10-25	5622.80	13.97	13.97	0.00	0.0		5608.83
	11/12/2013			5622.80	14.40	14.39	0.01	0.0		5608.41
	11/26/2013			5622.80	14.33	14.31	0.02	0.0		5608.48
	10/3/2014			5622.80	15.65	15.60	0.05	0.0		5607.19
	12/10/2014			5622.80	16.54	16.20	0.34	not measured		5606.51
	1/9/2015			5622.80	15.62	15.58	0.04	not measured		5607.21

**TABLE 1 Con't.**  
**GROUND WATER AND NAPL MEASUREMENTS**  
**Fairview Station**  
**Facility # 28779, Release ID# 4657, WP ID# 17351**  
**1626 N. Riverside Drive, Espanola, New Mexico**

Monitor Well	Gauging Date	Total Depth From TOC <sup>1</sup> (feet)	Screened Interval (feet)	Top of Casing Elevation (feet)	Depth to Groundwater From TOC (feet)	Depth to NAPL (feet)	NAPL Thickness (feet)	NAPL Removed (gallons)	Cumulative NAPL Removed (gallons)	Groundwater Elevation <sup>2</sup> (feet)
MW-7	10/29/2013	25	10-25	5622.86	14.17	14.17	0.00	0.0		5608.69
	11/12/2013			5622.86	14.62	14.62	0.00	0.0		5608.24
	11/26/2013			5622.86	14.50	14.50	0.00	0.0		5608.36
	10/3/2014			5622.86	15.84	15.84	0.00	0.0		5607.02
	12/9/2014			5622.86	Data Lost					
	1/9/2015			5622.86	15.25	15.25	0.00	0.0		5607.61
MW-8	10/29/2013	27	12-27	5623.90	17.35	13.80	3.55	2.5	2.5	5609.14
	11/12/2013			5623.90	21.03	14.49	6.54	3.0	5.5	5607.64
	11/26/2013			5623.90	18.30	14.05	4.25	3.5	9.0	5608.70
	10/3/2014			5623.90	17.52	14.95	2.57	0.0	9.0	5608.25
	12/10/2014			5623.90	21.78	15.27	6.51	not measured		5606.87
	1/9/2015			5623.90	21.45	15.00	6.45	not measured	9.0	5607.15
MW-9	10/3/2014	25	8-23	5623.83	16.69	16.69	0.00	0.0		5607.14
	12/10/2014			5623.83	17.15	17.15	0.00	0.0		5606.68
	1/9/2015			5623.83	16.46	16.46	0.00	0.0		5607.37
MW-10	10/3/2014	25	10-25	5623.87	16.78	16.78	0.00	0.0		5607.09
	12/9/2014			5623.87	Data Lost					
	1/9/2015			5623.87	16.28	16.28	0.00	0.0		5607.59
MW-11	10/3/2014	25	9-24	5624.13	15.71	15.55	0.16	0.0		5608.54
	12/10/2014			5624.13	20.15	16.52	3.63	not measured		5606.63
	1/9/2015			5624.13	19.25	15.89	3.36	not measured	5.0	5607.33
MW-12	10/3/2014	30	11-26	5622.84	15.52	15.52	0.00	0.0		5607.32
	12/9/2014			5622.84	15.94	15.94	0.00	0.0		5606.90
	1/9/2015			5622.84	15.21	15.21	0.00	0.0		5607.63
MW-13	10/3/2014	24	9-24	5622.32	14.81	14.81	0.00	0.0		5607.51
	12/9/2014			5622.32	Data Lost					
	1/9/2015			5622.32	14.76	14.76	0.00	0.0		5607.56
MW-14	10/3/2014	25	9-24	5623.75	16.05	15.76	0.29	0.0		5607.91
	12/10/2014			5623.75	18.57	16.38	2.19	not measured		5606.78
	1/9/2015			5623.75	16.45	15.96	0.49	not measured	2.0	5607.66

1 - TOC = Top-of-Casing elevation above mean sea level surveyed by a NM Licensed Surveyor.

2 - Product density value of 0.729 used for purpose of calculating water column overburden.

**Table 2**  
**Groundwater Analytical Results - BTEX/MTBE/EDC/Naphthalene/1- and 2-Methylnaphthalene (8260B), EDB (8011/504.1), PAHs (8270C), Dissolved Lead (6010B), and TPH (8015B)**  
**Fairview Station - Facility ID# 28779, Release ID# 4657**

Sample I.D.	Sample Date	Benzene (µg/L)	Toluene (µg/L)	Ethyl Benzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)	EDB (µg/L)	EDC (µg/L)	Naphthalene <sup>3</sup> (µg/L)	1-Methylnaphthalene <sup>3</sup> (µg/L)	2-Methylnaphthalene <sup>3</sup> (µg/L)	PAHs <sup>1</sup> (µg/L)	Dissolved Lead (mg/L)	TPH (TX1005 Rev. 3) (mg/Kg)		
														MRO	DRO	GRO
MW-1	02/04/13	16,000	21,000	3,700	14,000	3,900	<10	64	NA <sup>2</sup>	NA	NA	Naphthalene - 630 1-Methylnaphthalene - 190 2-Methylnaphthalene - 350 Acenaphthene - 1.4 Fluorene - 1.4 Phenanthrene - 1.3	0.0035	<5.0	10	140
	12/09/14	Not Sampled Due to NAPL														
MW-2	02/04/13	Not Sampled Due to NAPL														
	12/10/14	24,000	23,000	2,600	12,000	27,000	0.2	<500	<1000	<2000	<2000	NA	NA	NA	NA	NA
MW-3	02/04/13	Not Sampled Due to NAPL														
	12/09/14	Not Sampled Due to NAPL														
MW-4	10/29/13	<1.0	<1.0	<1.0	<2.0	31	<0.01	8.8	NA	NA	NA	NA	<0.005	NA	NA	NA
	12/09/14	<1.0	<1.0	<1.0	<1.5	13	<0.01	2.4	<2.0	<4.0	<4.0	NA	NA	NA	NA	NA
MW-5	10/29/13	4,300	1,100	740	2,000	540	<0.01	44	NA	NA	NA	Naphthalene - 130 1-Methylnaphthalene - 36 2-Methylnaphthalene - 69	<0.005	NA	NA	NA
	12/09/04	8,900	940	1,200	1,500	1,700	<0.01	<100	230	<400	<400	NA	NA	NA	NA	NA
MW-6	10/29/13	10,000	23,000	3,100	13,000	110	<0.01	<50	NA	NA	NA	Naphthalene - 450 1-Methylnaphthalene - 92 2-Methylnaphthalene - 170	<0.005	NA	NA	NA
	12/10/14	5,500	29,000	5,100	28,000	<500	<0.01	<500	1,100	<2000	<2000	NA	NA	NA	NA	NA
MW-7	10/29/13	7,700	7,400	1,700	8,900	3,500	<0.01	<50	NA	NA	NA	Naphthalene - 370 1-Methylnaphthalene - 88 2-Methylnaphthalene - 180	<0.005	NA	NA	NA
	12/09/14	4,000	420	510	1,100	1,500	<0.01	<50	130	<200	<200	NA	NA	NA	NA	NA
MW-8	10/29/13	Not Sampled Due to NAPL														
	12/09/14	Not Sampled Due to NAPL														

**Table 2**  
**Groundwater Analytical Results - BTEX/MTBE/EDC/Naphthalene/1- and 2-Methylnaphthalene (8260B), EDB (8011/504.1), PAHs (8270C), Dissolved Lead (6010B), and TPH (8015B)**  
**Fairview Station - Facility ID# 28779, Release ID# 4657**

Sample I.D.	Sample Date	Benzene (µg/L)	Toluene (µg/L)	Ethyl Benzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)	EDB (µg/L)	EDC (µg/L)	Naphthalene <sup>3</sup> (µg/L)	1-Methylnaphthalene <sup>3</sup> (µg/L)	2-Methylnaphthalene <sup>3</sup> (µg/L)	PAHs <sup>1</sup> (µg/L)	Dissolved Lead (mg/L)	TPH (TX1005 Rev. 3) (mg/Kg)		
														MRO	DRO	GRO
MW-9	07/21/14	2,000	1,100	1,800	6,600	<100	<0.01	<100	NA	NA	NA	Naphthalene - 330 1-Methylnaphthalene - 110 2-Methylnaphthalene - 200 Acenaphthene - 0.52	0.014	NA	NA	NA
	12/09/14	2,300	2,600	2,600	12,000	<100	<0.01	<100	720	<400	450	NA	NA	NA	NA	NA
MW-10	07/22/14	4,200	5,900	2,700	10,000	170	<0.01	<100	NA	NA	NA	Naphthalene - 470 1-Methylnaphthalene - 160 2-Methylnaphthalene - 310 Acenaphthene - 0.94 Fluorene - 0.64 Phenanthrene - 0.58	0.084	NA	NA	NA
	12/09/14	3,900	2,000	2,000	6,100	<100	<0.01	<100	410	<400	<400	NA	NA	NA	NA	NA
MW-11	07/22/14	10,000	16,000	2,600	11,000	330	<0.01	<100	NA	NA	NA	Naphthalene - 540 1-Methylnaphthalene - 190 2-Methylnaphthalene - 360 Acenaphthene - 0.94 Fluorene - 0.94 Phenanthrene - 0.90	0.088	NA	NA	NA
	12/09/14	Not Sampled Due to NAPL														
MW-12	08/21/14	1,800	110	340	810	230	<0.01	<10	NA	NA	NA	Naphthalene - 50 1-Methylnaphthalene - 8 2-Methylnaphthalene - 13	0.130	NA	NA	NA
	12/09/14	1,900	310	470	710	100	<0.01	<50	<100	<200	<200	NA	NA	NA	NA	NA
MW-13	07/18/14	130	<10	35	24	<10	<0.01	<10	NA	NA	NA	Naphthalene - 9.6 1-Methylnaphthalene - 20 2-Methylnaphthalene - 35	0.062	NA	NA	NA
	12/09/14	420	5.0	78	90	<5.0	<0.01	<5.0	24	<20	<20	NA	NA	NA	NA	NA

Table 2

Groundwater Analytical Results - BTEX/MTBE/EDC/Naphthalene/1- and 2-Methylnaphthalene (8260B), EDB (8011/504.1), PAHs (8270C), Dissolved Lead (6010B), and TPH (8015B)  
Fairview Station - Facility ID# 28779, Release ID# 4657

Sample I.D.	Sample Date	Benzene (µg/L)	Toluene (µg/L)	Ethyl Benzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)	EDB (µg/L)	EDC (µg/L)	Naphthalene <sup>3</sup> (µg/L)	1-Methylnaphthalene <sup>3</sup> (µg/L)	2-Methylnaphthalene <sup>3</sup> (µg/L)	PAHs <sup>1</sup> (µg/L)	Dissolved Lead (mg/L)	TPH (TX1005 Rev. 3) (mg/Kg)		
														MRO	DRO	GRO
MW-14	08/21/14	480	210	65	160	<10	2.3	84	NA	NA	NA	Naphthalene - 18 1-Methylnaphthalene - 3.7 2-Methylnaphthalene - 3.3	0.020	NA	NA	NA
	12/09/14	780	1700	290	1700	<100	15	170	200	<400	<400	NA	NA	NA	NA	NA
WQCC Standards		10	750	750	620	100	0.1	10	30	30	Not Published	Naphthalene - 30 1-Methylnaphthalene - 30 2-Methylnaphthalene - not published Acenaphthene - not published Fluorene - not published Phenanthrene - not published	0.05	Not Applicable		

1 - Only constituents detected above laboratory reporting limits are listed

2 - NA = Not analyzed for these constituents

3 - Naphthalene, 1-Methylnaphthalene, 2-Methylnaphthalene analyzed using EPA Method 8260



## **APPENDIX C**

### **Laboratory Analytical Reports**



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)

December 18, 2014

Mark Hillier

Terracon

4905 Hawkins, NE

Albuquerque, NM 87109

TEL: (505) 715-0375

FAX (505) 797-4288

RE: Fairview Station

OrderNo.: 1412522

Dear Mark Hillier:

Hall Environmental Analysis Laboratory received 11 sample(s) on 12/10/2014 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', is written over a horizontal line.

Andy Freeman

Laboratory Manager

4901 Hawkins NE

Albuquerque, NM 87109

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order 1412522

Date Reported: 12/18/2014

CLIENT: Terracon

Client Sample ID: MW-5

Project: Fairview Station

Collection Date: 12/9/2014 10:13:00 AM

Lab ID: 1412522-001

Matrix: AQUEOUS

Received Date: 12/10/2014 4:09:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8011/504.1: EDB</b>							Analyst: <b>LRW</b>
1,2-Dibromoethane	ND	0.010		µg/L	1	12/11/2014 1:31:10 PM	16778
<b>EPA METHOD 8260: VOLATILES SHORT LIST</b>							Analyst: <b>cadg</b>
Benzene	8900	500		µg/L	500	12/15/2014 3:08:50 PM	R23141
Toluene	940	100		µg/L	100	12/12/2014 1:37:01 PM	R23125
Ethylbenzene	1200	100		µg/L	100	12/12/2014 1:37:01 PM	R23125
Methyl tert-butyl ether (MTBE)	1700	100		µg/L	100	12/12/2014 1:37:01 PM	R23125
1,2-Dichloroethane (EDC)	ND	100		µg/L	100	12/12/2014 1:37:01 PM	R23125
Naphthalene	230	200		µg/L	100	12/12/2014 1:37:01 PM	R23125
1-Methylnaphthalene	ND	400		µg/L	100	12/12/2014 1:37:01 PM	R23125
2-Methylnaphthalene	ND	400		µg/L	100	12/12/2014 1:37:01 PM	R23125
Xylenes, Total	1500	150		µg/L	100	12/12/2014 1:37:01 PM	R23125
Surr: 1,2-Dichloroethane-d4	99.1	70-130		%REC	100	12/12/2014 1:37:01 PM	R23125
Surr: 4-Bromofluorobenzene	105	70-130		%REC	100	12/12/2014 1:37:01 PM	R23125
Surr: Dibromofluoromethane	83.6	70-130		%REC	100	12/12/2014 1:37:01 PM	R23125
Surr: Toluene-d8	106	70-130		%REC	100	12/12/2014 1:37:01 PM	R23125

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

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order 1412522

Date Reported: 12/18/2014

CLIENT: Terracon

Client Sample ID: MW-13

Project: Fairview Station

Collection Date: 12/9/2014 9:55:00 AM

Lab ID: 1412522-002

Matrix: AQUEOUS

Received Date: 12/10/2014 4:09:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8011/504.1: EDB</b>							Analyst: <b>LRW</b>
1,2-Dibromoethane	ND	0.010		µg/L	1	12/11/2014 1:46:26 PM	16778
<b>EPA METHOD 8260: VOLATILES SHORT LIST</b>							Analyst: <b>cadg</b>
Benzene	420	5.0		µg/L	5	12/12/2014 2:57:16 PM	R23125
Toluene	5.0	5.0		µg/L	5	12/12/2014 2:57:16 PM	R23125
Ethylbenzene	78	5.0		µg/L	5	12/12/2014 2:57:16 PM	R23125
Methyl tert-butyl ether (MTBE)	ND	5.0		µg/L	5	12/12/2014 2:57:16 PM	R23125
1,2-Dichloroethane (EDC)	ND	5.0		µg/L	5	12/12/2014 2:57:16 PM	R23125
Naphthalene	24	10		µg/L	5	12/12/2014 2:57:16 PM	R23125
1-Methylnaphthalene	ND	20		µg/L	5	12/12/2014 2:57:16 PM	R23125
2-Methylnaphthalene	ND	20		µg/L	5	12/12/2014 2:57:16 PM	R23125
Xylenes, Total	90	7.5		µg/L	5	12/12/2014 2:57:16 PM	R23125
Surr: 1,2-Dichloroethane-d4	97.9	70-130		%REC	5	12/12/2014 2:57:16 PM	R23125
Surr: 4-Bromofluorobenzene	95.5	70-130		%REC	5	12/12/2014 2:57:16 PM	R23125
Surr: Dibromofluoromethane	85.4	70-130		%REC	5	12/12/2014 2:57:16 PM	R23125
Surr: Toluene-d8	106	70-130		%REC	5	12/12/2014 2:57:16 PM	R23125

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

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order 1412522

Date Reported: 12/18/2014

CLIENT: Terracon

Client Sample ID: MW-4

Project: Fairview Station

Collection Date: 12/9/2014 10:50:00 AM

Lab ID: 1412522-003

Matrix: AQUEOUS

Received Date: 12/10/2014 4:09:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8011/504.1: EDB</b>							Analyst: <b>LRW</b>
1,2-Dibromoethane	ND	0.010		µg/L	1	12/11/2014 2:01:41 PM	16778
<b>EPA METHOD 8260: VOLATILES SHORT LIST</b>							Analyst: <b>cadg</b>
Benzene	ND	1.0		µg/L	1	12/12/2014 3:23:58 PM	R23125
Toluene	ND	1.0		µg/L	1	12/12/2014 3:23:58 PM	R23125
Ethylbenzene	ND	1.0		µg/L	1	12/12/2014 3:23:58 PM	R23125
Methyl tert-butyl ether (MTBE)	13	1.0		µg/L	1	12/12/2014 3:23:58 PM	R23125
1,2-Dichloroethane (EDC)	2.4	1.0		µg/L	1	12/12/2014 3:23:58 PM	R23125
Naphthalene	ND	2.0		µg/L	1	12/12/2014 3:23:58 PM	R23125
1-Methylnaphthalene	ND	4.0		µg/L	1	12/12/2014 3:23:58 PM	R23125
2-Methylnaphthalene	ND	4.0		µg/L	1	12/12/2014 3:23:58 PM	R23125
Xylenes, Total	ND	1.5		µg/L	1	12/12/2014 3:23:58 PM	R23125
Surr: 1,2-Dichloroethane-d4	106	70-130		%REC	1	12/12/2014 3:23:58 PM	R23125
Surr: 4-Bromofluorobenzene	115	70-130		%REC	1	12/12/2014 3:23:58 PM	R23125
Surr: Dibromofluoromethane	94.4	70-130		%REC	1	12/12/2014 3:23:58 PM	R23125
Surr: Toluene-d8	109	70-130		%REC	1	12/12/2014 3:23:58 PM	R23125

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

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order 1412522

Date Reported: 12/18/2014

CLIENT: Terracon

Client Sample ID: MW-7

Project: Fairview Station

Collection Date: 12/9/2014 11:32:00 AM

Lab ID: 1412522-004

Matrix: AQUEOUS

Received Date: 12/10/2014 4:09:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8011/504.1: EDB</b>							Analyst: <b>LRW</b>
1,2-Dibromoethane	ND	0.010		µg/L	1	12/11/2014 2:32:19 PM	16778
<b>EPA METHOD 8260: VOLATILES SHORT LIST</b>							Analyst: <b>cadg</b>
Benzene	4000	50		µg/L	50	12/12/2014 3:50:45 PM	R23125
Toluene	420	50		µg/L	50	12/12/2014 3:50:45 PM	R23125
Ethylbenzene	510	50		µg/L	50	12/12/2014 3:50:45 PM	R23125
Methyl tert-butyl ether (MTBE)	1500	50		µg/L	50	12/12/2014 3:50:45 PM	R23125
1,2-Dichloroethane (EDC)	ND	50		µg/L	50	12/12/2014 3:50:45 PM	R23125
Naphthalene	130	100		µg/L	50	12/12/2014 3:50:45 PM	R23125
1-Methylnaphthalene	ND	200		µg/L	50	12/12/2014 3:50:45 PM	R23125
2-Methylnaphthalene	ND	200		µg/L	50	12/12/2014 3:50:45 PM	R23125
Xylenes, Total	1100	75		µg/L	50	12/12/2014 3:50:45 PM	R23125
Surr: 1,2-Dichloroethane-d4	98.2	70-130		%REC	50	12/12/2014 3:50:45 PM	R23125
Surr: 4-Bromofluorobenzene	98.6	70-130		%REC	50	12/12/2014 3:50:45 PM	R23125
Surr: Dibromofluoromethane	84.7	70-130		%REC	50	12/12/2014 3:50:45 PM	R23125
Surr: Toluene-d8	108	70-130		%REC	50	12/12/2014 3:50:45 PM	R23125

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

<b>Qualifiers:</b>	*	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 greater than 2.
RL	Reporting Detection Limit

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order 1412522

Date Reported: 12/18/2014

CLIENT: Terracon

Client Sample ID: MW-10

Project: Fairview Station

Collection Date: 12/9/2014 12:10:00 PM

Lab ID: 1412522-005

Matrix: AQUEOUS

Received Date: 12/10/2014 4:09:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8011/504.1: EDB</b>							Analyst: <b>LRW</b>
1,2-Dibromoethane	ND	0.010		µg/L	1	12/11/2014 2:47:35 PM	16778
<b>EPA METHOD 8260: VOLATILES SHORT LIST</b>							Analyst: <b>cadg</b>
Benzene	3900	100		µg/L	100	12/12/2014 4:17:33 PM	R23125
Toluene	2000	100		µg/L	100	12/12/2014 4:17:33 PM	R23125
Ethylbenzene	2000	100		µg/L	100	12/12/2014 4:17:33 PM	R23125
Methyl tert-butyl ether (MTBE)	ND	100		µg/L	100	12/12/2014 4:17:33 PM	R23125
1,2-Dichloroethane (EDC)	ND	100		µg/L	100	12/12/2014 4:17:33 PM	R23125
Naphthalene	410	200		µg/L	100	12/12/2014 4:17:33 PM	R23125
1-Methylnaphthalene	ND	400		µg/L	100	12/12/2014 4:17:33 PM	R23125
2-Methylnaphthalene	ND	400		µg/L	100	12/12/2014 4:17:33 PM	R23125
Xylenes, Total	6100	150		µg/L	100	12/12/2014 4:17:33 PM	R23125
Surr: 1,2-Dichloroethane-d4	92.4	70-130		%REC	100	12/12/2014 4:17:33 PM	R23125
Surr: 4-Bromofluorobenzene	88.3	70-130		%REC	100	12/12/2014 4:17:33 PM	R23125
Surr: Dibromofluoromethane	84.2	70-130		%REC	100	12/12/2014 4:17:33 PM	R23125
Surr: Toluene-d8	100	70-130		%REC	100	12/12/2014 4:17:33 PM	R23125

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

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		



# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order 1412522

Date Reported: 12/18/2014

CLIENT: Terracon

Client Sample ID: MW-9

Project: Fairview Station

Collection Date: 12/9/2014 10:00:00 AM

Lab ID: 1412522-006

Matrix: AQUEOUS

Received Date: 12/10/2014 4:09:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8011/504.1: EDB</b>							Analyst: <b>LRW</b>
1,2-Dibromoethane	ND	0.010		µg/L	1	12/11/2014 3:02:59 PM	16778
<b>EPA METHOD 8260: VOLATILES SHORT LIST</b>							Analyst: <b>cadg</b>
Benzene	2300	100		µg/L	100	12/12/2014 4:44:14 PM	R23125
Toluene	2600	100		µg/L	100	12/12/2014 4:44:14 PM	R23125
Ethylbenzene	2600	100		µg/L	100	12/12/2014 4:44:14 PM	R23125
Methyl tert-butyl ether (MTBE)	ND	100		µg/L	100	12/12/2014 4:44:14 PM	R23125
1,2-Dichloroethane (EDC)	ND	100		µg/L	100	12/12/2014 4:44:14 PM	R23125
Naphthalene	720	200		µg/L	100	12/12/2014 4:44:14 PM	R23125
1-Methylnaphthalene	ND	400		µg/L	100	12/12/2014 4:44:14 PM	R23125
2-Methylnaphthalene	450	400		µg/L	100	12/12/2014 4:44:14 PM	R23125
Xylenes, Total	12000	150		µg/L	100	12/12/2014 4:44:14 PM	R23125
Surr: 1,2-Dichloroethane-d4	100	70-130		%REC	100	12/12/2014 4:44:14 PM	R23125
Surr: 4-Bromofluorobenzene	87.8	70-130		%REC	100	12/12/2014 4:44:14 PM	R23125
Surr: Dibromofluoromethane	93.0	70-130		%REC	100	12/12/2014 4:44:14 PM	R23125
Surr: Toluene-d8	106	70-130		%REC	100	12/12/2014 4:44:14 PM	R23125

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

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order 1412522

Date Reported: 12/18/2014

CLIENT: Terracon

Client Sample ID: MW-12

Project: Fairview Station

Collection Date: 12/9/2014 1:21:00 PM

Lab ID: 1412522-007

Matrix: AQUEOUS

Received Date: 12/10/2014 4:09:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8011/504.1: EDB</b>							Analyst: <b>LRW</b>
1,2-Dibromoethane	ND	0.010		µg/L	1	12/11/2014 3:18:20 PM	16778
<b>EPA METHOD 8260: VOLATILES SHORT LIST</b>							Analyst: <b>cadg</b>
Benzene	1900	50		µg/L	50	12/12/2014 5:10:59 PM	R23125
Toluene	310	50		µg/L	50	12/12/2014 5:10:59 PM	R23125
Ethylbenzene	470	50		µg/L	50	12/12/2014 5:10:59 PM	R23125
Methyl tert-butyl ether (MTBE)	100	50		µg/L	50	12/12/2014 5:10:59 PM	R23125
1,2-Dichloroethane (EDC)	ND	50		µg/L	50	12/12/2014 5:10:59 PM	R23125
Naphthalene	ND	100		µg/L	50	12/12/2014 5:10:59 PM	R23125
1-Methylnaphthalene	ND	200		µg/L	50	12/12/2014 5:10:59 PM	R23125
2-Methylnaphthalene	ND	200		µg/L	50	12/12/2014 5:10:59 PM	R23125
Xylenes, Total	710	75		µg/L	50	12/12/2014 5:10:59 PM	R23125
Surr: 1,2-Dichloroethane-d4	96.9	70-130		%REC	50	12/12/2014 5:10:59 PM	R23125
Surr: 4-Bromofluorobenzene	111	70-130		%REC	50	12/12/2014 5:10:59 PM	R23125
Surr: Dibromofluoromethane	86.4	70-130		%REC	50	12/12/2014 5:10:59 PM	R23125
Surr: Toluene-d8	106	70-130		%REC	50	12/12/2014 5:10:59 PM	R23125

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

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order 1412522

Date Reported: 12/18/2014

CLIENT: Terracon

Client Sample ID: MW-2

Project: Fairview Station

Collection Date: 12/10/2014 1:00:00 PM

Lab ID: 1412522-008

Matrix: AQUEOUS

Received Date: 12/10/2014 4:09:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8011/504.1: EDB</b>							Analyst: <b>LRW</b>
1,2-Dibromoethane	0.20	0.010		µg/L	1	12/11/2014 3:33:46 PM	16778
<b>EPA METHOD 8260: VOLATILES SHORT LIST</b>							Analyst: <b>cadg</b>
Benzene	24000	500		µg/L	500	12/12/2014 5:37:42 PM	R23125
Toluene	23000	500		µg/L	500	12/12/2014 5:37:42 PM	R23125
Ethylbenzene	2600	500		µg/L	500	12/12/2014 5:37:42 PM	R23125
Methyl tert-butyl ether (MTBE)	27000	500		µg/L	500	12/12/2014 5:37:42 PM	R23125
1,2-Dichloroethane (EDC)	ND	500		µg/L	500	12/12/2014 5:37:42 PM	R23125
Naphthalene	ND	1000		µg/L	500	12/12/2014 5:37:42 PM	R23125
1-Methylnaphthalene	ND	2000		µg/L	500	12/12/2014 5:37:42 PM	R23125
2-Methylnaphthalene	ND	2000		µg/L	500	12/12/2014 5:37:42 PM	R23125
Xylenes, Total	12000	750		µg/L	500	12/12/2014 5:37:42 PM	R23125
Surr: 1,2-Dichloroethane-d4	96.8	70-130		%REC	500	12/12/2014 5:37:42 PM	R23125
Surr: 4-Bromofluorobenzene	104	70-130		%REC	500	12/12/2014 5:37:42 PM	R23125
Surr: Dibromofluoromethane	93.9	70-130		%REC	500	12/12/2014 5:37:42 PM	R23125
Surr: Toluene-d8	104	70-130		%REC	500	12/12/2014 5:37:42 PM	R23125

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

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order 1412522

Date Reported: 12/18/2014

CLIENT: Terracon

Client Sample ID: MW-6

Project: Fairview Station

Collection Date: 12/10/2014 1:35:00 PM

Lab ID: 1412522-009

Matrix: AQUEOUS

Received Date: 12/10/2014 4:09:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8011/504.1: EDB</b>							Analyst: <b>LRW</b>
1,2-Dibromoethane	ND	0.010		µg/L	1	12/11/2014 3:49:13 PM	16778
<b>EPA METHOD 8260: VOLATILES SHORT LIST</b>							Analyst: <b>cadg</b>
Benzene	5500	500		µg/L	500	12/12/2014 6:04:29 PM	R23125
Toluene	29000	500		µg/L	500	12/12/2014 6:04:29 PM	R23125
Ethylbenzene	5100	500		µg/L	500	12/12/2014 6:04:29 PM	R23125
Methyl tert-butyl ether (MTBE)	ND	500		µg/L	500	12/12/2014 6:04:29 PM	R23125
1,2-Dichloroethane (EDC)	ND	500		µg/L	500	12/12/2014 6:04:29 PM	R23125
Naphthalene	1100	1000		µg/L	500	12/12/2014 6:04:29 PM	R23125
1-Methylnaphthalene	ND	2000		µg/L	500	12/12/2014 6:04:29 PM	R23125
2-Methylnaphthalene	ND	2000		µg/L	500	12/12/2014 6:04:29 PM	R23125
Xylenes, Total	28000	750		µg/L	500	12/12/2014 6:04:29 PM	R23125
Surr: 1,2-Dichloroethane-d4	102	70-130		%REC	500	12/12/2014 6:04:29 PM	R23125
Surr: 4-Bromofluorobenzene	89.9	70-130		%REC	500	12/12/2014 6:04:29 PM	R23125
Surr: Dibromofluoromethane	86.6	70-130		%REC	500	12/12/2014 6:04:29 PM	R23125
Surr: Toluene-d8	104	70-130		%REC	500	12/12/2014 6:04:29 PM	R23125

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

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order 1412522

Date Reported: 12/18/2014

**CLIENT:** Terracon

**Client Sample ID:** Trip Blank

**Project:** Fairview Station

**Collection Date:**

**Lab ID:** 1412522-010

**Matrix:** TRIP BLANK

**Received Date:** 12/10/2014 4:09:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8011/504.1: EDB</b>							Analyst: <b>LRW</b>
1,2-Dibromoethane	ND	0.010		µg/L	1	12/12/2014 8:18:22 AM	16778
<b>EPA METHOD 8260: VOLATILES SHORT LIST</b>							Analyst: <b>cadg</b>
Benzene	ND	1.0		µg/L	1	12/12/2014 1:10:14 PM	R23125
Toluene	ND	1.0		µg/L	1	12/12/2014 1:10:14 PM	R23125
Ethylbenzene	ND	1.0		µg/L	1	12/12/2014 1:10:14 PM	R23125
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	12/12/2014 1:10:14 PM	R23125
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	12/12/2014 1:10:14 PM	R23125
Naphthalene	ND	2.0		µg/L	1	12/12/2014 1:10:14 PM	R23125
1-Methylnaphthalene	ND	4.0		µg/L	1	12/12/2014 1:10:14 PM	R23125
2-Methylnaphthalene	ND	4.0		µg/L	1	12/12/2014 1:10:14 PM	R23125
Xylenes, Total	ND	1.5		µg/L	1	12/12/2014 1:10:14 PM	R23125
Surr: 1,2-Dichloroethane-d4	97.3	70-130		%REC	1	12/12/2014 1:10:14 PM	R23125
Surr: 4-Bromofluorobenzene	108	70-130		%REC	1	12/12/2014 1:10:14 PM	R23125
Surr: Dibromofluoromethane	86.2	70-130		%REC	1	12/12/2014 1:10:14 PM	R23125
Surr: Toluene-d8	106	70-130		%REC	1	12/12/2014 1:10:14 PM	R23125

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

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order 1412522

Date Reported: 12/18/2014

CLIENT: Terracon

Client Sample ID: MW-14

Project: Fairview Station

Collection Date: 12/10/2014 11:00:00 AM

Lab ID: 1412522-011

Matrix: AQUEOUS

Received Date: 12/10/2014 4:09:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8011/504.1: EDB</b>							Analyst: <b>LRW</b>
1,2-Dibromoethane	15	1.0		µg/L	100	12/16/2014 9:25:01 AM	16829
<b>EPA METHOD 8260: VOLATILES SHORT LIST</b>							Analyst: <b>cadg</b>
Benzene	780	100		µg/L	100	12/17/2014 12:03:26 PM	R23204
Toluene	1700	100		µg/L	100	12/17/2014 12:03:26 PM	R23204
Ethylbenzene	290	100		µg/L	100	12/17/2014 12:03:26 PM	R23204
Methyl tert-butyl ether (MTBE)	ND	100		µg/L	100	12/17/2014 12:03:26 PM	R23204
1,2-Dichloroethane (EDC)	170	100		µg/L	100	12/17/2014 12:03:26 PM	R23204
Naphthalene	200	200		µg/L	100	12/17/2014 12:03:26 PM	R23204
1-Methylnaphthalene	ND	400		µg/L	100	12/17/2014 12:03:26 PM	R23204
2-Methylnaphthalene	ND	400		µg/L	100	12/17/2014 12:03:26 PM	R23204
Xylenes, Total	1700	150		µg/L	100	12/17/2014 12:03:26 PM	R23204
Surr: 1,2-Dichloroethane-d4	97.1	70-130		%REC	100	12/17/2014 12:03:26 PM	R23204
Surr: 4-Bromofluorobenzene	113	70-130		%REC	100	12/17/2014 12:03:26 PM	R23204
Surr: Dibromofluoromethane	85.3	70-130		%REC	100	12/17/2014 12:03:26 PM	R23204
Surr: Toluene-d8	101	70-130		%REC	100	12/17/2014 12:03:26 PM	R23204

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

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1412522

18-Dec-14

**Client:** Terracon  
**Project:** Fairview Station

Sample ID	MB-16778		SampType:	MBLK		TestCode:	EPA Method 8011/504.1: EDB				
Client ID:	PBW		Batch ID:	16778		RunNo:	23074				
Prep Date:	12/11/2014		Analysis Date:	12/11/2014		SeqNo:	681851		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-16778		SampType:	LCS		TestCode:	EPA Method 8011/504.1: EDB				
Client ID:	LCSW		Batch ID:	16778		RunNo:	23074				
Prep Date:	12/11/2014		Analysis Date:	12/11/2014		SeqNo:	681852		Units: µg/L		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
1,2-Dibromoethane	0.10	0.010	0.1000	0	103	70	130				

Sample ID	MB-16829		SampType:	MBLK		TestCode:	EPA Method 8011/504.1: EDB				
Client ID:	PBW		Batch ID:	16829		RunNo:	23147				
Prep Date:	12/15/2014		Analysis Date:	12/15/2014		SeqNo:	683991		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-16829		SampType:	LCS		TestCode:	EPA Method 8011/504.1: EDB				
Client ID:	LCSW		Batch ID:	16829		RunNo:	23147				
Prep Date:	12/15/2014		Analysis Date:	12/15/2014		SeqNo:	683992		Units: µg/L		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
1,2-Dibromoethane	0.099	0.010	0.1000	0	99.0	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 greater than 2.  
RL Reporting Detection Limit

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1412522

18-Dec-14

**Client:** Terracon  
**Project:** Fairview Station

Sample ID	5mL rb	SampType:	MBLK	TestCode:	EPA Method 8260: Volatiles Short List					
Client ID:	PBW	Batch ID:	R23125	RunNo:	23125					
Prep Date:		Analysis Date:	12/12/2014	SeqNo:	683050	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-Dichloroethane (EDC)	ND	1.0								
Naphthalene	ND	2.0								
1-Methylnaphthalene	ND	4.0								
2-Methylnaphthalene	ND	4.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	9.2		10.00		92.2	70	130			
Surr: 4-Bromofluorobenzene	11		10.00		106	70	130			
Surr: Dibromofluoromethane	8.5		10.00		84.9	70	130			
Surr: Toluene-d8	9.8		10.00		98.4	70	130			

Sample ID	100ng lcs	SampType:	LCS	TestCode:	EPA Method 8260: Volatiles Short List					
Client ID:	LCSW	Batch ID:	R23125	RunNo:	23125					
Prep Date:		Analysis Date:	12/12/2014	SeqNo:	683051	Units:	µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	22	1.0	20.00	0	110	70	130			
Toluene	22	1.0	20.00	0	111	70	130			
Surr: 1,2-Dichloroethane-d4	9.9		10.00		99.2	70	130			
Surr: 4-Bromofluorobenzene	11		10.00		112	70	130			
Surr: Dibromofluoromethane	9.6		10.00		96.5	70	130			
Surr: Toluene-d8	10		10.00		103	70	130			

Sample ID	1412522-001a ms	SampType:	MS	TestCode:	EPA Method 8260: Volatiles Short List					
Client ID:	MW-5	Batch ID:	R23125	RunNo:	23125					
Prep Date:		Analysis Date:	12/12/2014	SeqNo:	683057	Units:	µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	13000	100	2000	10790	109	70	130			E
Toluene	3000	100	2000	938.2	102	70	130			
Surr: 1,2-Dichloroethane-d4	990		1000		98.7	70	130			
Surr: 4-Bromofluorobenzene	1100		1000		107	70	130			
Surr: Dibromofluoromethane	850		1000		84.8	70	130			
Surr: Toluene-d8	1000		1000		102	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 greater than 2.  
RL Reporting Detection Limit



# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1412522

18-Dec-14

**Client:** Terracon  
**Project:** Fairview Station

Sample ID	1412522-001a msd			SampType:	MS		TestCode:	EPA Method 8260: Volatiles Short List			
Client ID:	MW-5			Batch ID:	R23125		RunNo:	23125			
Prep Date:				Analysis Date:	12/12/2014		SeqNo:	683058		Units:	µg/L
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Benzene	12000	100	2000	10790	75.8	70	130			E	
Toluene	2900	100	2000	938.2	97.9	70	130				
Surr: 1,2-Dichloroethane-d4	950		1000		94.9	70	130				
Surr: 4-Bromofluorobenzene	1000		1000		102	70	130				
Surr: Dibromofluoromethane	820		1000		82.4	70	130				
Surr: Toluene-d8	1000		1000		100	70	130				

Sample ID	5mL rb	SampType: MBLK		TestCode: EPA Method 8260: Volatiles Short List						
Client ID:	PBW	Batch ID: R23141		RunNo: 23141						
Prep Date:		Analysis Date: 12/15/2014		SeqNo: 683842		Units: µg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Surr: 1,2-Dichloroethane-d4	8.8		10.00		88.0	70	130			
Surr: 4-Bromofluorobenzene	11		10.00		107	70	130			
Surr: Dibromofluoromethane	8.3		10.00		82.8	70	130			
Surr: Toluene-d8	11		10.00		108	70	130			

Sample ID	100ng lcs		SampType: LCS		TestCode: EPA Method 8260: Volatiles Short List					
Client ID:	LCSW		Batch ID: R23141		RunNo: 23141					
Prep Date:			Analysis Date: 12/15/2014		SeqNo: 683843		Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	19	1.0	20.00	0	94.0	70	130			
Surr: 1,2-Dichloroethane-d4	9.3		10.00		92.7	70	130			
Surr: 4-Bromofluorobenzene	11		10.00		106	70	130			
Surr: Dibromofluoromethane	8.8		10.00		88.4	70	130			
Surr: Toluene-d8	10		10.00		104	70	130			

Sample ID	5mL rb	SampType: MBLK			TestCode: EPA Method 8260: Volatiles Short List					
Client ID:	PBW	Batch ID: R23204			RunNo: 23204					
Prep Date:		Analysis Date: 12/17/2014			SeqNo: 685376		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-Dichloroethane (EDC)	ND	1.0								
Naphthalene	ND	2.0								

### Qualifiers:

- |   |  |
|---|--|
| * Value exceeds Maximum Contaminant Level.        | B Analyte detected in the associated Method Blank    |
| E Value above quantitation range                  | H Holding times for preparation or analysis exceeded |
| J Analyte detected below quantitation limits      | ND Not Detected at the Reporting Limit               |
| O RSD is greater than RSDlimit                    | P Sample pH greater than 2.                          |
| R RPD outside accepted recovery limits            | RL Reporting Detection Limit                         |
| S Spike Recovery outside accepted recovery limits |  |

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1412522

18-Dec-14

**Client:** Terracon  
**Project:** Fairview Station

Sample ID	5mL rb	SampType:	MBLK	TestCode:	EPA Method 8260: Volatiles Short List					
Client ID:	PBW	Batch ID:	R23204	RunNo:	23204					
Prep Date:		Analysis Date:	12/17/2014	SeqNo:	685376	Units:	µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1-Methylnaphthalene	ND	4.0								
2-Methylnaphthalene	ND	4.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	11		10.00		106	70	130			
Surr: 4-Bromofluorobenzene	11		10.00		112	70	130			
Surr: Dibromofluoromethane	9.3		10.00		93.0	70	130			
Surr: Toluene-d8	11		10.00		111	70	130			

Sample ID	100ng lcs	SampType:	LCS	TestCode:	EPA Method 8260: Volatiles Short List					
Client ID:	LCSW	Batch ID:	R23204	RunNo:	23204					
Prep Date:		Analysis Date:	12/17/2014	SeqNo:	685378	Units:	µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	22	1.0	20.00	0	110	70	130			
Toluene	22	1.0	20.00	0	109	70	130			
Surr: 1,2-Dichloroethane-d4	9.9		10.00		98.6	70	130			
Surr: 4-Bromofluorobenzene	11		10.00		111	70	130			
Surr: Dibromofluoromethane	9.2		10.00		92.1	70	130			
Surr: Toluene-d8	10		10.00		100	70	130			

### Qualifiers:

* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
E Value above quantitation range	H Holding times for preparation or analysis exceeded
J Analyte detected below quantitation limits	ND Not Detected at the Reporting Limit
O RSD is greater than RSDlimit	P Sample pH greater than 2.
R RPD outside accepted recovery limits	RL Reporting Detection Limit
S Spike Recovery outside accepted recovery limits	

Client Name: TER-Alb

Work Order Number: 1412522

RcptNo: 1

Received by/date:

CS 12/10/14

Logged By: Celina Sessa

12/10/2014 4:09:00 PM

*Celina Sessa*

Completed By: Celina Sessa

12/10/2014 4:23:08 PM

*Celina Sessa*

Reviewed By:

A 12/11/14

## Chain of Custody

1. Custody seals intact on sample bottles?

Yes ☐

No ☐

Not Present ☒

2. Is Chain of Custody complete?

Yes ☒

No ☐

Not Present ☐

3. How was the sample delivered?

Client

## Log In

4. Was an attempt made to cool the samples?

Yes ☒

No ☐

NA ☐

5. Were all samples received at a temperature of >0° C to 6.0° C

Yes ☒

No ☐

NA ☐

6. Sample(s) in proper container(s)?

Yes ☒

No ☐

7. Sufficient sample volume for indicated test(s)?

Yes ☒

No ☐

8. Are samples (except VOA and ONG) properly preserved?

Yes ☒

No ☐

9. Was preservative added to bottles?

Yes ☐

No ☒

NA ☐

10. VOA vials have zero headspace?

Yes ☒

No ☐

No VOA Vials ☐

11. Were any sample containers received broken?

Yes ☐

No ☒

12. Does paperwork match bottle labels?

Yes ☒

No ☐

(Note discrepancies on chain of custody)

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?

Yes ☒

No ☐

(If no, notify customer for authorization.)

# of preserved  
bottles checked  
for pH:

(<2 or >12 unless noted)

Adjusted? \_\_\_\_\_

Checked by: \_\_\_\_\_

## Special Handling (if applicable)

16. Was client notified of all discrepancies with this order?

Yes ☐

No ☐

NA ☒

Person Notified:

Date:

By Whom:

Via:

☐ eMail

☐ Phone

☐ Fax

☐ In Person

Regarding:

Client Instructions:

17. Additional remarks:

## 18. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	2.4	Good	Not Present			



# HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

## Analysis Request

BTX + MTBE + TMBs (8021)		BTX + MTBE + TPH (Gas only)		TPH 8015B (GRO / DRO / MRO)		TPH (Method 418.1)		EDB (Method 504.1)		PAH's (8310 or 8270 SIMS)		RCRA 8 Metals		Anions (F, Cl, NO <sub>3</sub> , NO <sub>2</sub> , PO <sub>4</sub> , SO <sub>4</sub> )		8081 Pesticides / 8082 PCB's		8260B (VOA)		8270 (Semi-VOA)	
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email or Fax#:		Project Manager:	
QA/QC Package:		Sample Temperature:	
<input type="checkbox"/> Standard <input type="checkbox"/> Accreditation <input type="checkbox"/> NELAP <input type="checkbox"/> EDD (Type)		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No 2.4°C	
<input type="checkbox"/> Level 4 (Full Validation) <input type="checkbox"/> Other		HEAL No.	
Date		1412522	
Time		-001	
Matrix		-002	
Sample Request ID		-003	
AS		-004	
12/9/14 1013		-005	
12/9/14 0955		-006	
12/9/14 1050		-007	
12/9/14 1132		-008	
12/9/14 1210		-009	
12/9/14 1000		-010	
12/9/14 1321		-011	
12/10/14 1300			
12/10/14 1335			
DC			
Trip Blank			
12/10/14 1101			
12/10/14 1101			