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**REPORT OF 2013 GROUNDWATER REMEDIATION ACTIVITIES
FORMER SURFACE IMPOUNDMENTS
TRANSWESTERN COMPRESSOR STATION NO. 9
(ROSWELL COMPRESSOR STATION)
6381 NORTH MAIN STREET
ROSWELL, CHAVES COUNTY, NEW MEXICO
NMOCD GW-052
NMED 1656; EPA ID NMD986676955**

PREPARED FOR:

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EarthCon Project No. 02.20120037.00

March 11, 2014

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Former Surface Impoundments
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(Roswell Compressor Station)
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5051 Westheimer Rd.
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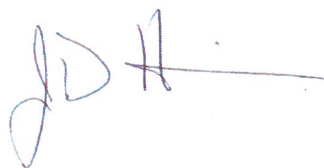
EarthCon Consultants, Inc. is submitting to Transwestern Pipeline Company, LLC (Transwestern) this *Report of 2013 Groundwater Remediation Activities* for the Roswell Compressor Station in Chaves County, New Mexico. This report has been prepared for the exclusive use of and reliance by Transwestern, and may not be relied upon by any other person or entity without the express written authorization of EarthCon.

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Signed:



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Date: 03.11.2014

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**Certification Statement
40 CFR 270.11(d)(1)**

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision according to a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted, is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.


Richard A Spell
Waste, Water, & Remediation Manager
Transwestern Pipeline, LLC

3-10-2014
Date

EXECUTIVE SUMMARY

This *Report of 2013 Groundwater Remediation Activities* was prepared by EarthCon Consultants, Inc. (EarthCon) on behalf of Transwestern Pipeline Company, LLC (Transwestern) for the Former Surface Impoundments at the Transwestern Compressor Station No. 9 (also known as the Roswell Compressor Station) property located at 6381 North Main Street in Roswell, New Mexico. On March 13, 2013, the New Mexico Environment Department (NMED) issued a Stipulated Order (SO) that governs activities associated with the Former Surface Impoundments. Therefore, this annual groundwater report was developed in general accordance with *Section IX – Reporting Requirements* of the SO.

The remediation system in operation at the Roswell Compressor Station consists of soil vapor extraction (SVE) and treatment, and groundwater/phase separated hydrocarbon (PSH) recovery and treatment. The recovery system well network currently consists of nine SVE-only wells and 35 MPE wells. In August 2013, six of the original MPE wells were plugged and abandoned (P&A) and four new MPE wells were installed. Currently, a network of 29 monitoring wells (28 installed in the Uppermost Aquifer and one installed in the deeper regional San Andres Formation Aquifer) is used to assess groundwater conditions within the Project Area. In August 2013 nine shallow monitoring wells and two deep monitoring wells were P&A, and four new monitoring wells were installed.

During 2013, the SVE portion of the recovery system operated continuously, and the groundwater/PSH recovery portion operated from mid-April to late-July, as groundwater/PSH recovery operations were suspended to allow for the acquisition of additional water rights.

As part of remediation system operation monthly air samples were collected from the influent stream to the Baker Furnaces to estimate hydrocarbon removal rates; monthly recovered water samples were collected at different stages of the treatment train to assess treatment efficiency and compliance with discharge requirements; and semiannual groundwater sampling was conducted in April and November to assess groundwater conditions.

The remediation system recovered, approximately 26,000 pounds of hydrocarbons in 2013 through the SVE system operation. The groundwater/PSH recovery system recovered, treated and discharged 100,370 gallons of groundwater and recovered approximately 723 gallons of PSH. Groundwater was treated and dispersed on-site via a permitted irrigation

system; analytical data indicated that the Discharge Permit NMOCD GW-052 requirements were met. PSH accumulated in 2012 and 2013 was removed and sent off-site for recycling, at a permitted facility.

Consistent with previous year's observations the November 2013 gauging data identified a Northern and a Southeastern component of groundwater flow in the Uppermost Aquifer beneath the Project Area.

Analytical data from the semiannual groundwater monitoring events indicated that only Benzene and 1,1-Dichloroethene (1,1-DCE) were detected at concentrations exceeding the applicable cleanup levels, and that delineation to applicable New Mexico Water Quality Control Commission's (NMWQCC) standards and the EPA Maximum Contaminant Levels (MCLs) is maintained within the existing monitoring network.

The findings from the 2013 groundwater remediation system operation and monitoring activities indicate that changes to the current remediation actions as described in the May 2013 *RWP* are not required. Transwestern will continue negotiations to obtain water rights in order to resume groundwater/PSH recovery system operation.

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1.0 INTRODUCTION

This *Report of 2013 Groundwater Remediation Activities* was prepared by EarthCon Consultants, Inc. (EarthCon) on behalf of Transwestern Pipeline Company, LLC (Transwestern) to document on-going corrective actions associated with the Former Surface Impoundments at the Transwestern Compressor Station No. 9 (also known as the Roswell Compressor Station) property, located at 6381 North Main Street in Roswell, New Mexico (see **Figure 1-1**, Site Location Map). For the purposes of this report, the term “Facility” will be used to denote the entire compressor station and “Project Area” will be used to refer to the remediation area including the northeastern corner of the compressor station and the adjacent land leased from the State of New Mexico Trust (see **Figure 1-2**).

On March 13, 2013, the New Mexico Environment Department (NMED) issued a Stipulated Order (SO) that governs activities conducted within the Project Area. Therefore, this document was developed in general accordance with *Section IX – Reporting Requirements* of the SO.

The Facility is an active natural gas compression station, owned and operated by Transwestern, located approximately 8 miles north of the city center of Roswell, New Mexico along the eastern side of U.S. Highway 285. The Facility occupies approximately 77 acres of land in Section 21 (SW¼ of the SW¼) and Section 28 (NW¼ of the NW¼) of Township 9S and Range 24E, Chaves County, New Mexico (see **Figure 1-1**). Access is via U.S. Highway 285, and the entire Facility is secured by a chain-link fence with locked gates.

The Project Area encompasses a portion of the northwest corner of the Facility, and extends off-site to the northeast and east of the Facility on a portion of a 40-acre easement leased from the New Mexico State Land Office (SLO) State Trust Land for remediation and monitoring purposes (see **Figure 1-2**). A majority of the off-site extraction and monitoring wells are located within a fenced perimeter.

The Facility is located along the Transwestern natural gas pipeline that extends from Texas to the Arizona/California border, and serves as the district offices for Transwestern's New Mexico operations. The compressor station services two 30-inch Mainlines and two 24-inch Lateral pipelines. The primary function of the compressor station is to boost the pressure of the natural gas stream by means of compressors powered by natural gas-fueled internal combustion engines. Additionally, the Facility conducts gas transmission line maintenance operations that generate waste hydrocarbons, including condensate, pigging and other wastes, which were historically

discharged to the Former Surface Impoundments (historically referred to as Pits 1 and 2). Wastes generated by current pipeline maintenance activities are temporarily stored in aboveground storage tanks at the Facility for off-site recycling.

Following removal of waste from the Former Surface Impoundments and backfilling with clean soil in 2001, a soil and groundwater remediation system was designed and installed.

The remediation system consists of soil vapor extraction (SVE) and treatment, and groundwater/phase separated hydrocarbon (PSH) recovery and treatment (see remediation system layout and components in **Figures 1-3** and **1-4**). Soil vapor is extracted via SVE-only wells and Multi-Phase Extraction (MPE) wells; with the extracted vapors routed to two Baker Furnace thermal oxidizer units for treatment. Groundwater and PSH are recovered via 10 pneumatic pumps installed in MPE wells; the recovered fluids are conveyed to a 90-barrel aboveground storage tank that serves as surge tank and separation unit. Separated groundwater is conveyed to a treatment train consisting of an air stripper followed by two granulated activated carbon (GAC) units in series. The treated water is then conveyed to an irrigation water tank for dispersal via a permitted irrigation system (Discharge Permit GW-052). PSH separated in the surge tank is removed and sent off-site to a permitted facility for recycling. The SVE portion of the system started operation in March 2003, while operation of the groundwater/PSH recovery portion of the system started in April 2004.

Typically, the SVE portion of the system operates continuously, and groundwater/PSH recovery occurs from spring to fall, with brief shutdowns for repair and maintenance. In addition, the system is shutdown for 48 to 72 hours in preparation for semiannual monitoring. During 2013 the groundwater/PSH recovery portion of the system has halted in late July when Transwestern was made aware by the State Engineers Office that additional water rights were needed in order to continue with the current extraction rates. Transwestern has since been actively working towards acquiring new water rights in order to resume recovery system operation.

The recovery system well network currently consists of nine SVE-only wells and 35 MPE wells. In August 2013, six of the original MPE wells (MPE-1 through MPE-6) were plugged and abandoned (P&A) and four new MPE wells (MPE-38 through MPE-41) were installed (see **Figure 1-5**). P&A activities were documented in a December 2013 *Investigation Report*. Installation of the new MPE wells is documented in this report.

Currently, a network of 29 monitoring wells (28 installed in the Uppermost Aquifer and one installed in the deeper regional San Andres Formation Aquifer) is used to assess groundwater conditions

within the Project Area. In August 2013 nine shallow monitoring wells (MW-5, MW-6, MW-8, MW-9, MW-18, MW -19, MW-31, MW-36 and MW-38) and two deep monitoring wells (MW-23D and MW-25D) were P&A, and four new monitoring wells (MW-39 through MW-42) were installed (see **Figure 1-5**). Monitoring well P&A and installation activities were documented in the December 2013 *Investigation Report*.

This report documents groundwater remediation and monitoring activities conducted at the Project Area during year 2013. Field activities were conducted by Cypress Engineering Services, Inc. Document organization is as follows: **Section 1** (this section) contains introductory information; **Section 2** lists the scope of activities documented; **Section 3** identifies the regulatory criteria used in the data evaluations; **Section 4** describes semiannual groundwater monitoring results; **Section 5** summarizes recovery system monitoring results; and **Section 6** provides summary and conclusions for the reporting period. Tables, figures, and appendices follow the text of the report.

2.0 SCOPE OF ACTIVITIES

The remediation system is monitored 5 to 7 days a week to assess for continued operation of components, identify maintenance needs, and for early detection of potential leaks. As part of remediation system operation the following sampling activities were conducted in 2013:

- Monthly air samples were collected from the influent stream to the Baker Furnaces to estimate hydrocarbon removal rates;
- Monthly recovered water samples were collected at different stages of the treatment train to assess treatment efficiency and compliance with discharge requirements;
- Semiannual groundwater sampling was conducted in April and November, per the existing Groundwater Monitoring and Sampling Plan to assess groundwater conditions.

3.0 REGULATORY CRITERIA

Groundwater Cleanup Levels were identified for the purpose of evaluating analytical data for groundwater samples collected during the semiannual sampling events, in accordance with Section VI.A. of the March 2013 SO for the Facility. The groundwater cleanup levels shown in **Table 4-4** were identified as follows:

Cleanup Levels were identified for the target *constituents of concern* (COCs) using the New Mexico Water Quality Control Commission's (NMWQCC) standards and the EPA Maximum Contaminant Levels (MCLs); where standards exist in both regulations, the lower of the two values was used. If neither a WQCC standard nor an MCL has been established for a COC, then the cleanup level should be identified as the screening level for tap water in Table A-1 of the February 2012 NMED Risk Assessment Guidance for Site Investigation and Remediation, or the EPA Region 6 Screening Levels for tap water.

In accordance with the January 2012 Discharge Permit (GW-052) for the Facility, the analytical data for effluent samples from the groundwater treatment system were evaluated by comparison against the NMWQCC standards of 10 ug/L for Benzene, 750 ug/L for Ethylbenzene and Toluene, and of 620 ug/L for Xylenes.

4.0 GROUNDWATER MONITORING & CHEMICAL ANALYTICAL DATA RESULTS

A network of 29 monitoring wells, 28 installed in the Uppermost Aquifer and one installed in the deeper regional San Andres Formation Aquifer, is used to assess groundwater conditions within the Project Area. Well locations are shown in **Figure 1-5** and a summary of well construction information is provided in **Table 4-1**.

In April and November 2013, groundwater gauging and sampling activities were conducted. In order to allow for the groundwater levels to stabilize, the remediation system was shutdown for a period of 48 to 72 hours, prior to gauging and sampling. Copies of the field documentation for these monitoring events are included in **Appendix A**.

Groundwater elevations shown in **Table 4-2** were calculated using the November 2013 gauging data and top-of-casing data from a survey conducted by PR Patton & Associates in October 2013. The groundwater elevation map for the Uppermost Aquifer presented in **Figure 4-1** shows that groundwater beneath the Project Area flows in two directions, indicating the presence of a complex water-bearing matrix with areas of preferential flow. This pattern is consistent with previous years' observations.

Based on the November 2013 gauging data, a groundwater gradient of 0.014 ft/ft was calculated for the Northern component of groundwater flow, between monitoring wells MW-12 and MW-40, while a gradient of 0.006 ft/ft was calculated for the Southeastern component of groundwater flow, between monitoring wells MW-16 and MW-35. A review of historical gauging data for the current monitoring wells in **Table 4-2** indicates that between 2009 and 2013 the Uppermost Aquifer has experienced an overall drop in water level ranging from 0.11 ft in MW-21 to 5.47 ft in MW-7, with a general average drop of 1.48 ft. The water levels in MW-24D, installed in the regional aquifer have experienced an average drop of 6.14 ft between 2009 and 2013.

A review of gauging data in **Table 4-2** indicates that for the November 2013 event, the average PSH thickness was 1.75 ft, with a maximum of 6.14 ft measured in the recently installed MPE-41. Data in **Table 4-2** also indicates that only one (SVE-23) of the nine SVE wells installed in the Perched Zone continues to exhibit PSH. The areal distribution of PSH in the Uppermost Aquifer, as measured during the April and November 2013 monitoring events is depicted in **Figures 4-2** and **4-3**. As illustrated in Figure 6-4 of the May 2013 *RWP* (included in

Appendix B for ease of reference), between 2003 and 2012 the areal extent of the PSH extent had reduced by almost 50%.

Groundwater samples were collected from selected monitoring wells in accordance with the schedule included in the *Sampling and Analysis Plan (SAP)* for the Facility, and shown in **Table 4-3**. Groundwater samples were analyzed for Benzene, Toluene, Ethylbenzene and Xylenes (BTEX) via EPA method 8021B or for volatile organic compounds (VOCs) via EPA method 8260B in accordance with the *SAP*. Analytical results for are summarized in **Table 4-4** and laboratory data packages are included in **Appendix C**. Purged groundwater and equipment decontamination water were collected in a clean 55-gallon drum during sampling and then transferred to the surge tank for on-site treatment and disposal as described above.

Quality control samples including sample duplicates, field blanks, equipment blanks, rinsate blanks and trip blanks were collected during the semiannual sampling events. Analytical results for the blanks are included in the laboratory data packages in **Appendix C**, and indicate that there were no target analyte detections. The relative percent difference (RPD) of the reported concentrations between the original samples and the duplicates were calculated and found to be below 20%. These RPD calculations are also included in **Appendix C**.

Analytical data indicates that only Benzene and 1,1-Dichloroethene (1,1-DCE) were detected at concentrations exceeding the applicable cleanup levels, and that delineation is maintained within the existing monitoring network. The areal distribution of Benzene, BTEX and 1,1-DCE as measured during the April and November 2013 monitoring events is depicted in **Figures 4-4 through 4-9**.

Available analytical data for Benzene, BTEX and 1,1-DCE for the 1997-2013 period was evaluated to assess overall plume area difference and stability. Figures 4 and 10 in **Appendix B** illustrate that the Benzene plume's footprint has experienced a significant decrease during the period (from 8.7 to 1.7 acres; an 80% reduction), and that plume stability analyses resulted in the identification of a decreasing trend for the Benzene plume. Similarly, evaluation of the BTEX plume in Figures 3 and 9 in **Appendix B** also illustrate a footprint reduction of 79% and a decreasing trend. Figures 2 and 8 in **Appendix B** show that the 1,1-DCE plume has remained localized within the northern portion of the Project Area. The plume calculations indicate an initial increase from the 1997 values to the observed maximum area and average concentration in 2001 and 2005, respectively, followed by decreasing values. Between 2001 and 2013 the plume footprint experienced a 46% decrease. Plume stability

analyses using data for the 2001-2013 period resulted in the identification of a decreasing trend for the 1,1-DCE plume.

The addition of the new extraction wells (especially in the vicinity of MW-12) and the planned redistribution of the recovery pumps discussed in **Section 6.0** are expected to have a positive impact in further reducing the PSH, Benzene/BTEX and 1,1-DCE plumes in the northern and central portions portion of the Project Area.

5.0 RECOVERY SYSTEM MONITORING

During 2013, the SVE portion of the recovery system operated continuously, and the groundwater/PSH recovery portion operated from mid-April to late-July. As discussed before, groundwater/PSH recovery operations were suspended earlier than typically expected, to allow for the acquisition of additional water rights to operate the groundwater extraction portion of the remediation system. In addition to brief shutdowns for repair and maintenance, the SVE system was shutdown in April and November 2013 for 48 to 72 hours to allow for water level stabilization prior to semiannual monitoring. The average run time for the Baker Furnaces was 7588 hours in 2013 (or 87%).

Monthly air samples collected from the influent stream to the Baker Furnaces were analyzed for total petroleum hydrocarbons (TPH) in the gasoline range organics (GRO) via EPA method 8015D. Analytical data summarized in **Tables 5-1** and **5-2** indicate that while running, the SVE system recovered approximately 22,500 pounds (or about 3,500 gallon-equivalents) of total non-methane hydrocarbons in 2013. Laboratory data packages are included in **Appendix D**.

Operation records for the irrigation system presented in **Table 5-3** indicate that the volume of groundwater recovered, treated and discharged in 2013 was 100,370 gallons. In addition, approximately 723 gallons of PSH accumulated in the surge tank in 2013. On August 23, 2013, approximately 1679 gallons (40 barrels) of PSH, accumulated during system operation in 2012 and 2013, were removed from the surge tank and transported to Gandy Corporation's plant in Lovington, New Mexico, for recycling via fuel blending (see removal documentation in **Appendix E**).

Monthly samples were collected in April, May and July from the groundwater treatment system at four locations or stages in the train: at the inlet of the air-stripper (or pre-treatment); at the outlet of the air stripper; at the outlet of the first GAC unit; and at the outlet of the irrigation water

holding tank (or post-treatment). Samples from the first three treatment stages were analyzed for BTEX via method 8021B, and the post-treatment sample was analyzed for anions via EPA method 300.0, dissolved metals via EPA method 200.7, and VOCs via EPA method 8260B. Analytical data is summarized in **Table 5-4** and laboratory data packages are included in **Appendix D**. The analytical data for these samples demonstrates that the treatment system is effectively removing the hydrocarbon constituents present in the recovered groundwater. Further, analytical data for the post-treatment sample indicate that Benzene, Ethylbenzene, Toluene and Xylenes were reported as not detected above the laboratory reporting limits (RLs). Since the RLs for Benzene, Ethylbenzene, Toluene and Xylenes are lower than the NMWQCC standards, the remediation system met the groundwater Discharge Permit requirements.

6.0 RECOVERY SYSTEM MODIFICATIONS

Recovery system modifications described in the March 2013 *Amended Investigation Work Plan (IWP)* and the May 2013 *Amended Remediation Work Plan (RWP)* are underway. In August 2013, six MPE wells (MPE-1 through MPE-6, formerly located in Circuit A) that were outside of the current remediation area were plugged and abandoned, and four new MPE wells were installed in areas of recoverable PSH. MPE P&A activities were documented in a December 2013 *Investigation Report*. Installation of the new MPEs is documented in **Appendix F** of this report.

Transwestern has initiated procurement and will soon commence construction activities associated with piping modifications to dismantle the plugged portion of Circuit A and incorporate the new MPEs to the extraction/recovery system. Piping modifications will also include adding valves at locations that will allow independent operation and monitoring of wells or groups of wells. Proposed changes in recovery pump location will be implemented when system operation resumes.

Transwestern plans to implement additional groundwater sampling in wells that accumulate PSH with the purpose of assessing actual loading of the existing dissolved plume. Several options for well preparation and sampling are being considered for this task including:

- Conducting PSH baildown prior to sampling;
- Using a conduit to create a temporary PSH barrier;
- Using top-loading bailers for sample collection;

- Using depth-specific sampling tubes (Kemmerer or similar);
- Using ice-covered conduits and/or samplers.

These techniques will be tested, independently or combined, to identify the best match for the Project Area.

7.0 SUMMARY OF FINDINGS AND CONCLUSIONS

Based on the information presented in the previous sections regarding the operation of the remediation system installed at the Project Area, the following findings and conclusions are offered:

- The November 2013 gauging data identified a Northern component of groundwater flow with a gradient of 0.014 ft/ft, and a Southeastern component of groundwater flow with a gradient of 0.006 ft/ft. This pattern is consistent with previous years' observations.
- Historical gauging data indicates that between 2009 and 2013, monitoring wells in the Uppermost Aquifer have experienced an average drop of 1.48 ft in water level, while the average water level drop in the deep well is 6.14 ft.
- Analytical data from the semiannual groundwater monitoring events indicates that only Benzene and 1,1-Dichloroethene (1,1-DCE) were detected at concentrations exceeding the applicable cleanup levels, and that delineation is maintained within the existing monitoring network.
- During 2013, the SVE portion of the recovery system operated continuously, and the groundwater/PSH recovery portion operated from mid-April to late-July, as groundwater/PSH recovery operations were suspended to allow for the acquisition of additional water rights to continue operation.
- The SVE system recovered approximately 22,500 pounds (or about 3,500 gallon-equivalents) of hydrocarbons in 2013.
- The groundwater/PSH recovery system recovered, treated and discharged 100,370 gallons of groundwater in 2013.
- The groundwater/PSH recovery system recovered approximately 723 gallons of PSH in 2013.
- Samples collected in April, May and July 2013 from the groundwater treatment system demonstrate that the treatment system is effectively removing the hydrocarbon constituents present in the recovered groundwater.

- Further, the post-treatment sample indicates that the Discharge Permit's requirements for Benzene, Ethylbenzene, Toluene and Xylenes were met.
- The addition of the new extraction wells and the planned re-distribution of recovery pumps are expected to have a positive impact in further reducing the Benzene/BTEX and 1,1-DCE plumes in the northern and central portions portion of the Project Area.
- Transwestern plans to implement additional groundwater sampling in wells that accumulate PSH with the purpose of assessing actual loading of the existing dissolved plume.

Transwestern will continue negotiations to obtain water rights in order to resume groundwater/PSH recovery system operation in the spring. The findings summarized above indicate that changes to the current remediation actions as described in the May 2013 *RWP* are not required.

TABLES

Table 4-1. Summary of Well Completion Details
Transwestern Compressor Station No. 9 - Roswell, NM

Well	Date of Completion	Total Depth of Boring (ft bgs)	Measured Depth of Well (ft from TOC)	Surface Completion Type	Casing Diameter (in.)	Screen Interval (ft bgs)	Top of Sand Pack (ft bgs)
MW-1B	04/21/93	65.5	64.65	Flush Mount	2	55-65	53
MW-2	04/21/93	65	61.61	Flush Mount	2	55-65	53
MW-3	04/26/93	72.5	na	Flush Mount	2	60-70	58
MW-5	04/28/93	70	69.35	Flush Mount	2	60-70	58
MW-6	12/01/94	79	na	Flush Mount	2	59.9-74.9	57.1
MW-7	08/22/95	70.5	na	Flush Mount	2	50-70	48.1
MW-8	08/16/95	76.8	73.80	Flush Mount	2	59-74	57.2
MW-9	08/18/95	70	69.75	Flush Mount	2	50-70	47.9
MW-10	09/10/96	74.5	72.15	Flush Mount	2	57-72	55.3
MW-11	09/16/96	72	68.30	Flush Mount	2	54-69	51.5
MW-12	09/11/96	64	na	Flush Mount	2	44-64	42
MW-13	09/13/96	72	na	Flush Mount	2	57-72	55
MW-14	09/10/96	64.5	na	Flush Mount	2	49.5-64.5	48
MW-15	09/20/96	68.5	na	Flush Mount	2	38.5-68.5	37
MW-16	09/19/96	71.4	71.46	Flush Mount	2	46.4-71.4	45.5
MW-17	09/21/96	70	na	Flush Mount	2	53-68	50.9
MW-18	09/25/96	71	na	Flush Mount	2	54-69	51.6
MW-19	09/26/96	69.5	na	Flush Mount	2	54.5-69.5	51
MW-20	08/04/97	64	na	Flush Mount	2	46.8-61.8	43.9
MW-21	08/06/97	75	na	Flush Mount	2	54-74	51.7
MW-22	08/04/97	68	na	Flush Mount	2	50-65	49
MW-26	09/01/98	65	na	Flush Mount	2	43-63	41
MW-27	09/02/98	75	na	Flush Mount	2	55-75	53
MW-28	11/14/00	75	74.81	Flush Mount	2	60-75	58
MW-29	11/18/00	75	74.45	Flush Mount	2	60-75	58
MW-30	11/16/00	75	74.70	Flush Mount	2	60-75	58
MW-31	09/21/01	75	74.55	Flush Mount	2	60-75	58
MW-32	09/23/01	75	74.20	Flush Mount	2	60-75	58
MW-33	09/22/01	75	74.60	Flush Mount	2	60-75	58
MW-34	01/06/03	79	75.75	Flush Mount	2	49-79	46
MW-35	01/07/03	79	76.71	Flush Mount	2	49-79	46

Table 4-1. Summary of Well Completion Details
Transwestern Compressor Station No. 9 - Roswell, NM

Well	Date of Completion	Total Depth of Boring (ft bgs)	Measured Depth of Well (ft from TOC)	Surface Completion Type	Casing Diameter (in.)	Screen Interval (ft bgs)	Top of Sand Pack (ft bgs)
MW-36	09/29/03	75	74.35	Flush Mount	2	55-75	53
MW-37	09/29/03	70	69.61	Flush Mount	2	50-70	48
MW-38	09/30/03	68	67.76	Flush Mount	2	48-68	46
MW-39	08/06/13	70	70.00	Flush Mount	2	50-70	48
MW-40	08/05/13	70	70.25	Flush Mount	2	50-70	48
MW-41	08/05/13	70	70.20	Flush Mount	2	50-70	48
MW-42	08/06/13	75	75.93	Flush Mount	2	55-75	51
MW-23D	07/29/97	194	na	Flush Mount	4	167-187	164
MW-24D	09/10/98	180	na	Flush Mount	4	146-176	143
MW-25D	09/09/98	150	na	Flush Mount	4	119-149	117
SVE-1A	09/21/96	30	29.65	Flush Mount	2	20-30	19
SVE-2A	09/20/96	30	29.83	Flush Mount	2	20-30	17.5
SVE-3	09/16/96	62.3	61.90	Flush Mount	2	32.0-62.3	29.5
SVE-22	11/07/02	35	33.20	Flush Mount	2	25-35	23
SVE-23	11/07/02	39	36.70	Flush Mount	2	25-35	22
SVE-24	11/13/02	30	28.85	Flush Mount	2	20-30	18
SVE-25	11/04/02	34	53.30	Flush Mount	2	24-34	21.6
SVE-26	11/05/02	35	32.45	Flush Mount	2	24-34	22
SVE-27	11/01/02	35	33.90	Flush Mount	2	20-35	18
SVE-28	10/29/02	35	36.00	Flush Mount	2	25-35	23
SVE-30	10/25/02	45	44.00	Flush Mount	2	20-45	18
SVE-31	10/28/02	35	33.95	Flush Mount	2	25-35	23
MPE-1	12/06/02	79	75.60	Flush Mount	4	54-74	49
MPE-2	12/24/02	79	71.75	Flush Mount	4	54-79	51
MPE-3	12/21/02	79	75.95	Flush Mount	4	54-79	51
MPE-4	12/19/12	79	78.30	Flush Mount	4	54-79	51
MPE-5	12/16/02	79	77.70	Flush Mount	4	59-79	56
MPE-6	12/17/02	79	75.00	Flush Mount	4	54-79	51
MPE-7	12/13/02	79	78.41	Flush Mount	4	54-74	51
MPE-8	12/14/02	79	77.55	Flush Mount	4	59-79	50
MPE-9	12/18/02	79	73.60	Flush Mount	4	54-74	51

**Table 4-1. Summary of Well Completion Details
Transwestern Compressor Station No. 9 - Roswell, NM**

Well	Date of Completion	Total Depth of Boring (ft bgs)	Measured Depth of Well (ft from TOC)	Surface Completion Type	Casing Diameter (in.)	Screen Interval (ft bgs)	Top of Sand Pack (ft bgs)
MPE-10	12/09/02	79	75.30	Flush Mount	4	54-74	50
MPE-11	12/07/02	79	79.05	Flush Mount	4	54-74	50
MPE-12	12/06/02	79	75.40	Flush Mount	4	54-74	51
MPE-13	12/03/02	79	77.60	Flush Mount	4	54-74	50.7
MPE-14	11/25/02	79	76.80	Flush Mount	4	54-74	51
MPE-15	11/22/02	79	79.25	Flush Mount	4	59-74	54
MPE-16	11/27/02	79	78.20	Flush Mount	4	54-74	49
MPE-17	11/20/02	75	76.10	Flush Mount	4	55-70	49
MPE-18	11/21/02	79	78.68	Flush Mount	4	58-73	55
MPE-19	11/26/02	79	74.12	Flush Mount	4	49-74	46
MPE-20	11/20/02	78	77.60	Flush Mount	4	48-73	42
MPE-21	11/19/02	69	68.90	Flush Mount	4	44-64	41.9
MPE-22	11/07/02	80	77.52	Flush Mount	4	55-80	52
MPE-23	11/06/02	80	78.41	Flush Mount	4	55-80	52
MPE-24	11/13/02	74	73.77	Flush Mount	4	49-74	46
MPE-25	11/04/02	80	77.45	Flush Mount	4	54-79	51
MPE-26	11/06/02	84	77.35	Flush Mount	4	54-84	49
MPE-27	10/31/02	79	79.40	Flush Mount	4	54-79	48
MPE-28	10/31/02	82	77.67	Flush Mount	4	46-76	43
MPE-29	11/02/02	79	78.35	Flush Mount	4	54-79	51
MPE-30	10/25/02	80	77.96	Flush Mount	4	59-79	56
MPE-31	10/28/02	80	78.80	Flush Mount	4	59-79	58
MPE-32	11/19/02	79	78.30	Flush Mount	4	44-74	39.2
MPE-33	11/18/02	79	78.00	Flush Mount	4	44-79	41.6
MPE-34	10/24/02	80	77.52	Flush Mount	4	59-79	56
MPE-35	11/15/02	79	79.21	Flush Mount	4	54-74	51
MPE-36	11/14/02	74	71.31	Flush Mount	4	44-74	41
MPE-37	11/15/02	74	73.60	Flush Mount	4	44-74	41
MPE-38	08/07/13	75	75.00	Flush Mount (pending)	4	55-75	53
MPE-39	08/08/13	75	74.30	Flush Mount (pending)	4	55-75	53

**Table 4-1. Summary of Well Completion Details
Transwestern Compressor Station No. 9 - Roswell, NM**

Well	Date of Completion	Total Depth of Boring (ft bgs)	Measured Depth of Well (ft from TOC)	Surface Completion Type	Casing Diameter (in.)	Screen Interval (ft bgs)	Top of Sand Pack (ft bgs)
MPE-40	08/08/13	75	72.60	Flush Mount (pending)	4	55-75	53
MPE-41	08/07/13	75	74.95	Flush Mount (pending)	4	55-75	53

Note:

Italics denote well plugged and abandoned (P&A) in August 2013

**Table 4-2. Summary of Groundwater Surface Elevations
Transwestern Compressor Station No. 9 - Roswell, NM**

Well ID	Sampling Date	Top of Casing (ft)	Depth to PSH (ft)	Depth to Groundwater (ft)	PSH (ft)	Groundwater Surface Elevation (ft)
MW-1 B	03/10/09	3609.96	60.46	62.20	1.74	3549.08
	10/08/09		sheen	64.18	sheen	3545.78
	01/26/10		60.32	60.60	0.28	3549.57
	03/22/10		59.82	61.86	2.04	3549.65
	04/17/11		60.18	62.05	1.87	3549.33
	12/22/11		61.01	63.24	2.23	3548.41
	04/17/12		60.65	62.45	1.80	3548.88
	10/18/12		61.88	64.21	2.33	3547.52
	01/22/13		61.38	63.55	2.17	3548.06
	04/15/13		61.24	63.10	1.86	3548.27
	11/03/13	3610.74 (h)	62.19	63.35	1.16	3548.27
MW-2	03/10/09	3611.76	(a)	59.10	(a)	3552.66
	10/08/09		(a)	60.39	(a)	3551.37
	03/22/10		(a)	59.66	(a)	3552.10
	04/17/11		(a)	59.77	(a)	3551.99
	12/22/11		(a)	59.79	(a)	3551.97
	04/17/12		(a)	60.30	(a)	3551.46
	10/18/12		(a)	61.30	(a)	3550.46
	01/22/13		(a)	61.07	(a)	3550.69
	04/15/13		(a)	61.30	(a)	3550.46
	11/03/13		3612.62 (h)	(a)	60.77	(a)
MW-3	03/10/09	3614.87	(a)	66.23	(a)	3548.64
	10/08/09		(a)	66.77	(a)	3548.10
	03/22/10		(a)	66.37	(a)	3548.50
	04/17/11		(a)	66.39	(a)	3548.48
	12/22/11		(a)	66.86	(a)	3548.01
	04/17/12		(a)	66.67	(a)	3548.20
	10/18/12		(a)	67.28	(a)	3547.59
	01/22/13		(a)	67.22	(a)	3547.65
	04/15/13		(a)	67.11	(a)	3547.76
	11/03/13		3615.75 (h)	(a)	67.47	(a)
MW-5	03/10/09	3612.77	(a)	62.93	(a)	3549.84
	10/08/09		(a)	63.15	(a)	3549.62
	03/22/10		(a)	63.31	(a)	3549.46
	04/17/11		(a)	63.56	(a)	3549.21
	12/22/11		(a)	63.93	(a)	3548.84
	04/17/12		(a)	64.06	(a)	3548.71
	10/18/12		(a)	64.38	(a)	3548.39
	01/22/13		(a)	64.51	(a)	3548.26
	04/15/13		(a)	64.56	(a)	3548.21
	*Well Plugged 08/2013					
MW-6	03/10/09	3618.62	(a)	63.21	(a)	3555.41
	10/08/09		(a)	63.32	(a)	3555.30
	03/22/10		(a)	63.46	(a)	3555.16
	12/22/11		(a)	64.17	(a)	3554.45
	04/17/12		(a)	64.25	(a)	3554.37
	10/18/12		(a)	64.58	(a)	3554.04
	04/15/13		(a)	64.88	(a)	3553.74
*Well Plugged 08/2013						

**Table 4-2. Summary of Groundwater Surface Elevations
Transwestern Compressor Station No. 9 - Roswell, NM**

Well ID	Sampling Date	Top of Casing (ft)	Depth to PSH (ft)	Depth to Groundwater (ft)	PSH (ft)	Groundwater Surface Elevation (ft)
MW-7	03/10/09	3599.20	(a)	58.24	(a)	3540.96
	10/08/09		(a)	62.12	(a)	3537.08
	03/22/10		(a)	58.68	(a)	3540.52
	04/17/11		(a)	59.42	(a)	3539.78
	12/22/11		(a)	63.09	(a)	3536.11
	04/17/12		(a)	62.30	(a)	3536.90
	10/18/12		(a)	66.14	(a)	3533.06
	01/22/13		(a)	64.40	(a)	3534.80
	04/15/13		(a)	63.71	(a)	3535.49
	11/03/13	3599.96 (h)	(a)	66.07	(a)	3533.89
MW-8	03/10/09	3595.80	(a)	55.36	(a)	3540.44
	10/08/09		(a)	59.04	(a)	3536.76
	03/22/10		(a)	55.56	(a)	3540.24
	04/17/11		(a)	56.48	(a)	3539.32
	12/22/11		(a)	60.00	(a)	3535.80
	04/17/12		(a)	59.28	(a)	3536.52
	10/15/12		(a)	62.32	(a)	3533.48
	01/22/13		(a)	61.55	(a)	3534.25
	04/15/13		(a)	60.65	(a)	3535.15
	*Well Plugged 08/2013					
MW-9	03/10/09	3599.35	(a)	51.78	(a)	3547.57
	10/08/09		(a)	51.93	(a)	3547.42
	03/22/10		(a)	51.86	(a)	3547.49
	04/17/11		(a)	51.96	(a)	3547.39
	12/22/11		(a)	52.26	(a)	3547.09
	04/17/12		(a)	52.27	(a)	3547.08
	10/15/12		(a)	52.53	(a)	3546.82
	01/22/13		(a)	52.67	(a)	3546.68
	04/15/13		(a)	52.73	(a)	3546.62
	*Well Plugged 08/2013					
MW-10	03/10/09	3617.85	(a)	68.49	(a)	3549.36
	10/08/09		(a)	69.18	(a)	3548.67
	03/22/10		(a)	68.85	(a)	3549.00
	04/17/11		(a)	68.85	(a)	3549.00
	12/22/11		(a)	69.32	(a)	3548.53
	04/17/12		(a)	69.19	(a)	3548.66
	10/18/12		(a)	69.78	(a)	3548.07
	01/22/13		(a)	69.79	(a)	3548.06
	04/15/13		(a)	69.70	(a)	3548.15
	11/03/13	3618.81 (h)	(a)	70.04	(a)	3548.77
MW-11	03/10/09	3613.31	(a)	64.30	(a)	3549.01
	10/08/09		(a)	65.39	(a)	3547.92
	03/22/10		(a)	64.69	(a)	3548.62
	04/17/11		(a)	64.55	(a)	3548.76
	12/22/11		(a)	65.36	(a)	3547.95
	04/17/12		(a)	64.97	(a)	3548.34
	10/18/12		(a)	66.03	(a)	3547.28
	01/22/13		(a)	65.69	(a)	3547.62
	04/15/13		(a)	65.45	(a)	3547.86

**Table 4-2. Summary of Groundwater Surface Elevations
Transwestern Compressor Station No. 9 - Roswell, NM**

Well ID	Sampling Date	Top of Casing (ft)	Depth to PSH (ft)	Depth to Groundwater (ft)	PSH (ft)	Groundwater Surface Elevation (ft)
MW-12	11/03/13	3614.08 (h)	(a)	65.95	(a)	3548.13
	03/10/09	3606.38	56.16	56.57	0.41	3550.12
	10/08/09		57.17	57.18	0.01	3549.21
	01/26/10		(a)	56.95	(a)	3549.43
	03/22/10		56.34	58.23	1.89	3549.59
	04/17/11		56.00	57.47	1.47	3550.03
	12/22/11		57.01	57.18	0.17	3549.33
	04/17/12		56.75	59.72	2.97	3548.92
	10/15/12		57.33	58.28	0.95	3548.82
	01/22/13		54.93	57.30	2.37	3550.88
	04/15/13		57.28	60.74	3.46	3548.27
	11/03/13	3606.98 (h)	57.71	60.15	2.44	3548.68
MW-13	03/10/09	3612.46	(a)	63.76	(a)	3548.70
	10/08/09		(a)	64.35	(a)	3548.11
	01/26/10		(a)	64.05	(a)	3548.41
	03/22/10		(a)	63.78	(a)	3548.68
	04/17/11		(a)	63.65	(a)	3548.81
	12/22/11		(a)	64.64	(a)	3547.82
	04/17/12		(a)	64.31	(a)	3548.15
	10/18/12		(a)	64.99	(a)	3547.47
	01/22/13		(a)	64.70	(a)	3547.76
	04/15/13		(a)	64.59	(a)	3547.87
	11/03/13	3613.19 (h)	(a)	64.70	(a)	3548.49
MW-14	03/10/09	3604.83	(a)	54.43	(a)	3550.40
	10/08/09		(a)	54.57	(a)	3550.26
	03/22/10		(a)	54.23	(a)	3550.60
	04/17/11		(a)	54.72	(a)	3550.11
	12/22/11		(a)	55.43	(a)	3549.40
	04/17/12		(a)	55.27	(a)	3549.56
	10/15/12		(a)	55.52	(a)	3549.31
	01/22/13		(a)	55.63	(a)	3549.20
	04/15/13		(a)	55.61	(a)	3549.22
	11/03/13	3605.55 (h)	(a)	55.89	(a)	3549.66
MW-15	03/10/09	3610.43	(a)	59.30	(a)	3551.13
	10/08/09		(a)	58.82	(a)	3551.61
	03/22/10		(a)	58.43	(a)	3552.00
	04/17/11		(a)	58.94	(a)	3551.49
	12/22/11		(a)	59.26	(a)	3551.17
	04/17/12		(a)	59.45	(a)	3550.98
	10/15/12		(a)	59.65	(a)	3550.78
	01/22/13		(a)	59.88	(a)	3550.55
	04/15/13		(a)	59.99	(a)	3550.44
	11/03/13	3611.24 (h)	(a)	60.10	(a)	3551.14
MW-16	03/10/09	3612.41	65.25	65.26	0.01	3547.16
	10/08/09		65.91	65.92	0.01	3546.50
	01/26/10		(a)	65.57	(a)	3546.84
	03/22/10		(a)	65.19	sheen	3547.22
	04/17/11		(a)	65.36	(a)	3547.05
	12/22/11		(a)	65.99	sheen	3546.42

**Table 4-2. Summary of Groundwater Surface Elevations
Transwestern Compressor Station No. 9 - Roswell, NM**

Well ID	Sampling Date	Top of Casing (ft)	Depth to PSH (ft)	Depth to Groundwater (ft)	PSH (ft)	Groundwater Surface Elevation (ft)	
MW-17	04/17/12	3613.16 (h)	65.58	65.59	0.01	3546.83	
	10/15/12		(a)	66.55	(a)	3545.86	
	01/22/13		(a)	66.32	(a)	3546.09	
	04/15/13		(a)	66.17	(a)	3546.24	
	11/03/13		(a)	66.48	(a)	3546.68	
	03/10/09	3608.43 (d)	(a)	61.20	(a)	3547.23	
	10/08/09		(a)	61.64	(a)	3546.79	
	03/22/10		(a)	60.95	(a)	3547.48	
	04/17/11		(a)	61.11	(a)	3547.32	
	12/22/11		(a)	61.42	(a)	3547.01	
	04/17/12		(a)	61.43	(a)	3547.00	
	10/15/12		(a)	61.95	(a)	3546.48	
	01/22/13		(a)	62.17	(a)	3546.26	
	04/15/13		(a)	61.97	(a)	3546.46	
	11/03/13		3609.20 (h)	(a)	62.23	(a)	3546.97
MW-18	03/10/09	3609.73	(a)	59.37	(a)	3550.36	
	10/08/09		(a)	59.15	(a)	3550.58	
	03/22/10		(a)	58.95	(a)	3550.78	
	04/17/11		(a)	59.09	(a)	3550.64	
	12/22/11		(a)	59.36	(a)	3550.37	
	04/17/12		(a)	59.43	(a)	3550.30	
	10/15/12		(a)	59.58	(a)	3550.15	
	01/22/13		(a)	59.71	(a)	3550.02	
	04/15/13		(a)	59.73	(a)	3550.00	
	*Well Plugged 08/2013						
MW-19	03/10/09	3608.17	(a)	56.03	(a)	3552.14	
	10/08/09		(a)	54.63	(a)	3553.54	
	03/22/10		(a)	54.60	(a)	3553.57	
	04/17/11		(a)	55.55	(a)	3552.62	
	12/22/11		(a)	56.12	(a)	3552.05	
	04/17/12		(a)	56.38	(a)	3551.79	
	10/15/12		(a)	56.50	(a)	3551.67	
	01/22/13		(a)	56.72	(a)	3551.45	
	04/15/13		(a)	56.78	(a)	3551.39	
	*Well Plugged 08/2013						
MW-20	03/10/09	3600.65	(a)	52.08	(a)	3548.57	
	10/08/09		(a)	58.30	(a)	3542.35	
	10/09/09		(a)	55.57	(a)	3545.08	
	03/22/10		(a)	52.62	(a)	3548.03	
	04/17/11		(a)	52.43	(a)	3548.22	
	12/22/11		(a)	58.35	(a)	3542.30	
	04/17/12		(a)	53.50	(a)	3547.15	
	10/15/12		(a)	54.92	(a)	3545.73	
	01/22/13		(a)	54.13	(a)	3546.52	
	04/15/13		(a)	53.90	(a)	3546.75	
	11/03/13		3601.34 (h)	(a)	54.35	(a)	3546.99
	MW-21		03/10/09	3611.99 (d)	(a)	65.43	(a)
10/08/09		(a)	66.30		(a)	3545.69	
01/26/10		(a)	65.79		(a)	3546.20	

**Table 4-2. Summary of Groundwater Surface Elevations
Transwestern Compressor Station No. 9 - Roswell, NM**

Well ID	Sampling Date	Top of Casing (ft)	Depth to PSH (ft)	Depth to Groundwater (ft)	PSH (ft)	Groundwater Surface Elevation (ft)
MW-22	03/22/10	3612.71 (h)	(a)	65.31	(a)	3546.68
	04/17/11		(a)	65.02	(a)	3546.97
	12/22/11		(a)	65.28	(a)	3546.71
	04/17/12		(a)	65.44	(a)	3546.55
	10/15/12		(a)	65.57	(a)	3546.42
	01/22/13		(a)	65.51	(a)	3546.48
	04/15/13		(a)	65.54	(a)	3546.45
	11/03/13		(a)	66.08	(a)	3546.63
	03/10/09	3606.04	(a)	57.14	(a)	3548.90
	10/08/09		(a)	58.25	(a)	3547.79
MW-26	03/22/10		(a)	57.33	(a)	3548.71
	04/17/11		(a)	57.38	(a)	3548.66
	12/22/11		(a)	58.65	(a)	3547.39
	04/17/12		(a)	57.88	(a)	3548.16
	10/15/12		(a)	58.93	(a)	3547.11
	01/22/13		(a)	58.60	(a)	3547.44
	04/15/13		(a)	58.36	(a)	3547.68
	11/03/13		(a)	58.94	(a)	3547.68
	03/10/09	3597.75 (c)	(a)	50.11	(a)	3547.64
	10/08/09		(a)	52.35	(a)	3545.40
	03/22/10		(a)	50.52	(a)	3547.23
	04/17/11		(a)	50.45	(a)	3547.30
	12/22/11		(a)	51.70	(a)	3546.05
	04/17/12		(a)	51.24	(a)	3546.51
	10/15/12		(a)	52.55	(a)	3545.20
	01/22/13		(a)	51.95	(a)	3545.80
	04/15/13		(a)	51.70	(a)	3546.05
	11/03/13		(a)	52.22	(a)	3546.21
MW-27	03/10/09	3615.11 (d)	67.85	68.18	0.33	3547.18
	10/08/09		68.38	68.89	0.51	3546.61
	01/26/10		68.48	68.88	0.40	3546.53
	03/22/10		68.31	68.73	0.42	3546.70
	04/17/11		68.10	68.26	0.16	3546.97
	12/22/11		68.21	68.35	0.14	3546.87
	04/17/12		67.38	67.52	0.14	3547.70
	10/15/12		68.31	68.54	0.23	3546.74
	01/22/13		68.45	68.67	0.22	3546.61
	04/15/13		65.92	67.07	1.15	3548.91
	05/16/13		68.47	69.77	1.30	3546.33
	11/03/13		(a)	68.19	(a)	3547.57
	11/13/13		68.29	68.30	0.01	3547.47
MW-28	03/10/09	3615.90 (d)	(a)	68.70	(a)	3547.20
	10/08/09		(a)	68.94	(a)	3546.96
	03/22/10		(a)	68.71	(a)	3547.19
	04/17/11		(a)	68.95	(a)	3546.95
	12/22/11		(a)	69.01	(a)	3546.89
	04/17/12		(a)	69.20	(a)	3546.70
	10/15/12		(a)	69.30	(a)	3546.60
	01/22/13		(a)	69.48	(a)	3546.42
	04/15/13		(a)	69.57	(a)	3546.33

**Table 4-2. Summary of Groundwater Surface Elevations
Transwestern Compressor Station No. 9 - Roswell, NM**

Well ID	Sampling Date	Top of Casing (ft)	Depth to PSH (ft)	Depth to Groundwater (ft)	PSH (ft)	Groundwater Surface Elevation (ft)
MW-29	11/03/13	3616.62 (h)	(a)	69.61	(a)	3547.01
	03/10/09	3613.54 (d)	(a)	67.86	(a)	3545.68
	10/08/09		(a)	68.82	(a)	3544.72
	03/22/10		(a)	68.04	(a)	3545.50
	04/17/11		(a)	67.78	(a)	3545.76
	12/22/11		(a)	68.15	(a)	3545.39
	04/17/12		(a)	68.41	(a)	3545.13
	10/15/12		(a)	68.10	(a)	3545.44
	01/22/13		(a)	68.33	(a)	3545.21
	04/15/13		(a)	68.34	(a)	3545.20
	11/03/13	3614.22 (h)	(a)	69.47	(a)	3544.75
MW-30	03/10/09	3612.63 (d)	(a)	65.83	(a)	3546.80
	10/08/09		(a)	65.97	(a)	3546.66
	03/22/10		(a)	65.81	(a)	3546.82
	04/17/11		(a)	66.13	(a)	3546.50
	12/22/11		(a)	66.20	(a)	3546.43
	04/17/12		(a)	66.30	(a)	3546.33
	10/15/12		(a)	66.48	(a)	3546.15
	01/22/13		(a)	66.61	(a)	3546.02
	04/15/13		(a)	66.57	(a)	3546.06
	11/03/13	3613.33 (h)	(a)	66.84	(a)	3546.49
MW-31	03/10/09	3611.59 (e)	(a)	64.08	(a)	3547.51
	10/08/09		(a)	64.27	(a)	3547.32
	03/22/10		(a)	64.04	(a)	3547.55
	04/17/11		(a)	64.32	(a)	3547.27
	12/22/11		(a)	64.37	(a)	3547.22
	04/17/12		(a)	64.73	(a)	3546.86
	01/22/13		(a)	64.77	(a)	3546.82
	04/15/13		(a)	64.88	(a)	3546.71
*Well Plugged 08/2013						
MW-32	03/10/09	3608.73 (e)	(a)	65.01	(a)	3543.72
	10/08/09		(a)	66.29	(a)	3542.44
	03/22/10		(a)	65.44	(a)	3543.29
	04/17/11		(a)	65.15	(a)	3543.58
	12/22/11		(a)	65.42	(a)	3543.31
	04/17/12		(a)	66.03	(a)	3542.70
	10/15/12		(a)	65.59	(a)	3543.14
	01/22/13		(a)	65.94	(a)	3542.79
	04/15/13		(a)	66.33	(a)	3542.40
	11/03/13	3609.49 (h)	(a)	66.95	(a)	3542.54
MW-33	03/10/09	3610.55 (e)	(a)	63.81	(a)	3546.74
	10/08/09		(a)	63.95	(a)	3546.60
	03/22/10		(a)	63.94	(a)	3546.61
	04/17/11		(a)	64.28	(a)	3546.27
	12/22/11		(a)	64.42	(a)	3546.13
	04/17/12		(a)	64.57	(a)	3545.98
	10/15/12		(a)	64.63	(a)	3545.92
	01/22/13		(a)	64.76	(a)	3545.79
	04/15/13		(a)	64.82	(a)	3545.73

**Table 4-2. Summary of Groundwater Surface Elevations
Transwestern Compressor Station No. 9 - Roswell, NM**

Well ID	Sampling Date	Top of Casing (ft)	Depth to PSH (ft)	Depth to Groundwater (ft)	PSH (ft)	Groundwater Surface Elevation (ft)
MW-34	11/03/13	3611.37 (h)	(a)	64.86	(a)	3546.51
	03/10/09	3605.05 (f)	(a)	61.57	(a)	3543.48
	10/08/09		(a)	62.61	(a)	3542.44
	03/22/10		(a)	61.93	(a)	3543.12
	04/17/11		(a)	61.98	(a)	3543.07
	12/22/11		(a)	62.49	(a)	3542.56
	04/17/12		(a)	62.77	(a)	3542.28
	10/15/12		(a)	62.80	(a)	3542.25
	01/22/13		(a)	63.14	(a)	3541.91
	04/15/13		(a)	63.25	(a)	3541.80
	11/03/13	3605.76 (h)	(a)	63.81	(a)	3541.95
MW-35	03/10/09	3601.87 (f)	(a)	58.40	(a)	3543.47
	10/08/09		(a)	59.42	(a)	3542.45
	03/22/10		(a)	58.85	(a)	3543.02
	04/17/11		(a)	58.89	(a)	3542.98
	12/22/11		(a)	59.60	(a)	3542.27
	04/17/12		(a)	59.76	(a)	3542.11
	10/15/12		(a)	59.91	(a)	3541.96
	01/22/13		(a)	60.14	(a)	3541.73
	04/15/13		(a)	60.28	(a)	3541.59
	11/03/13	3602.61 (h)	(a)	60.81	(a)	3541.80
MW-36	03/10/09	3601.97 (g)	(a)	57.51	(a)	3544.46
	10/08/09		(a)	58.05	(a)	3543.92
	03/22/10		(a)	57.99	(a)	3543.98
	04/17/11		(a)	58.21	(a)	3543.76
	12/22/11		(a)	58.58	(a)	3543.39
	04/17/12		(a)	58.79	(a)	3543.18
	10/15/12		(a)	59.00	(a)	3542.97
	01/22/13		(a)	59.21	(a)	3542.76
	04/15/13		(a)	59.33	(a)	3542.64
	*Well Plugged 08/2013					
MW-37	03/10/09	3599.86 (g)	(a)	56.53	(a)	3543.33
	10/08/09		(a)	57.46	(a)	3542.40
	03/22/10		(a)	56.98	(a)	3542.88
	04/17/11		(a)	57.06	(a)	3542.80
	12/22/11		(a)	57.58	(a)	3542.28
	04/17/12		(a)	57.88	(a)	3541.98
	10/15/12		(a)	58.18	(a)	3541.68
	01/22/13		(a)	58.43	(a)	3541.43
	04/15/13		(a)	58.47	(a)	3541.39
	11/03/13	3600.58 (h)	(a)	58.99	(a)	3541.59
	11/13/13		(a)	58.96	(a)	3541.62
MW-38	03/10/09	3598.11 (g)	(a)	45.91	(a)	3552.20
	10/08/09		(a)	46.07	(a)	3552.04
	03/22/10		(a)	47.01	(a)	3551.10
	04/17/11		(a)	46.37	(a)	3551.74
	12/22/11		(a)	48.05	(a)	3550.06
	04/17/12		(a)	48.40	(a)	3549.71
	10/15/12		(a)	49.22	(a)	3548.89

**Table 4-2. Summary of Groundwater Surface Elevations
Transwestern Compressor Station No. 9 - Roswell, NM**

Well ID	Sampling Date	Top of Casing (ft)	Depth to PSH (ft)	Depth to Groundwater (ft)	PSH (ft)	Groundwater Surface Elevation (ft)
	01/22/13		(a)	49.58	(a)	3548.53
	04/15/13		(a)	49.79	(a)	3548.32
	*Well Plugged 08/2013					
MW-39	08/16/13	3597.38 (h)	(a)	51.64	(a)	3545.74
	11/03/13		(a)	51.08	(a)	3546.30
MW-40	08/16/13	3596.48 (h)	(a)	54.25	(a)	3542.23
	11/03/13		(a)	54.21	(a)	3542.27
MW-41	08/16/13	3601.73 (h)	(a)	56.57	(a)	3545.16
	11/03/13		(a)	56.63	(a)	3545.10
MW-42	08/16/13	3595.21 (h)	(a)	56.42	(a)	3538.79
	11/03/13		(a)	56.28	(a)	3538.93
MW-23 D	03/10/09	3605.00 (c)	(a)	65.10	(a)	3539.90
	10/08/09		(a)	70.13	(a)	3534.87
	03/22/10		(a)	65.02	(a)	3539.98
	04/17/11		(a)	67.84	(a)	3537.16
	12/22/11		(a)	69.16	(a)	3535.84
	04/17/12		(a)	70.45	(a)	3534.55
	10/15/12		(a)	74.06	(a)	3530.94
	01/22/13		(a)	69.92	(a)	3535.08
	04/15/13		(a)	71.53	(a)	3533.47
	*Well Plugged 08/2013					
MW-24 D	03/10/09	3595.95 (c)	(a)	56.62	(a)	3539.33
	10/08/09		(a)	61.13	(a)	3534.82
	03/22/10		(a)	56.22	(a)	3539.73
	04/17/11		(a)	58.73	(a)	3537.22
	12/22/11		(a)	60.28	(a)	3535.67
	04/17/12		(a)	61.39	(a)	3534.56
	10/15/12		(a)	65.33	(a)	3530.62
	01/22/13		(a)	61.26	(a)	3534.69
	04/15/13		(a)	62.76	(a)	3533.19
	11/03/13	3596.80 (h)	(a)	64.42	(a)	3532.38
MW-25 D	03/10/09	3592.99 (c)	(a)	52.59	(a)	3540.40
	10/08/09		(a)	56.59	(a)	3536.40
	03/22/10		(a)	52.89	(a)	3540.10
	04/17/11		(a)	53.83	(a)	3539.16
	12/22/11		(a)	52.55	(a)	3540.44
	04/17/12		(a)	56.55	(a)	3536.44
	10/15/12		(a)	60.29	(a)	3532.70
	01/22/13		(a)	58.68	(a)	3534.31
	04/15/13		(a)	58.06	(a)	3534.93
	*Well Plugged 08/2013					
MPE-1	03/10/09	NA	(a)	64.40	(a)	NA
	10/08/09		(a)	65.90	(a)	NA
	03/22/10		(a)	64.85	(a)	NA
	04/17/11		(a)	64.35	(a)	NA
	12/22/11		(a)	64.60	(a)	NA

**Table 4-2. Summary of Groundwater Surface Elevations
Transwestern Compressor Station No. 9 - Roswell, NM**

Well ID	Sampling Date	Top of Casing (ft)	Depth to PSH (ft)	Depth to Groundwater (ft)	PSH (ft)	Groundwater Surface Elevation (ft)
	04/17/12		(a)	65.28	(a)	NA
	10/15/12		(a)	64.70	(a)	NA
	04/15/13		(a)	65.44	(a)	NA
	*Well Plugged 08/2013					
MPE-2	03/10/09	NA	(a)	63.39	(a)	NA
	10/08/09		(a)	64.51	(a)	NA
	03/22/10		(a)	63.73	(a)	NA
	04/17/11		(a)	63.68	(a)	NA
	12/22/11		(a)	63.95	(a)	NA
	04/17/12		(a)	64.46	(a)	NA
	10/15/12		(a)	64.31	(a)	NA
	04/15/13		(a)	64.88	(a)	NA
	*Well Plugged 08/2013					
MPE-3	03/10/09	NA	(a)	66.50	(a)	NA
	10/08/09		(a)	67.85	(a)	NA
	03/22/10		(a)	66.94	(a)	NA
	04/17/11		(a)	66.53	(a)	NA
	12/22/11		(a)	66.75	(a)	NA
	04/17/12		(a)	62.46	(a)	NA
	10/15/12		(a)	66.90	(a)	NA
	04/15/13		(a)	67.68	(a)	NA
	*Well Plugged 08/2013					
MPE-4	03/10/09	NA	(a)	66.25	(a)	NA
	10/08/09		(a)	67.94	(a)	NA
	03/22/10		(a)	66.87	(a)	NA
	04/17/11		(a)	66.20	(a)	NA
	12/22/11		(a)	66.34	(a)	NA
	04/17/12		(a)	66.96	(a)	NA
	10/15/12		(a)	66.41	(a)	NA
	04/15/13		(a)	66.94	(a)	NA
	*Well Plugged 08/2013					
MPE-5	03/10/09	NA	(a)	66.88	(a)	NA
	10/08/09		(a)	67.95	(a)	NA
	03/22/10		(a)	67.08	(a)	NA
	04/17/11		(a)	66.79	(a)	NA
	12/22/11		(a)	66.89	(a)	NA
	04/17/12		(a)	67.33	(a)	NA
	10/15/12		(a)	67.14	(a)	NA
	04/15/13		(a)	67.39	(a)	NA
	*Well Plugged 08/2013					
MPE-6	03/10/09	NA	(a)	68.74	(a)	NA
	10/08/09		(a)	70.16	(a)	NA
	03/22/10		(a)	69.19	(a)	NA
	04/17/11		(a)	68.76	(a)	NA
	12/22/11		(a)	68.98	(a)	NA
	04/17/12		(a)	69.71	(a)	NA
	10/15/12		(a)	69.10	(a)	NA
	04/15/13		(a)	69.84	(a)	NA
	*Well Plugged 08/2013					

**Table 4-2. Summary of Groundwater Surface Elevations
Transwestern Compressor Station No. 9 - Roswell, NM**

Well ID	Sampling Date	Top of Casing (ft)	Depth to PSH (ft)	Depth to Groundwater (ft)	PSH (ft)	Groundwater Surface Elevation (ft)
MPE-7	03/10/09	NA	(a)	67.79	(a)	NA
	10/08/09		(a)	69.75	(a)	NA
	03/22/10		(a)	67.62	(a)	NA
	04/17/11		(a)	67.15	(a)	NA
	12/22/11		(a)	67.07	(a)	NA
	04/17/12		(a)	67.50	(a)	NA
	10/15/12		(a)	67.44	(a)	NA
	04/15/13		(a)	67.63	(a)	NA
	11/03/13	3614.16 (h)	(a)	67.93	(a)	3546.23
MPE-8	03/10/09	NA	(a)	65.06	(a)	NA
	10/08/09		(a)	65.79	(a)	NA
	03/22/10		(a)	65.53	(a)	NA
	04/17/11		(a)	65.30	(a)	NA
	12/22/11		(a)	65.58	(a)	NA
	04/17/12		(a)	65.71	(a)	NA
	10/15/12		(a)	65.62	(a)	NA
	04/15/13		(a)	65.41	(a)	NA
	11/03/13	3612.35 (h)	(a)	66.55	(a)	3545.80
MPE-9	03/10/09	NA	(a)	67.24	(a)	NA
	10/08/09		(a)	67.79	(a)	NA
	01/26/10		67.92	67.93	0.01	NA
	03/22/10		(a)	67.82	(a)	NA
	04/17/11		(a)	67.49	(a)	NA
	12/22/11		(a)	67.61	(a)	NA
	04/17/12		(a)	67.87	(a)	NA
	10/15/12		(a)	67.70	(a)	NA
	04/15/13		(a)	67.92	(a)	NA
	11/03/13	3615.40 (h)	(a)	67.32	(a)	3548.08
MPE-10	03/10/09	NA	65.58	66.45	0.87	NA
	03/22/10		(a)	66.20	(a)	NA
	04/17/11		65.41	66.85	1.44	NA
	12/22/11		65.74	66.48	0.74	NA
	04/17/12		66.05	66.22	0.17	NA
	10/15/12		66.03	66.88	0.85	NA
	04/15/13		65.96	66.95	0.99	NA
	11/03/13	3613.85 (h)	65.71	67.08	1.37	3547.81
MPE-11	03/10/09	NA	(a)	63.02	(a)	NA
	10/08/09		(a)	63.81	(a)	NA
	04/17/11		(a)	62.92	(a)	NA
	12/22/11		(a)	63.21	(a)	NA
	04/17/12		(a)	63.44	(a)	NA
	10/15/12		(a)	63.73	(a)	NA
	04/15/13		(a)	63.63	(a)	NA
	11/03/13	3610.37 (h)	(a)	64.11	(a)	3546.26
MPE-12	03/10/09	NA	64.30	64.60	0.30	NA
	10/08/09		65.24	65.45	0.21	NA
	01/26/10		64.75	65.12	0.37	NA
	03/22/10		64.55	64.60	0.05	NA

**Table 4-2. Summary of Groundwater Surface Elevations
Transwestern Compressor Station No. 9 - Roswell, NM**

Well ID	Sampling Date	Top of Casing (ft)	Depth to PSH (ft)	Depth to Groundwater (ft)	PSH (ft)	Groundwater Surface Elevation (ft)
MPE-13	04/17/11	3612.51 (h)	64.32	64.47	0.15	NA
	12/22/11		(a)	64.61	(a)	NA
	04/17/12		(a)	64.78	(a)	NA
	10/15/12		(a)	65.11	(a)	NA
	04/15/13		64.81	64.83	0.02	NA
	11/03/13		(a)	64.81	(a)	3547.70
	03/10/09		62.93	63.90	0.97	NA
	10/08/09		63.65	64.00	0.35	NA
	01/26/10		63.44	63.75	0.31	NA
	03/22/10		62.93	63.15	0.22	NA
MPE-14	04/17/11	3610.91 (h)	63.08	63.27	0.19	NA
	12/22/11		(a)	63.32	(a)	NA
	04/17/12		63.51	63.93	0.42	NA
	10/15/12		63.91	64.27	0.36	NA
	04/15/13		63.93	64.19	0.26	NA
	11/03/13		64.07	64.21	0.14	3546.81
	03/10/09		63.70	63.83	0.13	NA
	10/08/09		(a)	64.27	(a)	NA
	01/26/10		(a)	64.08	(a)	NA
	03/22/10		(a)	63.57	(a)	NA
MPE-15	04/17/11	3611.31 (h)	(a)	63.70	(a)	NA
	12/22/11		(a)	64.05	(a)	NA
	04/17/12		(a)	64.12	(a)	NA
	10/15/12		(a)	64.75	(a)	NA
	04/15/13		64.40	64.94	0.54	NA
	11/03/13		64.40	65.87	1.47	3546.56
	03/10/09		(a)	62.40	(a)	NA
	10/08/09		(a)	62.59	(a)	NA
	03/22/10		(a)	62.36	(a)	NA
	04/17/11		(a)	62.20	(a)	NA
MPE-16	12/22/11	3612.40 (h)	(a)	62.75	(a)	NA
	04/17/12		(a)	63.05	(a)	NA
	10/15/12		(a)	63.05	(a)	NA
	04/15/13		(a)	63.19	(a)	NA
	11/03/13		(a)	63.45	(a)	3548.95
	03/10/09		64.32	65.75	1.43	NA
	10/08/09		65.63	Tagged pump	NA	NA
	01/26/10		64.64	66.30	1.66	NA
	03/22/10		64.27	66.21	1.94	NA
	04/17/11		64.25	65.18	0.93	NA
MPE-17	12/22/11	3613.14 (h)	64.61	65.79	1.18	NA
	04/17/12		64.74	67.17	2.43	NA
	10/15/12		64.89	67.41	2.52	NA
	04/15/13		64.80	66.55	1.75	NA
	11/03/13		64.65	67.06	2.41	3547.91
	03/10/09		64.80	65.07	0.27	NA
	10/08/09		65.48	65.55	0.07	NA
	01/26/10		65.19	65.22	0.03	NA
	03/22/10		(a)	64.77	(a)	(a)

**Table 4-2. Summary of Groundwater Surface Elevations
Transwestern Compressor Station No. 9 - Roswell, NM**

Well ID	Sampling Date	Top of Casing (ft)	Depth to PSH (ft)	Depth to Groundwater (ft)	PSH (ft)	Groundwater Surface Elevation (ft)
	04/17/11		(a)	64.93	(a)	(a)
	12/22/11		(a)	65.37	(a)	(a)
	04/17/12		65.22	65.37	0.15	(a)
	10/15/12		65.95	66.81	0.86	(a)
	04/15/13		65.62	66.06	0.44	(a)
	11/03/13	3612.75 (h)	65.63	67.49	1.86	3546.67
MPE-18	03/10/09	NA	(a)	61.65	(a)	NA
	10/08/09		(a)	61.93	(a)	NA
	03/22/10		(a)	61.44	(a)	NA
	04/17/11		(a)	61.70	(a)	NA
	12/22/11		(a)	62.19	(a)	NA
	04/17/12		(a)	62.39	(a)	NA
	10/15/12		(a)	62.78	(a)	NA
	04/15/13		(a)	62.64	(a)	NA
	11/03/13	3611.12 (h)	(a)	62.93	(a)	3548.19
MPE-19	03/10/09	NA	(a)	65.02	(a)	NA
	10/08/09		(a)	65.54	(a)	NA
	03/22/10		(a)	65.14	(a)	NA
	04/17/11		(a)	65.11	(a)	NA
	12/22/11		(a)	65.54	(a)	NA
	04/17/12		(a)	65.53	(a)	NA
	10/15/12		(a)	65.91	(a)	NA
	04/15/13		(a)	66.03	(a)	NA
	11/03/13	3614.46 (h)	(a)	66.05	(a)	3548.41
MPE-20	03/10/09	NA	62.58	64.52	1.94	NA
	10/08/09		62.45	65.34	2.89	NA
	01/26/10		62.28	65.10	2.82	NA
	03/22/10		61.58	64.81	3.23	NA
	04/17/11		62.10	64.45	2.35	NA
	12/22/11		62.70	64.58	1.88	NA
	04/17/12		63.09	64.86	1.77	NA
	10/15/12		64.41	65.23	0.82	NA
	04/15/13		63.52	64.98	1.46	NA
	11/03/13	3611.40 (h)	63.37	64.28	0.91	3547.81
MPE-21	03/10/09	NA	(a)	56.57	(a)	NA
	10/08/09		(a)	57.13	(a)	NA
	01/26/10		(a)	57.71	(a)	NA
	03/22/10		(a)	57.68	(a)	NA
	04/17/11		(a)	57.30	(a)	NA
	12/22/11		(a)	57.82	(a)	NA
	04/17/12		58.20	58.31	0.11	NA
	10/15/12		58.02	58.07	0.05	NA
	04/15/13		57.73	59.11	1.38	NA
	11/03/13	3607.52 (h)	56.94	57.82	0.88	3550.37
MPE-22	03/10/09	NA	(a)	67.17	(a)	NA
	10/08/09		(a)	67.68	(a)	NA
	01/26/10		(a)	67.33	(a)	NA
	03/22/10		(a)	66.99	(a)	NA
	04/17/11		(a)	67.25	(a)	NA

**Table 4-2. Summary of Groundwater Surface Elevations
Transwestern Compressor Station No. 9 - Roswell, NM**

Well ID	Sampling Date	Top of Casing (ft)	Depth to PSH (ft)	Depth to Groundwater (ft)	PSH (ft)	Groundwater Surface Elevation (ft)
	12/22/11		(a)	67.61	(a)	NA
	04/17/12		(a)	67.44	(a)	NA
	10/18/12		(a)	68.20	(a)	NA
	04/15/13		(a)	67.87	(a)	NA
	11/03/13	3616.80 (h)	(a)	68.28	(a)	3548.52
MPE-23	03/10/09	NA	62.85	64.00	1.15	NA
	10/08/09		62.58	64.90	2.32	NA
	01/26/10		62.84	63.98	1.14	NA
	03/22/10		61.94	62.58	0.64	NA
	04/17/11		62.31	62.78	0.47	NA
	12/22/11		62.45	64.70	2.25	NA
	04/17/12		62.57	64.58	2.01	NA
	10/18/12		63.35	65.36	2.01	NA
	04/15/13		62.78	65.30	2.52	NA
	11/03/13	3612.44 (h)	63.45	65.52	2.07	3548.49
MPE-24	03/10/09	NA	57.55	58.93	1.38	NA
	10/08/09		57.20	59.52	2.32	NA
	01/26/10		57.65	59.92	2.27	NA
	03/22/10		57.41	59.75	2.34	NA
	04/17/11		57.57	59.57	2.00	NA
	12/22/11		58.27	60.95	2.68	NA
	04/17/12		58.43	61.11	2.68	NA
	10/15/12		58.10	64.85	6.75	NA
	04/15/13		58.08	63.22	5.14	NA
	11/03/13	3608.45 (h)	58.33	62.96	4.63	3549.01
MPE-25	03/10/09	NA	(a)	67.13	(a)	NA
	10/08/09		(a)	67.79	(a)	NA
	01/26/10		(a)	67.40	(a)	NA
	03/22/10		(a)	67.07	(a)	NA
	04/17/11		(a)	67.32	(a)	NA
	12/22/11		(a)	67.79	(a)	NA
	04/17/12		(a)	67.50	(a)	NA
	10/18/12		(a)	68.32	(a)	NA
	04/15/13		(a)	68.03	(a)	NA
	11/03/13	3616.99 (h)	(a)	68.46	(a)	3548.53
MPE-26	03/10/09	NA	64.54	64.86	0.32	NA
	10/08/09		65.30	65.70	0.40	NA
	01/26/10		64.84	65.32	0.48	NA
	03/22/10		64.46	65.04	0.58	NA
	04/17/11		(a)	64.70	(a)	NA
	12/22/11		65.19	65.63	0.44	NA
	04/17/12		64.92	65.48	0.56	NA
	10/15/12		65.60	66.10	0.50	NA
	04/15/13		65.54	66.05	0.51	NA
	11/03/13	3614.30 (h)	65.78	65.82	0.04	3548.51
MPE-27	03/10/09	NA	62.65	64.96	2.31	NA
	10/08/09		63.05	69.05	6.00	NA
	01/26/10		(a)	62.92	(a)	NA
	03/22/10		62.60	64.38	1.78	NA

**Table 4-2. Summary of Groundwater Surface Elevations
Transwestern Compressor Station No. 9 - Roswell, NM**

Well ID	Sampling Date	Top of Casing (ft)	Depth to PSH (ft)	Depth to Groundwater (ft)	PSH (ft)	Groundwater Surface Elevation (ft)
MPE-28	04/17/11	3612.96 (h)	62.54	tag top of pump	NA	NA
	12/22/11		(a)	62.81	(a)	NA
	04/17/12		63.34	63.63	0.29	NA
	10/15/12		64.62	65.38	0.76	NA
	04/15/13		(a)	tag top of pump	NA	NA
	11/03/13		62.92	65.70	2.78	3549.37
	03/10/09		55.01	59.20	4.19	NA
	10/08/09		56.72	60.21	3.49	NA
	01/26/10		56.12	59.78	3.66	NA
	03/22/10		55.50	59.20	3.70	NA
MPE-29	04/17/11	3607.49 (h)	(a)	56.78	(a)	NA
	12/22/11		(a)	58.61	(a)	NA
	04/17/12		(a)	57.45	(a)	NA
	10/15/12		(a)	58.30	(a)	NA
	04/15/13		57.85	57.88	0.03	NA
	11/03/13		(a)	58.39	(a)	3549.10
	03/10/09		(a)	67.35	(a)	NA
	10/08/09		(a)	68.38	(a)	NA
	03/22/10		(a)	67.58	(a)	NA
	04/17/11		(a)	67.73	(a)	NA
MPE-30	12/22/11	3617.10 (h)	(a)	68.38	(a)	NA
	04/17/12		(a)	67.98	(a)	NA
	10/18/12		(a)	68.95	(a)	NA
	04/15/13		(a)	68.44	(a)	NA
	11/03/13		(a)	69.00	(a)	3548.10
	03/10/09		(a)	64.92	(a)	NA
	10/08/09		(a)	66.20	(a)	NA
	03/22/10		(a)	65.41	(a)	NA
	04/17/11		(a)	65.25	(a)	NA
	12/22/11		(a)	65.91	(a)	NA
MPE-31	04/17/12	3616.01 (h)	(a)	65.78	(a)	NA
	10/18/12		(a)	66.46	(a)	NA
	04/15/13		(a)	66.35	(a)	NA
	11/03/13		(a)	66.93	(a)	3549.08
	03/10/09		63.22	63.24	0.02	NA
	10/08/09		(a)	65.28	(a)	NA
	01/26/10		(a)	63.99	(a)	NA
	03/22/10		63.46	63.47	0.01	NA
	04/17/11		(a)	63.41	(a)	NA
	12/22/11		64.22	64.69	0.47	NA
MPE-32	04/17/12	3613.18 (h)	64.04	64.45	0.41	NA
	10/18/12		65.28	65.82	0.54	NA
	04/15/13		64.16	65.16	1.00	NA
	11/03/13		64.64	65.11	0.47	3548.43
	03/10/09		57.01	59.81	2.80	NA
	10/08/09		(a)	62.21	(a)	NA
	01/26/10		57.90	61.23	3.33	NA
	03/22/10		(a)	57.30	(a)	NA
	04/17/11		(a)	57.32	(a)	NA

**Table 4-2. Summary of Groundwater Surface Elevations
Transwestern Compressor Station No. 9 - Roswell, NM**

Well ID	Sampling Date	Top of Casing (ft)	Depth to PSH (ft)	Depth to Groundwater (ft)	PSH (ft)	Groundwater Surface Elevation (ft)
MPE-33	12/22/11	3607.41 (h)	(a)	56.62	(a)	NA
	04/17/12		58.55	61.08	2.53	NA
	10/15/12		NA	Tag top of pump	NA	NA
	04/15/13		59.16	59.35	0.19	NA
	11/03/13		(a)	60.03	(a)	3547.38
	03/10/09		(a)	53.82	(a)	NA
	10/08/09		(a)	56.63	(a)	NA
	03/22/10		(a)	54.56	(a)	NA
	04/17/11		(a)	54.73	(a)	NA
	12/22/11		(a)	56.65	(a)	NA
MPE-34	04/17/12	3603.22 (h)	(a)	55.85	(a)	NA
	10/15/12		(a)	58.43	(a)	NA
	04/15/13		(a)	56.43	(a)	NA
	11/03/13		(a)	57.14	(a)	3546.08
	03/10/09		(a)	65.24	(a)	NA
	10/08/09		(a)	65.78	(a)	NA
	03/22/10		(a)	65.56	(a)	NA
	04/17/11		(a)	65.40	(a)	NA
	12/22/11		(a)	65.76	(a)	NA
	04/17/12		(a)	65.79	(a)	NA
MPE-35	10/18/12	3616.24 (h)	(a)	66.15	(a)	NA
	04/15/13		(a)	66.20	(a)	NA
	11/03/13		(a)	66.28	(a)	3549.96
	03/10/09		(a)	59.29	(a)	NA
	10/08/09		(a)	59.96	(a)	NA
	03/22/10		(a)	59.36	(a)	NA
	04/17/11		(a)	59.16	(a)	NA
	12/22/11		(a)	59.67	(a)	NA
	04/17/12		(a)	59.80	(a)	NA
	10/15/12		(a)	60.00	(a)	NA
MPE-36	04/15/13	3609.95 (h)	(a)	60.08	(a)	NA
	11/03/13		59.96	60.32	0.36	3549.90
	11/13/13		60.04	60.35	0.31	3549.84
	03/10/09		(a)	54.45	(a)	NA
	10/08/09		(a)	57.35	(a)	NA
	03/22/10		(a)	55.09	(a)	NA
	04/17/11		(a)	54.78	(a)	NA
	12/22/11		(a)	56.05	(a)	NA
	04/17/12		(a)	55.99	(a)	NA
	10/15/12		(a)	57.20	(a)	NA
MPE-37	04/15/13	3604.60 (h)	(a)	56.35	(a)	NA
	11/03/13		(a)	56.58	(a)	3548.02
	03/10/09		(a)	51.90	(a)	NA
	10/08/09		(a)	56.51	(a)	NA
	03/22/10		(a)	52.40	(a)	NA
	04/17/11		(a)	52.22	(a)	NA
	12/22/11		(a)	53.48	(a)	NA
	04/17/12		(a)	53.26	(a)	NA
	10/15/12		(a)	54.68	(a)	NA

**Table 4-2. Summary of Groundwater Surface Elevations
Transwestern Compressor Station No. 9 - Roswell, NM**

Well ID	Sampling Date	Top of Casing (ft)	Depth to PSH (ft)	Depth to Groundwater (ft)	PSH (ft)	Groundwater Surface Elevation (ft)
	04/15/13		(a)	53.63	(a)	NA
	11/03/13	3601.20 (h)	(a)	54.05	(a)	3547.15
MPE-38	08/16/13	3613.81 (h)	63.85	68.88	5.03	3548.75
	11/03/13		65.89	68.62	2.73	3547.26
MPE-39	08/16/13	3608.26 (h)	(a)	60.45	(a)	3547.81
	11/03/13		(a)	60.21	(a)	3548.05
MPE-40	08/16/13	3610.84 (h)	61.52	61.95	0.43	3549.22
	11/03/13		61.95	62.25	0.30	3548.82
MPE-41	08/16/13	3605.49 (h)	60.40	60.90	0.50	3544.97
	11/03/13		56.19	62.74	6.55	3547.73
	11/13/13		56.58	62.72	6.14	3547.44
SVE-22	03/10/09	NA	33.00	33.20	0.20	NA
	10/08/09		32.92	33.10	0.18	NA
	01/26/10		33.05	33.05 (TD)	0.00	NA
	03/22/10		33.02	33.02 (TD)	0.00	NA
	04/17/11		32.90	33.00 (TD)	0.10	NA
	12/22/11		(a)	33.04	(a)	NA
	04/17/12		(a)	33.00 (TD)	(a)	NA
	10/18/12		(a)	33.00 (TD)	(a)	NA
	04/15/13		(a)	32.98	(a)	NA
	11/03/13	3616.76 (h)	(a)	33.08	(a)	3583.68
SVE-23	03/10/09	NA	32.78	36.75	3.97	NA
	10/08/09		33.01	33.79	0.78	NA
	01/26/10		33.12	36.98 (TD)	3.86	NA
	03/22/10		32.09	33.65	1.56	NA
	04/17/11		33.00	33.30	0.30	NA
	12/22/11		33.60	34.05	0.45	NA
	04/17/12		33.62	34.10	0.48	NA
	10/18/12		34.11	34.68	0.57	NA
	04/15/13		33.65	33.92	0.27	NA
	11/03/13	3612.45 (h)	33.73	36.52	2.79	3578.05
SVE-24	03/10/09	NA	(a)	dry	(a)	NA
	10/08/09		(a)	dry	(a)	NA
	01/26/10		(a)	dry	(a)	NA
	03/22/10		(a)	dry	(a)	NA
	04/17/11		(a)	dry	(a)	NA
	12/22/11		(a)	dry	(a)	NA
	04/17/12		(a)	dry	(a)	NA
	10/18/12		(a)	dry	(a)	NA
	04/15/13		(a)	dry	(a)	NA
	11/03/13	3608.97 (h)	(a)	dry	(a)	NA
SVE-25	03/10/09	NA	(a)	32.70	(a)	NA
	10/08/09		(a)	31.40	(a)	NA
	01/26/10		(a)	dry	(a)	NA
	03/22/10		(a)	32.80	(a)	NA
	04/17/11		(a)	32.23	(a)	NA

**Table 4-2. Summary of Groundwater Surface Elevations
Transwestern Compressor Station No. 9 - Roswell, NM**

Well ID	Sampling Date	Top of Casing (ft)	Depth to PSH (ft)	Depth to Groundwater (ft)	PSH (ft)	Groundwater Surface Elevation (ft)
	12/22/11	3617.02 (h)	(a)	32.65	(a)	NA
	04/17/12		(a)	dry	(a)	NA
	10/18/12		(a)	32.70	(a)	NA
	04/15/13		(a)	dry	(a)	NA
	11/03/13		(a)	32.72	(a)	3584.30
SVE-26	03/10/09	NA	(a)	dry	(a)	NA
	10/08/09		(a)	dry	(a)	NA
	01/26/10		(a)	dry	(a)	NA
	03/22/10		(a)	dry	(a)	NA
	04/17/11		(a)	dry	(a)	NA
	12/22/11		(a)	dry	(a)	NA
	04/17/12		(a)	dry	(a)	NA
	10/18/12		(a)	dry	(a)	NA
	04/15/13		(a)	dry	(a)	NA
	11/03/13		(a)	dry	(a)	NA
SVE-27	03/10/09	NA	(a)	32.92	(a)	NA
	10/08/09		(a)	33.63	(a)	NA
	01/26/10		(a)	dry	(a)	NA
	03/22/10		(a)	33.70	(a)	NA
	04/17/11		(a)	33.70	(a)	NA
	12/22/11		(a)	33.83	(a)	NA
	04/17/12		(a)	dry	(a)	NA
	10/18/12		(a)	dry	(a)	NA
	04/15/13		(a)	33.82	(a)	NA
	11/03/13		(a)	dry	(a)	NA
SVE-28	03/10/09	NA	(a)	28.60	(a)	NA
	10/08/09		(a)	28.95	(a)	NA
	01/26/10		(a)	dry	(a)	NA
	03/22/10		(a)	29.07	(a)	NA
	04/17/11		(a)	29.17	(a)	NA
	12/22/11		(a)	29.65	(a)	NA
	04/17/12		(a)	dry	(a)	NA
	10/18/12		(a)	dry	(a)	NA
	04/15/13		(a)	33.58	(a)	NA
	11/03/13		(a)	dry	(a)	NA
SVE-30	03/10/09	NA	(a)	39.32	(a)	NA
	10/08/09		(a)	39.29	(a)	NA
	03/22/10		(a)	40.28	(a)	NA
	04/17/11		(a)	40.11	(a)	NA
	12/22/11		(a)	41.11	(a)	NA
	04/17/12		(a)	41.65	(a)	NA
	10/18/12		(a)	41.42	(a)	NA
	04/15/13		(a)	41.67	(a)	NA
	11/03/13		(a)	43.02	(a)	3572.98
SVE-31	03/10/09	NA	(a)	30.45	(a)	NA
	10/08/09		(a)	30.43	(a)	NA
	01/26/10		(a)	30.55	(a)	NA
	03/22/10		(a)	31.49	(a)	NA
	04/17/11		(a)	dry	(a)	NA

**Table 4-2. Summary of Groundwater Surface Elevations
Transwestern Compressor Station No. 9 - Roswell, NM**

Well ID	Sampling Date	Top of Casing (ft)	Depth to PSH (ft)	Depth to Groundwater (ft)	PSH (ft)	Groundwater Surface Elevation (ft)
RW-1	12/22/11	3612.67 (h)	(a)	28.50	(a)	NA
	04/17/12		(a)	dry	(a)	NA
	10/18/12		(a)	dry	(a)	NA
	04/15/13		(a)	dry	(a)	NA
	11/03/13		(a)	dry	(a)	NA
	03/10/09	NA	(a)	33.17	(a)	NA
	10/08/09		(a)	33.48	(a)	NA
	03/22/10		(a)	33.62	(a)	NA
	04/17/11		(a)	33.80	(a)	NA
	12/22/11		(a)	34.26	(a)	NA
RW-2	04/17/12	3612.72 (h)	(a)	34.57	(a)	NA
	10/18/12		(a)	35.16	(a)	NA
	04/15/13		(a)	35.77	(a)	NA
	11/03/13		(a)	34.95	(a)	3577.77

Notes:

PSH - Phase separated hydrocarbon

Corrections to ground water surface elevation for PSH is calculated assuming a specific gravity of 0.76

(NA) Information not available

(a) Not applicable since no measurable thickness of PSH is present

(b) Elevation based on survey by Wagener Engineering dated 5/6/98

(c) Elevation based on survey by Wagener Engineering dated 9/17/98

(d) Elevation based on survey by Wagener Engineering dated 11/29/00

(e) Elevation based on survey by Wagener Engineering dated 10/03/01

(f) Elevation based on survey by Cypress Engineering dated 03/14/03

(g) Elevation based on survey by Cypress Engineering dated 06/23/07

(h) Elevation based on survey by PR Patton & Associates dated 10/01/13

Historical data before 2009 is presented in previous reports

Table 4-3. Sampling and Analysis Plan
Transwestern Compressor Station No. 9 - Roswell, NM

Well ID	1st Semiannual Event Analytical Requirements	2nd Semiannual Event Analytical Requirements	Date of Most Recent Sample	Benzene (ppb) Most Recent Sample	Consecutive Events < NMWQCC Standard or EPA MCL	Comments
MW-1B	---	---	na	na	na	PSH in well
MW-2	---	---	na	na	na	Insufficient water to sample
MW-3	---	---	09/16/08	<1	20	clean perimeter well
MW-5	---	---	03/23/99	<1	10	well P&A'd Aug. 2013
MW-6	---	---	03/23/99	<1	10	well P&A'd Aug. 2013
MW-7	---	---	09/11/08	<1	21	clean perimeter well
MW-8	---	---	03/25/99	<1	9	well P&A'd Aug. 2013
MW-9	---	---	03/24/99	<1	9	well P&A'd Aug. 2013
MW-10	---	---	09/16/08	<1	18	clean perimeter well
MW-11	---	---	09/11/08	<1	18	clean perimeter well
MW-12	---	---	na	na	na	PSH in well
MW-13	---	BTEX	11/18/13	<1	17	Previously contained elevated benzene
MW-14	---	BTEX	11/18/13	<1	6	Previously contained elevated benzene
MW-15	---	---	09/11/08	<1	18	clean perimeter well
MW-16	BTEX	BTEX	11/18/13	320	0	Previously contained PSH in well
MW-17	---	---	09/11/08	<1	18	clean perimeter well
MW-18	---	---	03/24/99	<1	7	well P&A'd Aug. 2013
MW-19	---	---	03/24/99	<1	8	well P&A'd Aug. 2013
MW-20	VOCs	VOCs	11/18/13	1.6 (DCE)	1	COCs: DCA, DCE, TCA
MW-21	---	BTEX	11/18/13	<1	16	Previously contained elevated benzene
MW-22	VOCs	VOCs	11/18/13	<2 (DCE)	22	COCs: DCA, DCE, TCA
MW-23D	---	---	04/16/13	<1	24	well P&A'd Aug. 2013
MW-24D	---	BTEX	11/18/13	<1	3	clean deep well
MW-25D	---	---	04/17/13	<1	21	well P&A'd Aug. 2013
MW-26	VOCs	VOCs	11/15/13	45 (DCE)	0	COCs: DCA, DCE, TCA
MW-27	---	---	na	na	na	PSH in well
MW-28	---	---	09/10/08	<1	12	clean perimeter well
MW-29	BTEX	BTEX	11/14/13	<1	8	Previously contained elevated benzene
MW-30	---	---	09/16/08	<1	12	clean perimeter well
MW-31	---	---	09/10/08	<1	9	well P&A'd Aug. 2013
MW-32	BTEX	BTEX	11/14/13	<1	14	Previously contained elevated benzene
MW-33	---	---	09/10/08	<1	9	clean perimeter well
MW-34	BTEX	BTEX	11/14/13	7.2	0	Elevated benzene
MW-35	BTEX	BTEX	11/14/13	<1	23	clean downgradient well
MW-36	---	---	03/11/09	<1	12	well P&A'd Aug. 2013
MW-37	BTEX	BTEX	11/14/13	<1	13	clean downgradient well
MW-38	---	---	03/11/09	<1	12	well P&A'd Aug. 2013
MW-39	---	VOCs	11/15/13	15 (DCE)	0	COCs: DCA, DCE, TCA
MW-40	---	VOCs	11/15/13	<1 (DCE)	2	clean downgradient well
MW-41	---	VOCs	11/15/13	<1 (DCE)	1	COCs: DCA, DCE, TCA
MW-42	---	VOCs	11/15/13	<1 (DCE)	2	clean downgradient well

Notes:

- 1) Non-detect results are shown with the "<" symbol followed by the reporting limit
- 2) na - not available; well is not part of the sampling plan
- 3) BTEX (Benzene, Toluene, Ethylbenzene and Xylenes) and VOCs (Volatile Organic Compounds) to be analyzed by EPA method 8260
- 4) Italics denote well plugged and abandoned in August 2013

**Table 4-4. Summary of Groundwater Analytical Results
Transwestern Compressor Station No. 9 - Roswell, NM**

Well	Sampling Date	Benzene	Toluene	Ethylbenzene	Xylenes (total)	1,1-Dichloroethane	1,1-Dichloroethene
NMWQCC Standard:		10	750	750	620	25	5
USEPA MCL:		5	1000	700	10000	none	7
MW-13	03/11/09	< 1.0	< 1.0	< 1.0	< 3.0	NA	NA
	10/07/09	< 1.0	< 1.0	< 1.0	< 3.0	NA	NA
	09/24/10	< 1.0	< 1.0	< 1.0	< 3.0	NA	NA
	01/02/12	< 1.0	< 1.0	< 1.0	< 2.0	NA	NA
	10/19/12	< 1.0	< 1.0	< 1.0	< 2.0	NA	NA
	11/18/13	< 1.0	< 1.0	< 1.0	< 2.0	NA	NA
MW-14	10/07/09	< 1.0	< 1.0	< 1.0	< 3.0	NA	NA
	09/23/10	< 1.0	< 1.0	< 1.0	< 3.0	NA	NA
	01/02/12	< 1.0	< 1.0	< 1.0	< 2.0	NA	NA
	10/19/12	< 1.0	< 1.0	< 1.0	< 2.0	NA	NA
	11/18/13	< 1.0	< 1.0	< 1.0	< 2.0	NA	NA
MW-16	10/21/12	1000	< 50	270	2300	NA	NA
	04/17/13	650	< 50	210	2400	NA	NA
	11/18/13	320	50	210	1900	NA	NA
MW-20	03/12/09	< 1.0	< 1.0	< 1.0	< 1.5	14	35
	10/07/09	2.8	< 1.0	< 1.0	< 1.5	7.2	13
	03/30/10	< 1.0	< 1.0	< 1.0	< 1.5	13	28
	09/24/10	< 1.0	< 1.0	< 1.0	< 1.5	4.6	9.7
	04/19/11	< 1.0	< 1.0	< 1.0	< 1.5	14	22
	01/03/12	< 1.0	< 1.0	< 1.0	< 1.5	5.1	6.4
	04/18/12	< 1.0	< 1.0	< 1.0	< 1.5	6.4	8.6
	10/19/12	< 1.0	< 1.0	< 1.0	< 1.5	2.9	8.1
	04/17/13	< 1.0	< 1.0	< 1.0	< 1.5	3.2	4.5
	11/18/13	< 1.0	< 1.0	< 1.0	< 1.5	1.8	1.6
MW-21	03/11/09	< 1.0	< 1.0	< 1.0	< 3.0	NA	NA
	10/07/09	< 1.0	< 1.0	< 1.0	< 3.0	NA	NA
	09/23/10	< 1.0	< 1.0	< 1.0	< 3.0	NA	NA
	01/03/12	< 1.0	< 1.0	< 1.0	< 2.0	NA	NA
	10/25/12	< 1.0	< 1.0	< 1.0	< 2.0	NA	NA
	11/18/13	< 1.0	< 1.0	< 1.0	< 2.0	NA	NA

**Table 4-4. Summary of Groundwater Analytical Results
Transwestern Compressor Station No. 9 - Roswell, NM**

Well	Sampling Date	Benzene	Toluene	Ethylbenzene	Xylenes (total)	1,1-Dichloroethane	1,1-Dichloroethene
NMWQCC Standard:		10	750	750	620	25	5
USEPA MCL:		5	1000	700	10000	none	7

MW-22	03/12/09	< 1.0	< 1.0	< 1.0	< 1.5	< 1.0	1.2
	10/07/09	< 1.0	< 1.0	< 1.0	< 1.5	< 1.0	< 1.0
	03/30/10	< 1.0	< 1.0	< 1.0	< 1.5	< 1.0	1.1
	09/23/10	< 1.0	< 1.0	< 1.0	< 1.5	< 1.0	< 1.0
	04/19/11	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	1.6
	01/03/12	< 1.0	< 1.0	< 1.0	< 1.5	< 1.0	< 1.0
	04/18/12	< 1.0	< 1.0	< 1.0	< 1.5	< 1.0	1.1
	10/21/12	< 1.0	< 1.0	< 1.0	< 1.5	< 1.0	< 1.0
	04/17/13	< 1.0	< 1.0	< 1.0	< 1.5	< 1.0	2.2
	11/18/13	< 2.0	< 2.0	< 2.0	< 3.0	< 2.0	< 2.0
MW-23D	10/07/09	< 1.0	< 1.0	< 1.0	< 3.0	NA	NA
	09/26/10	< 1.0	< 1.0	< 1.0	< 3.0	NA	NA
	01/03/12	< 1.0	< 1.0	< 1.0	< 2.0	NA	NA
	10/21/12	1.6	8.1	2.8	10	NA	NA
	12/14/12	< 1.0	1.4	< 1.0	< 2.0	NA	NA
	01/21/13	< 1.0	< 1.0	< 1.0	< 2.0	NA	NA
	04/16/13	< 1.0	< 1.0	< 1.0	< 2.0	NA	NA
MW-24D	10/07/09	< 1.0	< 1.0	< 1.0	< 3.0	NA	NA
	09/26/10	< 1.0	< 1.0	< 1.0	< 3.0	NA	NA
	01/03/12	< 1.0	< 1.0	< 1.0	< 2.0	NA	NA
	10/21/12	< 1.0	2.1	1.0	3.5	NA	NA
	12/14/12	9.6	17	4.9	14	NA	NA
	01/21/13	< 1.0	< 1.0	3.3	6.0	NA	NA
	04/16/13	< 1.0	< 1.0	< 1.0	< 2.0	NA	NA
	11/18/13	< 1.0	< 1.0	< 1.0	< 2.0	NA	NA
MW-25D	10/07/09	< 1.0	< 1.0	< 1.0	< 3.0	NA	NA
	09/26/10	< 1.0	< 1.0	< 1.0	< 3.0	NA	NA
	01/03/12	< 1.0	< 1.0	< 1.0	< 2.0	NA	NA
	10/21/12	< 1.0	1.2	< 1.0	2.2	NA	NA
	12/14/12	< 1.0	< 1.0	< 1.0	< 2.0	NA	NA
	01/21/13	< 1.0	< 1.0	< 1.0	< 2.0	NA	NA
	04/17/13	< 1.0	< 1.0	< 1.0	< 2.0	NA	NA

**Table 4-4. Summary of Groundwater Analytical Results
Transwestern Compressor Station No. 9 - Roswell, NM**

Well	Sampling Date	Benzene	Toluene	Ethylbenzene	Xylenes (total)	1,1-Dichloroethane	1,1-Dichloroethene
NMWQCC Standard:		10	750	750	620	25	5
USEPA MCL:		5	1000	700	10000	none	7

MW-26	03/11/09	< 1.0	< 1.0	< 1.0	< 3.0	4.2	43
	10/07/09	< 1.0	< 1.0	< 1.0	< 1.5	5.5	42
	03/30/10	< 1.0	< 1.0	< 1.0	< 1.5	5.5	60
	09/24/10	< 1.0	< 1.0	< 1.0	< 1.5	6.2	50
	04/19/11	< 1.0	< 1.0	< 1.0	< 1.5	5.9	60
	01/03/12	< 1.0	< 1.0	< 1.0	< 1.5	7.8	57
	04/18/12	< 1.0	< 1.0	< 1.0	< 1.5	6.7	53
	10/19/12	< 1.0	< 1.0	< 1.0	< 1.5	5.6	54
	04/17/13	< 1.0	< 1.0	< 1.0	< 1.5	6.2	53
	11/15/13	< 1.0	< 1.0	< 1.0	< 1.5	6.0	45
MW-29	03/11/09	4.1	< 1.0	< 1.0	< 3.0	NA	NA
	10/07/09	8.4	< 1.0	< 1.0	< 3.0	NA	NA
	03/30/10	1.4	< 1.0	< 1.0	< 2.0	NA	NA
	09/23/10	1.3	< 1.0	< 1.0	< 3.0	NA	NA
	04/19/11	< 1.0	< 1.0	< 1.0	< 2.0	NA	NA
	01/02/12	< 1.0	< 1.0	< 1.0	< 2.0	NA	NA
	04/18/12	< 1.0	< 1.0	< 1.0	< 2.0	NA	NA
	10/21/12	< 1.0	< 1.0	< 1.0	< 2.0	NA	NA
	04/16/13	< 1.0	< 1.0	< 1.0	< 2.0	NA	NA
	11/14/13	< 1.0	< 1.0	< 1.0	< 2.0	NA	NA
MW-32	03/11/09	< 1.0	< 1.0	< 1.0	< 3.0	NA	NA
	10/07/09	< 1.0	< 1.0	< 1.0	< 3.0	NA	NA
	03/30/10	< 1.0	< 1.0	< 1.0	< 2.0	NA	NA
	09/23/10	< 1.0	< 1.0	< 1.0	< 3.0	NA	NA
	04/19/11	< 1.0	< 1.0	< 1.0	< 2.0	NA	NA
	01/02/12	1.8	< 1.0	< 1.0	< 2.0	NA	NA
	04/18/12	< 1.0	< 1.0	< 1.0	< 2.0	NA	NA
	10/19/12	< 1.0	< 1.0	< 1.0	< 2.0	NA	NA
	04/16/13	< 1.0	< 1.0	< 1.0	< 2.0	NA	NA
	11/14/13	< 1.0	< 1.0	< 1.0	< 2.0	NA	NA

**Table 4-4. Summary of Groundwater Analytical Results
Transwestern Compressor Station No. 9 - Roswell, NM**

Well	Sampling Date	Benzene	Toluene	Ethylbenzene	Xylenes (total)	1,1-Dichloroethane	1,1-Dichloroethene
NMWQCC Standard:		10	750	750	620	25	5
USEPA MCL:		5	1000	700	10000	none	7

MW-34	03/11/09	< 1.0	< 1.0	< 1.0	< 3.0	NA	NA
	10/07/09	< 1.0	< 1.0	< 1.0	< 3.0	NA	NA
	03/30/10	< 1.0	< 1.0	< 1.0	< 2.0	NA	NA
	09/23/10	< 1.0	< 1.0	< 1.0	< 3.0	NA	NA
	04/19/11	20	< 1.0	< 1.0	< 2.0	NA	NA
	01/02/12	210	< 1.0	< 1.0	< 2.0	NA	NA
	04/18/12	210	< 1.0	< 1.0	< 2.0	NA	NA
	10/19/12	140	< 1.0	< 1.0	< 2.0	NA	NA
	04/16/13	60	< 1.0	< 1.0	< 2.0	NA	NA
	11/14/13	7.2	< 1.0	< 1.0	< 2.0	NA	NA
MW-35	03/11/09	< 1.0	< 1.0	< 1.0	< 3.0	NA	NA
	10/07/09	< 1.0	< 1.0	< 1.0	< 3.0	NA	NA
	03/30/10	< 1.0	< 1.0	< 1.0	< 2.0	NA	NA
	09/23/10	< 1.0	< 1.0	< 1.0	< 3.0	NA	NA
	04/19/11	< 1.0	< 1.0	< 1.0	< 2.0	NA	NA
	01/02/12	< 1.0	< 1.0	< 1.0	< 2.0	NA	NA
	04/18/12	< 1.0	< 1.0	< 1.0	< 2.0	NA	NA
	10/21/12	< 1.0	< 1.0	< 1.0	< 2.0	NA	NA
	04/16/13	< 1.0	< 1.0	< 1.0	< 2.0	NA	NA
	11/14/13	< 1.0	< 1.0	< 1.0	< 2.0	NA	NA
MW-37	03/11/09	< 1.0	< 1.0	< 1.0	< 3.0	NA	NA
	11/14/13	< 1.0	< 1.0	< 1.0	< 2.0	NA	NA
MW-39	08/16/13	2.8	< 1.0	< 1.0	< 1.5	2.0	19
	11/15/13	< 1.0	< 1.0	< 1.0	< 1.5	1.6	15
MW-40	08/16/13	< 1.0	< 1.0	< 1.0	< 1.5	< 1.0	< 1.0
	11/15/13	< 1.0	< 1.0	< 1.0	< 1.5	< 1.0	< 1.0
MW-41	08/16/13	< 1.0	< 1.0	< 1.0	< 1.5	< 1.0	1.1
	11/15/13	< 1.0	< 1.0	< 1.0	< 1.5	< 1.0	< 1.0
MW-42	08/16/13	< 1.0	< 1.0	< 1.0	< 1.5	< 1.0	< 1.0
	11/15/13	< 1.0	< 1.0	< 1.0	< 1.5	< 1.0	< 1.0

Notes:

Only constituents detected in one or more groundwater samples are shown in this table

All results reported above the applicable standard are shown in bold type

NA - Not analyzed; constituent is not part of the sampling plan

Historical data before 2009 is presented in previous reports

**Table 5-1. Summary of Vapor Sample Analyses for the SVE System
Transwestern Compressor Station No. 9 - Roswell, NM**

Sample ID	Date	Gasoline Range VOCs		Estimated Process Flow	Potential Emissions	< C5	C5-C6	C6-C7	C7-C8	C8-C9	C9-C10	C10-C11	C11-C12	C12-C14	C14+
		(ug/L)	(ppbv) ^(a)	(scfm)	(lb/hr)	(%)									
West Baker Furnace	10/06/09	1,770	539	142	0.9	--	10.5	46.2	38.1	4.0	1.2	0.0	0.0	0.0	0.0
West Baker Furnace	08/10/11	3,200	974	147	1.8	--	--	--	--	--	--	--	--	--	--
West Baker	07/03/12	3,700	1,126	162	2.2	--	--	--	--	--	--	--	--	--	--
West Baker Furnace	10/05/12	1,400	426	162	0.8	--	--	--	--	--	--	--	--	--	--
West Baker Furnace	10/22/12	1,670	508	162	1.0	--	17.1	44.2	28.6	4.2	5.0	0.5	0.2	0.1	0.1
West Baker Furnace	01/29/13	1,130	344	160	0.7	--	20.3	44.9	25.9	3.9	4.6	0.3	0.0	0.1	0.0
West Baker Furnace	02/27/13	1,120	341	160	0.7	--	14.2	40.2	30.2	6.1	8.3	0.6	0.4	0.0	0.0
West Baker Furnace	03/29/13	694	211	160	0.4	--	14.8	42.0	29.5	8.1	5.1	0.2	0.1	0.2	0.0
West Baker Furnace	04/30/13	850	259	160	0.5	--	31.1	32.1	23.6	8.0	4.3	0.7	0.1	0.1	0.0
West Baker Furnace	05/16/13	5,610	1,707	160	3.4	--	33.5	31.4	26.8	5.8	2.0	0.4	0.1	0.0	0.0
West Baker Furnace	06/17/13	4,600	1,400	160	2.8	--	--	--	--	--	--	--	--	--	--
West Baker Furnace	07/17/13	4,680	1,424	160	2.8	--	28.6	30.3	30.3	6.9	3.5	0.3	0.1	0.0	0.0
West Baker Furnace	08/27/13	3,040	925	160	1.8	--	25.7	28.7	31.0	8.3	5.0	0.9	0.3	0.1	0.0
West Baker Furnace	09/25/13	2,280	694	160	1.4	--	25.4	29.5	24.8	10.0	7.5	1.9	0.8	0.1	0.0
West Baker Furnace	10/17/13	1,900	578	160	1.1	--	28.0	38.7	21.3	7.4	3.6	0.5	0.4	0.1	0.0
West Baker Furnace	11/22/13	2,100	639	160	1.3	--	31.9	35.5	23.4	5.9	3.0	0.1	0.1	0.1	0.0
West Baker Furnace	12/17/13	1,980	603	160	1.2	--	28.6	37.8	21.0	7.3	4.1	0.7	0.3	0.2	0.0
East Baker Furnace	10/06/09	2,010	612	216	1.6	--	15.4	49.3	31.4	2.9	1.0	0.0	0.0	0.0	0.0
East Baker Furnace	08/10/11	2,200	669	147	1.2	--	--	--	--	--	--	--	--	--	--
East Baker	07/03/12	2,100	639	159	1.3	--	--	--	--	--	--	--	--	--	--
East Baker Furnace	10/05/12	1,200	365	159	0.7	--	--	--	--	--	--	--	--	--	--
East Baker Furnace	10/22/12	1,780	542	160	1.1	--	15.3	41.0	29.6	5.8	7.1	0.9	0.1	0.1	0.1
East Baker Furnace	01/29/13	928	282	160	0.6	--	16.4	46.9	24.9	6.2	5.4	0.2	0.0	0.0	0.0
East Baker Furnace	02/27/13	860	262	160	0.5	--	15.2	43.2	30.0	6.2	5.2	0.2	0.0	0.0	0.0
East Baker Furnace	03/29/13	555	169	160	0.3	--	16.6	47.6	24.4	6.1	4.5	0.5	0.2	0.1	0.0
East Baker Furnace	04/30/13	772	235	160	0.5	--	27.7	28.9	29.6	8.0	4.6	0.9	0.2	0.1	0.0
East Baker Furnace	05/16/13	5,350	1,628	160	3.2	--	31.4	30.2	27.7	6.9	2.7	0.8	0.2	0.1	0.0
East Baker Furnace	06/17/13	4,700	1,430	160	2.8	--	--	--	--	--	--	--	--	--	--
East Baker Furnace	07/17/13	5,780	1,759	160	3.5	--	29.5	29.8	29.1	7.0	3.6	0.8	0.2	0.0	0.0
East Baker Furnace	08/27/13	3,040	925	160	1.8	--	25.6	28.7	31.0	8.5	5.1	0.9	0.2	0.0	0.0
East Baker Furnace	09/25/13	2,040	621	160	1.2	--	25.9	30.1	25.4	9.5	7.4	1.2	0.4	0.1	0.0
East Baker Furnace	10/17/13	1,650	502	160	1.0	--	30.5	32.8	22.8	7.9	4.6	0.6	0.4	0.2	0.2
East Baker Furnace	11/22/13	1,960	596	160	1.2	--	29.6	32.5	24.2	7.9	4.4	0.7	0.4	0.3	0.0
East Baker Furnace	12/17/13	1,770	539	160	1.1	--	31.4	33.2	22.8	7.2	4.2	0.6	0.3	0.3	0.0

(a) Conversion Factor:

P = 1.00 atm, MW = 79 g/mole, R = 0.08205 L*atm/(K*mole), T = 293°K

C ppbv = C ug/L * ((R * T)/(MW*P))

C ppbv = C ug/L * 0.3043

**Table 5-2. SVE System Potential Emissions Estimate for
Total Non-Methane Hydrocarbons
Transwestern Compressor Station No. 9 - Roswell, NM**

Date	West Unit				East Unit				Total				
	Total NMHC C(ug/L)	Flow Rate Q(scfm)	Potential Emissions M(lb/hr)	Projected TPY M(tons/yr)	Total NMHC C(ug/L)	Flow Rate Q(scfm)	Potential Emissions M(lb/hr)	Projected TPY M(tons/yr)	Flow Rate Q(scfm)	Potential Emissions M(lb/hr)	Projected TPY M(tons/yr)	Projected GPY M(gal/yr)	Projected PPY M(lbs/yr)
01/29/13	1130	160	0.7	3.0	928	160	0.6	2.4	320	1.2	5.4	1705	10804
02/27/13	1120	160	0.7	2.9	860	160	0.5	2.3	320	1.2	5.2	1640	10395
03/29/13	694	160	0.4	1.8	555	160	0.3	1.5	320	0.7	3.3	1035	6557
04/30/13	850	160	0.5	2.2	772	160	0.5	2.0	320	1.0	4.3	1343	8515
05/16/13	5610	160	3.4	14.7	5350	160	3.2	14.0	320	6.6	28.8	9078	57539
06/17/13	4600	160	2.8	12.1	4700	160	2.8	12.3	320	5.6	24.4	7703	48824
07/17/13	4680	160	2.8	12.3	5780	160	3.5	15.2	320	6.3	27.5	8664	54914
08/27/13	3040	160	1.8	8.0	3040	160	1.8	8.0	320	3.6	16.0	5036	31919
09/25/13	2280	160	1.4	6.0	2040	160	1.2	5.4	320	2.6	11.3	3578	22679
10/17/13	1900	160	1.1	5.0	1650	160	1.0	4.3	320	2.1	9.3	2940	18637
11/22/13	2100	160	1.3	5.5	1960	160	1.2	5.1	320	2.4	10.7	3363	21315
12/17/13	1980	160	1.2	5.2	1770	160	1.1	4.6	320	2.2	9.8	3106	19687
General Average												4099	25982
Actual Average at 87% Runtime												3551	22505

Notes:

1) Concentrations based on Hall Lab analysis of SVE system samples

**Table 5-3. Summary of Treated Water Irrigation Rates
Transwestern Compressor Station No. 9 - Roswell, NM**

Date	Time	Inspector	Meter Reading (gallons)	Irrigated Volume (gallons)	Cummulative Irrigated Volume (gallons)	Elapsed Time (days)	Cummulative Elapsed Time (days)	Average Recovery Rate (GPD)	Average Recovery Rate (GPM)	Year Total (gallons)
12/31/03										2003-2008
11/18/08					1,241,140					1,241,140
05/01/09	1200	CB	964480	15,180	15,180	164.0	164.0	93	0.06	
05/16/09	1200	CB	976370	11,890	27,070	15.0	179.0	793	0.55	
05/20/09	1200	CB	985920	9,550	36,620	4.0	183.0	2388	1.66	
05/25/09	1200	CB	1003890	17,970	54,590	5.0	188.0	3594	2.50	
05/29/09	1200	CB	1014750	10,860	65,450	4.0	192.0	2715	1.89	
05/31/09	1200	CB	1019820	5,070	70,520	2.0	194.0	2535	1.76	
06/04/09	1200	CB	1030720	10,900	81,420	4.0	198.0	2725	1.89	
06/08/09	1200	CB	1040710	9,990	91,410	4.0	202.0	2498	1.73	
06/15/09	1200	CB	1055760	15,050	106,460	7.0	209.0	2150	1.49	
06/20/09	1200	CB	1064810	9,050	115,510	5.0	214.0	1810	1.26	
06/25/09	1200	CB	1068440	3,630	119,140	5.0	219.0	726	0.50	
07/04/09	1200	CB	1074550	6,110	125,250	9.0	228.0	679	0.47	
07/07/09	1200	CB	1082120	7,570	132,820	3.0	231.0	2523	1.75	
07/13/09	1200	CB	1094120	12,000	144,820	6.0	237.0	2000	1.39	
07/17/09	1200	CB	1098480	4,360	149,180	4.0	241.0	1090	0.76	
07/21/09	1200	CB	1105500	7,020	156,200	4.0	245.0	1755	1.22	
07/27/09	1200	CB	1107950	2,450	158,650	6.0	251.0	408	0.28	
07/31/09	1200	CB	1110600	2,650	161,300	4.0	255.0	663	0.46	
08/04/09	1200	CB	1112060	1,460	162,760	4.0	259.0	365	0.25	
08/10/09	1200	CB	1124810	12,750	175,510	6.0	265.0	2125	1.48	
08/13/09	1200	CB	1130140	5,330	180,840	3.0	268.0	1777	1.23	
08/17/09	1200	CB	1137560	7,420	188,260	4.0	272.0	1855	1.29	
08/21/09	1200	CB	1145780	8,220	196,480	4.0	276.0	2055	1.43	
08/28/09	1200	CB	1158470	12,690	209,170	7.0	283.0	1813	1.26	
09/01/09	1200	CB	1158960	490	209,660	4.0	287.0	123	0.09	
09/07/09	1200	CB	1162130	3,170	212,830	6.0	293.0	528	0.37	
09/14/09	1200	CB	1163840	1,710	214,540	7.0	300.0	244	0.17	
09/21/09	1200	CB	1165080	1,240	215,780	7.0	307.0	177	0.12	
09/25/09	1200	CB	1165680	600	216,380	4.0	311.0	150	0.10	
09/30/09	1200	CB	1166290	610	216,990	5.0	316.0	122	0.08	
10/06/09	1200	CB	1176620	10,330	227,320	6.0	322.0	1722	1.20	
10/12/09	1200	CB	1177250	630	227,950	6.0	328.0	105	0.07	
10/22/09	1200	CB	1180690	3,440	231,390	10.0	338.0	344	0.24	
10/26/09	1200	CB	1180920	230	231,620	4.0	342.0	58	0.04	
10/31/09	1200	CB	1187620	6,700	238,320	5.0	347.0	1340	0.93	

**Table 5-3. Summary of Treated Water Irrigation Rates
Transwestern Compressor Station No. 9 - Roswell, NM**

Date	Time	Inspector	Meter Reading (gallons)	Irrigated Volume (gallons)	Cummulative Irrigated Volume (gallons)	Elapsed Time (days)	Cummulative Elapsed Time (days)	Average Recovery Rate (GPD)	Average Recovery Rate (GPM)	Year Total (gallons)
11/05/09	1200	CB	1196570	8,950	247,270	5.0	352.0	1790	1.24	2009 274,180
11/16/09	1200	CB	1214350	17,780	265,050	11.0	363.0	1616	1.12	
11/23/09	1200	CB	1223480	9,130	274,180	7.0	370.0	1304	0.91	
06/20/10	1200	CB	1223490	10	274,190	209.0	579.0	0	0.00	2010 68,900
06/24/10	1200	CB	1224100	610	274,800	4.0	583.0	153	0.11	
06/30/10	1200	CB	1227190	3,090	277,890	6.0	589.0	515	0.36	
07/07/10	1200	CB	1232290	5,100	282,990	7.0	596.0	729	0.51	
07/14/10	1200	CB	1235080	2,790	285,780	7.0	603.0	399	0.28	
07/19/10	1200	CB	1236340	1,260	287,040	5.0	608.0	252	0.18	
07/26/10	1200	CB	1242910	6,570	293,610	7.0	615.0	939	0.65	
07/30/10	1200	CB	1248140	5,230	298,840	4.0	619.0	1308	0.91	
08/05/10	1200	CB	1248520	380	299,220	6.0	625.0	63	0.04	
08/10/10	1200	CB	1250320	1,800	301,020	5.0	630.0	360	0.25	
08/19/10	1200	CB	1252630	2,310	303,330	9.0	639.0	257	0.18	
08/23/10	1200	CB	1258090	5,460	308,790	4.0	643.0	1365	0.95	
08/30/10	1200	CB	1265630	7,540	316,330	7.0	650.0	1077	0.75	
09/06/10	1200	CB	1274270	8,640	324,970	7.0	657.0	1234	0.86	
09/14/10	1200	CB	1279310	5,040	330,010	8.0	665.0	630	0.44	
09/20/10	1200	CB	1286040	6,730	336,740	6.0	671.0	1122	0.78	
09/21/10	1200	CB	1287050	1,010	337,750	1.0	672.0	1010	0.70	
09/28/10	1200	CB	1288380	1,330	339,080	7.0	679.0	190	0.13	
11/05/10	1200	CB	1288390	10	339,090	38.0	717.0	0	0.00	
11/08/10	1200	CB	1290290	1,900	340,990	3.0	720.0	633	0.44	
11/10/10	1200	CB	1292380	2,090	343,080	2.0	722.0	1045	0.73	
06/28/11	1200	CB	1292590	210	343,290	230.0	952.0	1	0.00	
06/30/11	1200	CB	1294730	2,140	345,430	2.0	954.0	1070	0.74	
07/13/11	1200	CB	1297670	2,940	348,370	13.0	967.0	226	0.16	
07/20/11	1200	CB	1303020	5,350	353,720	7.0	974.0	764	0.53	
08/01/11	1200	CB	1304610	1,590	355,310	12.0	986.0	133	0.09	
08/12/11	1200	CB	1312240	7,630	362,940	11.0	997.0	694	0.48	
08/19/11	1200	CB	1313260	1,020	363,960	7.0	1004.0	146	0.10	
08/23/11	1200	CB	1315750	2,490	366,450	4.0	1008.0	623	0.43	
08/30/11	1200	CB	1316650	900	367,350	7.0	1015.0	129	0.09	
09/03/11	1200	CB	1317270	620	367,970	4.0	1019.0	155	0.11	
09/09/11	1200	CB	1319870	2,600	370,570	6.0	1025.0	433	0.30	
09/13/11	1200	CB	1321030	1,160	371,730	4.0	1029.0	290	0.20	
09/22/11	1200	CB	1321270	240	371,970	9.0	1038.0	27	0.02	

**Table 5-3. Summary of Treated Water Irrigation Rates
Transwestern Compressor Station No. 9 - Roswell, NM**

Date	Time	Inspector	Meter Reading (gallons)	Irrigated Volume (gallons)	Cummulative Irrigated Volume (gallons)	Elapsed Time (days)	Cummulative Elapsed Time (days)	Average Recovery Rate (GPD)	Average Recovery Rate (GPM)	Year Total (gallons)
09/25/11	1200	CB	1326090	4,820	376,790	3.0	1041.0	1607	1.12	
09/28/11	1200	CB	1329140	3,050	379,840	3.0	1044.0	1017	0.71	
09/30/11	1200	CB	1331610	2,470	382,310	2.0	1046.0	1235	0.86	
10/04/11	1200	CB	1336700	5,090	387,400	4.0	1050.0	1273	0.88	
10/10/11	1200	CB	1344310	7,610	395,010	6.0	1056.0	1268	0.88	
10/14/11	1200	CB	1348220	3,910	398,920	4.0	1060.0	978	0.68	
10/17/11	1200	CB	1352830	4,610	403,530	3.0	1063.0	1537	1.07	
10/20/11	1200	CB	1355140	2,310	405,840	3.0	1066.0	770	0.53	
10/25/11	1200	CB	1356640	1,500	407,340	5.0	1071.0	300	0.21	
11/01/11	1200	CB	1357820	1,180	408,520	7.0	1078.0	169	0.12	
11/06/11	1200	CB	1370170	12,350	420,870	5.0	1083.0	2470	1.72	
11/14/11	1200	CB	1378250	8,080	428,950	8.0	1091.0	1010	0.70	
11/19/11	1200	CB	1383060	4,810	433,760	5.0	1096.0	962	0.67	
11/25/11	1200	CB	1388650	5,590	439,350	6.0	1102.0	932	0.65	2011
11/30/11	1200	CB	1390930	2,280	441,630	5.0	1107.0	456	0.32	98,550
04/20/12	1200	CB	1390930	0	441,630	142.0	1249.0	0	0.00	
04/26/12	1200	CB	1408050	17,120	458,750	6.0	1255.0	2853	1.98	
04/28/12	1200	CB	1411210	3,160	461,910	2.0	1257.0	1580	1.10	
04/30/12	1200	CB	1413930	2,720	464,630	2.0	1259.0	1360	0.94	
05/04/12	1200	CB	1416840	2,910	467,540	4.0	1263.0	728	0.51	
05/07/12	1200	CB	1420770	3,930	471,470	3.0	1266.0	1310	0.91	
05/12/12	1200	CB	1424710	3,940	475,410	5.0	1271.0	788	0.55	
05/17/12	1200	CB	1430680	5,970	481,380	5.0	1276.0	1194	0.83	
05/22/12	1200	CB	1436750	6,070	487,450	5.0	1281.0	1214	0.84	
05/27/12	1200	CB	1442280	5,530	492,980	5.0	1286.0	1106	0.77	
05/31/12	1200	CB	1444830	2,550	495,530	4.0	1290.0	638	0.44	
06/06/12	1200	CB	1450860	6,030	501,560	6.0	1296.0	1005	0.70	
06/14/12	1200	CB	1452950	2,090	503,650	8.0	1304.0	261	0.18	
06/22/12	1200	CB	1453470	520	504,170	8.0	1312.0	65	0.05	
06/27/12	1200	CB	1459530	6,060	510,230	5.0	1317.0	1212	0.84	
07/04/12	1200	CB	1464990	5,460	515,690	7.0	1324.0	780	0.54	
07/11/12	1200	CB	1470150	5,160	520,850	7.0	1331.0	737	0.51	
07/20/12	1200	CB	1474920	4,770	525,620	9.0	1340.0	530	0.37	
07/25/12	1200	CB	1479740	4,820	530,440	5.0	1345.0	964	0.67	
07/31/12	1200	CB	1479740	0	530,440	6.0	1351.0	0	0.00	
08/06/12	1200	CB	1482850	3,110	533,550	6.0	1357.0	518	0.36	
08/10/12	1200	CB	1484650	1,800	535,350	4.0	1361.0	450	0.31	

**Table 5-3. Summary of Treated Water Irrigation Rates
Transwestern Compressor Station No. 9 - Roswell, NM**

Date	Time	Inspector	Meter Reading (gallons)	Irrigated Volume (gallons)	Cummulative Irrigated Volume (gallons)	Elapsed Time (days)	Cummulative Elapsed Time (days)	Average Recovery Rate (GPD)	Average Recovery Rate (GPM)	Year Total (gallons)
08/15/12	1200	CB	1486280	1,630	536,980	5.0	1366.0	326	0.23	
08/21/12	1200	CB	1491810	5,530	542,510	6.0	1372.0	922	0.64	
08/25/12	1200	CB	1496550	4,740	547,250	4.0	1376.0	1185	0.82	
08/30/12	1200	CB	1498830	2,280	549,530	5.0	1381.0	456	0.32	
09/05/12	1200	CB	1502280	3,450	552,980	6.0	1387.0	575	0.40	
09/09/12	1200	CB	1505820	3,540	556,520	4.0	1391.0	885	0.61	
09/13/12	1200	CB	1509500	3,680	560,200	4.0	1395.0	920	0.64	
09/17/12	1200	CB	1510800	1,300	561,500	4.0	1399.0	325	0.23	
09/25/12	1200	CB	1513290	2,490	563,990	8.0	1407.0	311	0.22	
09/30/12	1200	CB	1519120	5,830	569,820	5.0	1412.0	1166	0.81	
10/03/12	1200	CB	1520950	1,830	571,650	3.0	1415.0	610	0.42	
10/08/12	1200	CB	1522170	1,220	572,870	5.0	1420.0	244	0.17	
10/23/12	1200	CB	1522170	0	572,870	15.0	1435.0	0	0.00	
10/25/12	1200	CB	1524400	2,230	575,100	2.0	1437.0	1115	0.77	
10/31/12	1200	CB	1531100	6,700	581,800	6.0	1443.0	1117	0.78	
11/05/12	1200	CB	1537050	5,950	587,750	5.0	1448.0	1190	0.83	
11/11/12	1200	CB	1540910	3,860	591,610	6.0	1454.0	643	0.45	
11/28/12	1200	CB	1541110	200	591,810	17.0	1471.0	12	0.01	2012
11/30/12	1200	CB	1541170	60	591,870	2.0	1473.0	30	0.02	150,240
04/19/13	1200	CB	1541170	0	591,870	140.0	1613.0	0	0.00	
04/20/13	1200	CB	1542440	1,270	593,140	1.0	1614.0	1270	0.88	
04/22/13	1200	CB	1545800	3,360	596,500	2.0	1616.0	1680	1.17	
04/30/13	1200	CB	1553090	7,290	603,790	8.0	1624.0	911	0.63	
05/23/13	1200	CB	1576010	22,920	626,710	23.0	1647.0	997	0.69	
05/29/13	1200	CB	1576100	90	626,800	6.0	1653.0	15	0.01	
05/31/13	1200	CB	1577610	1,510	628,310	2.0	1655.0	755	0.52	
06/30/13	1200	CB	1614920	37,310	665,620	30.0	1685.0	1244	0.86	2013
07/24/13	1200	CB	1641540	26,620	692,240	24.0	1709.0	1109	0.77	100,370

NOTES:

Irrigated Volume (gallons) = Difference between prior meter reading and current meter reading (gallons)

Cummulative Irrigated Volume (gallons) = Cummulative sum of Irrigated Volume (gallons)

Elapsed Time (days) = Calculated number of days from the prior date and time

Cummulative Elapsed Time (days) = Cummulative sum of Elapsed Time (days)

Average Recovery Rate (GPD) = Irrigated Volume (gallons) / Elapsed Time (days)

Average Recovery Rate (GPM) = Average Recovery Rate (GPD) / 24 (hours/day) / 60 (minutes/hour)

Historical data before 2009 is presented in previous reports

**Table 5-4. Summary of Water Treatment System Analyses
Transwestern Compressor Station No. 9 - Roswell, NM**

Sample Point	Sampling Date	Benzene	Toluene	Ethylbenzene	Xylenes (total)
NMWQCC Standard:		10	750	750	620
Post-Treatment	05/25/09	< 1.0	< 1.0	< 1.0	< 1.5
	06/22/09	< 1.0	< 1.0	< 1.0	< 1.5
	07/21/09	< 1.0	< 1.0	< 1.0	< 1.5
	08/24/09	< 1.0	< 1.0	< 1.0	< 1.5
	09/28/09	< 1.0	< 1.0	< 1.0	< 1.5
	10/29/09	< 1.0	< 1.0	< 1.0	< 1.5
	11/18/09	4.8	1.3	< 1.0	< 1.5
	06/30/10	5.6	< 1.0	< 1.0	< 1.5
	07/31/10	< 1.0	< 1.0	< 1.0	< 1.5
	08/30/10	< 1.0	< 1.0	< 1.0	< 1.5
	11/10/10	< 1.0	< 1.0	< 1.0	< 1.5
	08/10/11	< 1.0	< 1.0	< 1.0	< 1.5
	10/09/11	< 1.0	< 1.0	< 1.0	< 1.5
	11/03/11	< 1.0	< 1.0	< 1.0	< 1.5
	04/30/12	< 1.0	< 1.0	< 1.0	< 1.5
	06/05/12	1.2	< 1.0	< 1.0	< 1.5
	06/28/12	1.7	< 1.0	< 1.0	< 1.5
	07/25/12	< 1.0	< 1.0	< 1.0	< 1.5
	08/15/12	< 1.0	< 1.0	< 1.0	< 1.5
	09/23/12	< 1.0	< 1.0	< 1.0	< 1.5
	10/25/12	< 1.0	< 1.0	< 1.0	< 1.5
	11/28/12	< 1.0	< 1.0	< 1.0	< 1.5
	05/16/13	< 1.0	< 1.0	< 1.0	< 1.5
	06/17/13	< 1.0	< 1.0	< 1.0	< 1.5
	07/17/13	< 1.0	< 1.0	< 1.0	< 1.5
Between GACs	06/22/09	350	570	16	210
	07/21/09	< 1.0	< 1.0	< 1.0	< 2.0
	08/24/09	< 1.0	< 1.0	< 1.0	< 2.0
	09/28/09	< 1.0	< 1.0	< 1.0	< 2.0
	10/29/09	< 1.0	< 1.0	< 1.0	< 2.0
	11/18/09	9.3	3.3	< 1.0	< 2.0
	06/30/10	2.1	< 1.0	< 1.0	< 2.0
	07/31/10	200	200	12	150
	08/30/10	300	440	22	280
	11/10/10	< 1.0	< 1.0	< 1.0	< 3.0
	08/10/11	< 1.0	< 1.0	< 1.0	< 2.0
	10/09/11	3.2	1.6	< 1.0	< 2.0
	11/03/11	2.8	1.6	< 1.0	< 2.0
	04/30/12	3.6	< 1.0	< 1.0	< 2.0
	06/05/12	3.9	< 1.0	< 1.0	< 2.0
	06/28/12	4.7	< 1.0	< 1.0	< 2.0
	07/25/12	1.8	< 1.0	< 1.0	< 2.0
	08/15/12	1.7	< 1.0	< 1.0	< 2.0
	09/23/12	1.7	< 1.0	< 1.0	< 2.0

**Table 5-4. Summary of Water Treatment System Analyses
Transwestern Compressor Station No. 9 - Roswell, NM**

Sample Point	Sampling Date	Benzene	Toluene	Ethylbenzene	Xylenes (total)
NMWQCC Standard:		10	750	750	620
Between GACs -continued-	10/25/12	1.5	< 1.0	< 1.0	< 2.0
	11/28/12	1.5	< 1.0	< 1.0	< 2.0
	05/16/13	3.3	< 1.0	< 1.0	< 2.0
	06/17/13	4.0	< 1.0	< 1.0	< 2.0
	07/17/13	3.2	1.8	< 1.0	< 2.0
Post-Air Stripper	05/25/09	260	680	33	790
	06/22/09	960	1,600	63	830
	07/21/09	280	500	< 20	280
	08/24/09	230	350	13	220
	09/28/09	290	72	19	240
	10/29/09	450	670	42	430
	11/18/09	200	470	18	300
	06/30/10	450	460	13	250
	07/31/10	190	200	11	140
	08/30/10	450	660	31	450
	11/10/10	59	97	< 10	65
	08/10/11	1.4	2.7	< 1	3.0
	10/09/11	21	37	2.0	22
	11/03/11	30	66	3.4	47
	04/30/12	< 1	1.3	< 1	2.2
	06/05/12	< 1	1.0	< 1	< 2
	06/28/12	< 1	< 1	< 1	< 2
	07/25/12	170	270	12	130
	08/15/12	13	16	< 5	10
	09/23/12	< 5	< 5	< 5	< 10
	10/25/12	< 5	< 5	< 5	< 10
	11/28/12	5.1	8.4	< 5	< 10
	05/16/13	< 5	< 5	< 5	< 10
	06/17/13	< 5	< 5	< 5	< 10
	07/17/13	< 5	< 5	< 5	< 10
Pre-Treatment	05/25/09	640	1,700	99	1,900
	06/22/09	2,700	4,500	210	2,400
	07/21/09	2,500	4,600	210	2,600
	08/24/09	2,700	4,000	200	2,500
	09/28/09	2,900	910	220	2,200
	10/29/09	3,000	4,100	280	2,700
	11/18/09	1,400	3,300	140	2,000
	06/30/10	2,700	2,800	120	1,500
	07/31/10	1,900	2,000	140	1,300
	08/30/10	1,800	2,600	150	1,800
	11/10/10	2,400	3,900	220	2,100
	08/10/11	970	1,900	130	1,400
	10/09/11	3,000	4,800	240	2,500

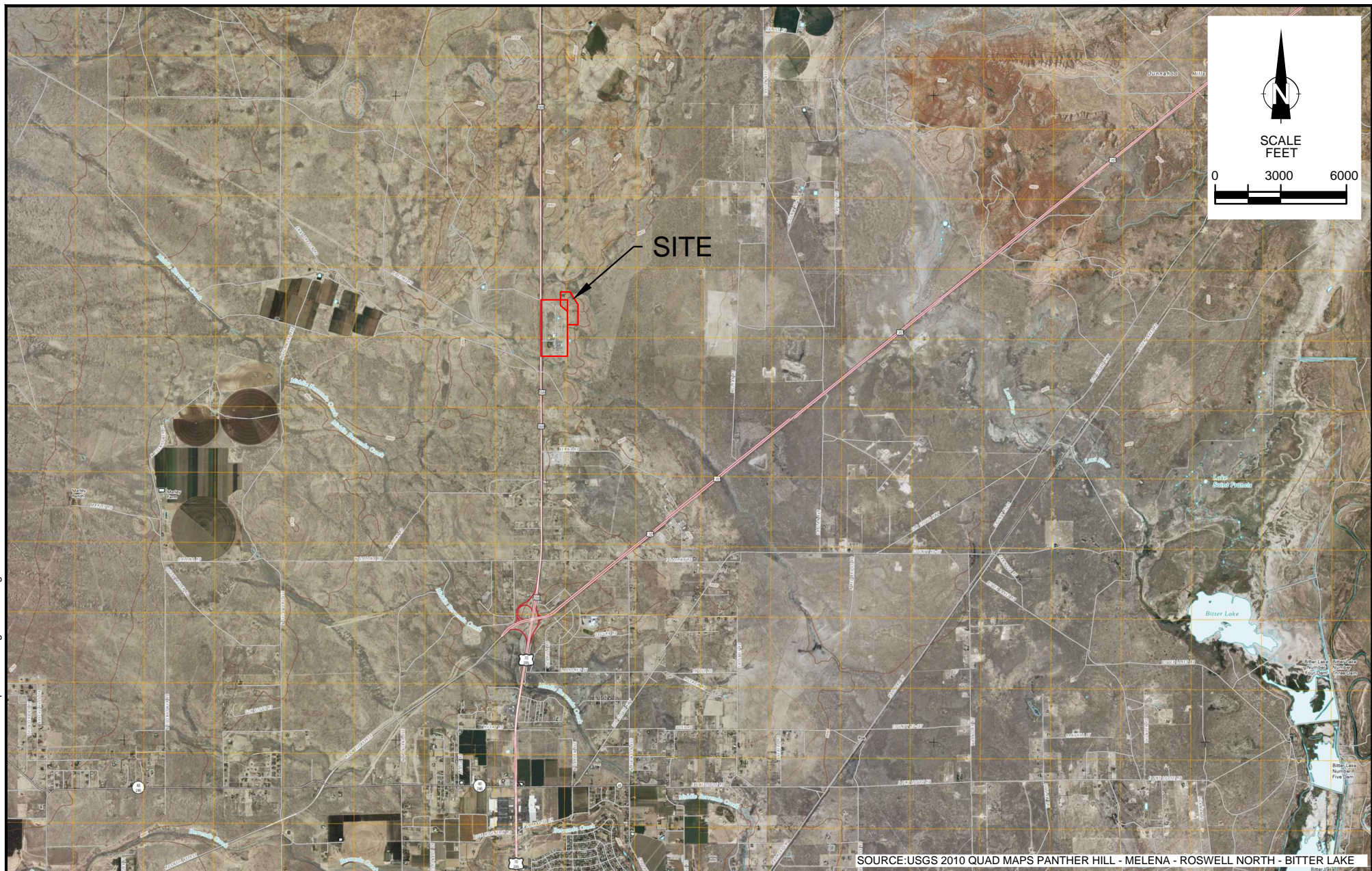
**Table 5-4. Summary of Water Treatment System Analyses
Transwestern Compressor Station No. 9 - Roswell, NM**

Sample Point	Sampling Date	Benzene	Toluene	Ethylbenzene	Xylenes (total)
NMWQCC Standard:		10	750	750	620
Pre-Treatment	11/03/11	2,400	4,900	260	2,800
-continued-	04/30/12	3,100	3,400	200	2,100
	06/05/12	2,600	3,900	220	2,200
	06/28/12	3,000	4,500	250	2,300
	07/25/12	2,900	4,600	260	2,700
	08/15/12	2,900	3,500	270	2,300
	09/23/12	2,600	3,600	270	2,400
	10/25/12	3,200	4,400	280	2,600
	11/28/12	2,300	3,700	230	2,300
	05/16/13	2,800	4,900	260	2,600
	06/17/13	2,500	4,500	260	2,500
	07/17/13	3,000	5,300	270	2,600

Notes:

Results reported above the NMWQCC standard are shown in bold type
Historical data before 2009 is presented in previous reports

FIGURES



REPORT OF 2013 GROUNDWATER REMEDIATION ACTIVITIES
 TRANSWESTERN PIPELINE COMPANY, LLC
 TRANSWESTERN COMPRESSOR STATION No. 9
 (ROSWELL COMPRESSOR STATION)
 ROSWELL, CHAVES COUNTY, NEW MEXICO

PROJ. NO: 02.20120037.00

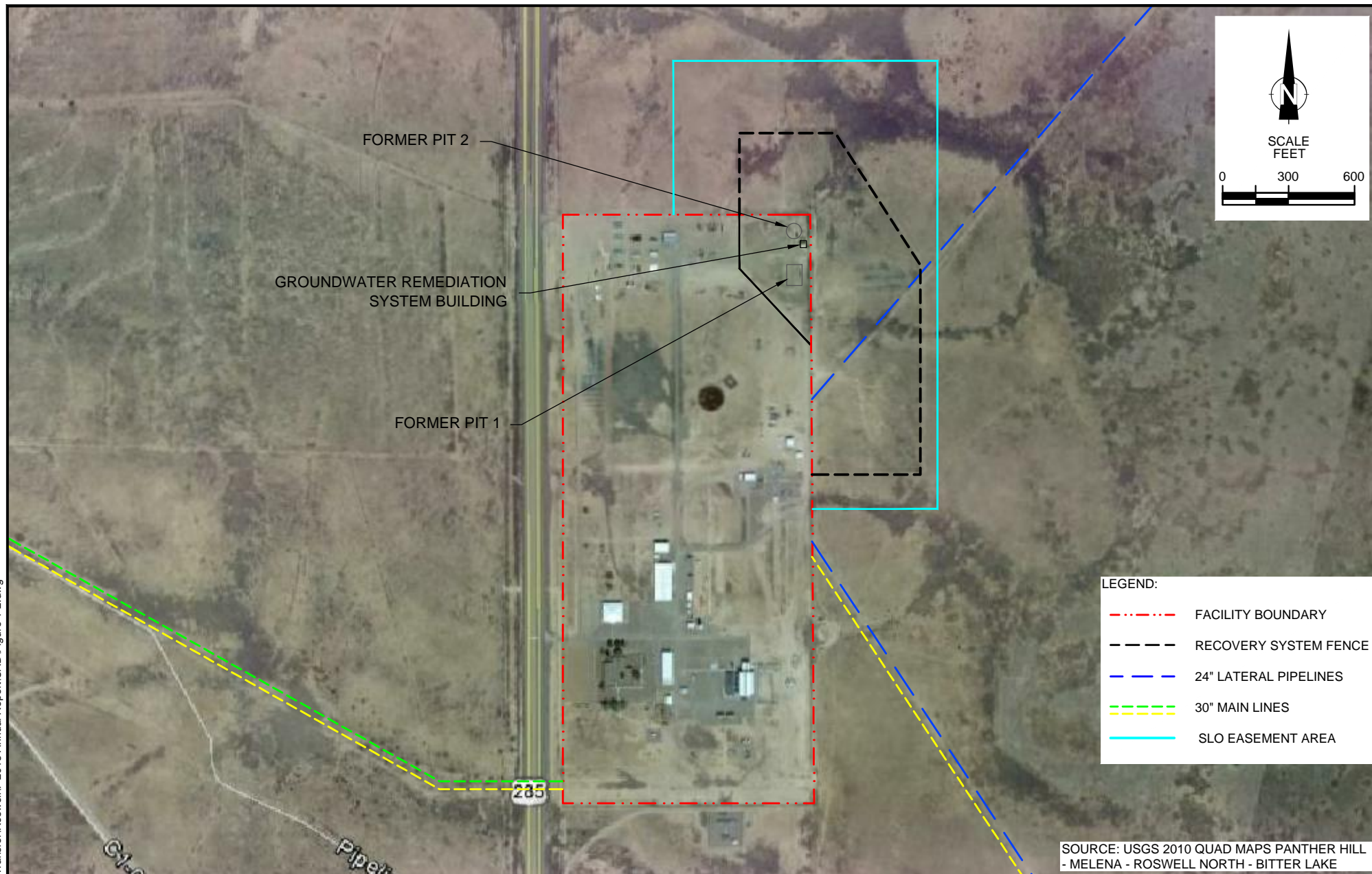
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SITE LOCATION MAP

DRAWN:	LDG	CHECKED:	GPF	DATE:	03/14	FIGURE:	1-1
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T:\PROJECT FILES\Energy Transfer\Roswell\7-2013 Annual Report\CAD\Figure 1-2.dwg



REPORT OF 2013 GROUNDWATER REMEDIATION ACTIVITIES
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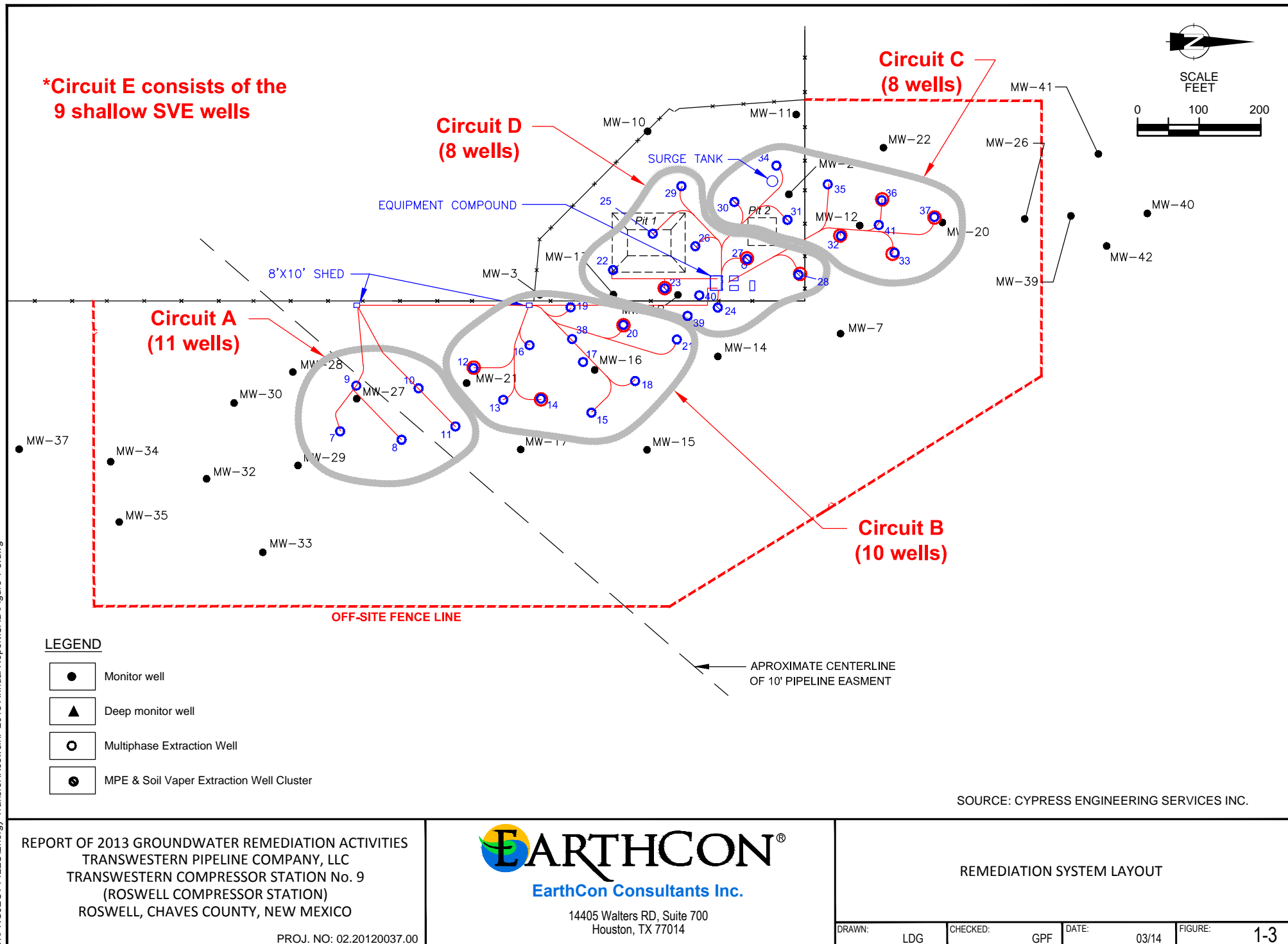


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SITE FEATURES

DRAWN:	LDG	CHECKED:	GPF	DATE:	03/14	FIGURE:	1-2
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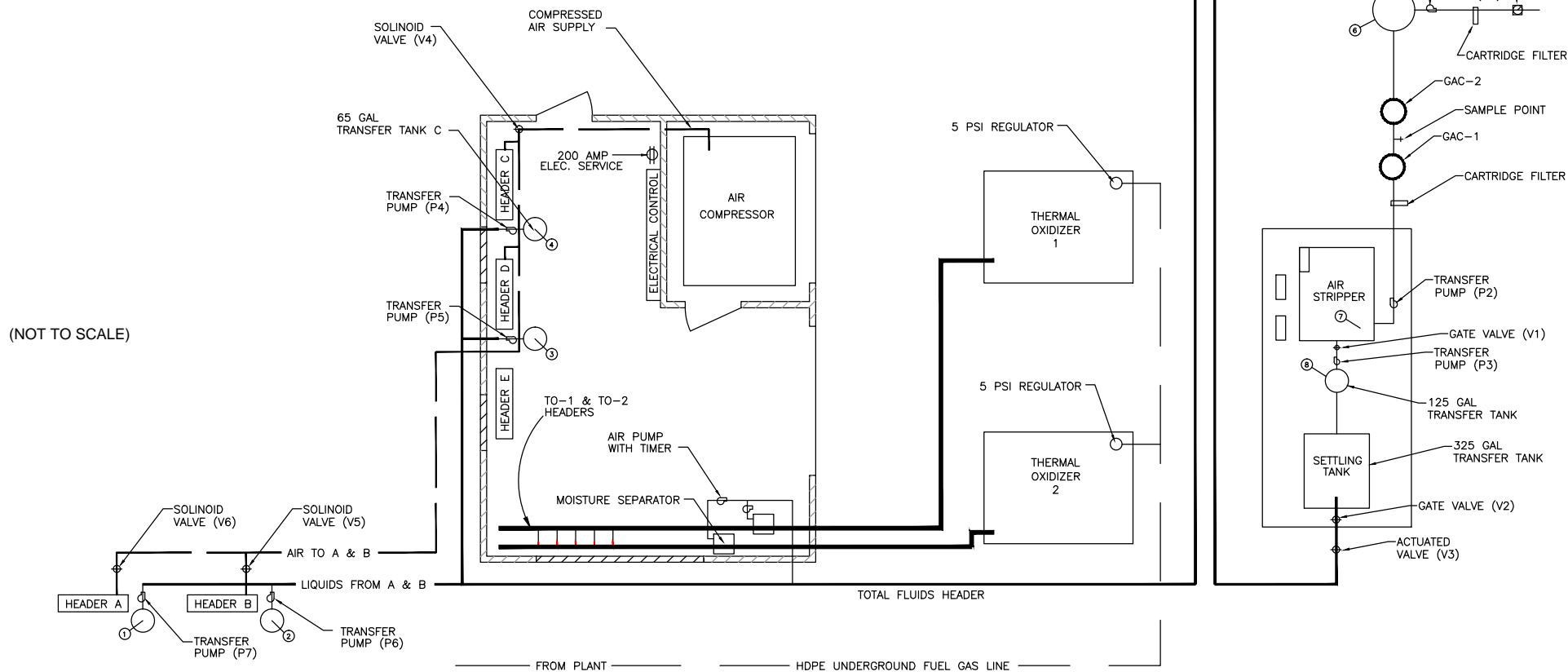


LEGEND FOR CONTROLS

- ① HH:V6-CLOSE; H:P7-ON; L:P7-OFF
- ② HH:V5-CLOSE; H:P6-ON; L:P6-OFF
- ③ HH:V4-CLOSE; H:P5-ON; L:P5-OFF
- ④ HH:V4-CLOSE; H:P4-ON; L:P4-OFF
- ⑤ HH:V4-CLOSE
- ⑥ HH:V3-CLOSE; H:P1-ON; L:P1-OFF
- ⑦ HH:P3-OFF & V3-CLOSE; H:P2-ON; L:P2-OFF
- ⑧ HH:V3-CLOSE; H:P3-ON; L:P3-OFF

LEGEND FOR ALARM CONDITIONS

- ALARM #1 - UPON V4 CLOSING
- ALARM #2 - UPON V3 CLOSING



SOURCE: CYPRESS ENGINEERING SERVICES INC.

REPORT OF 2013 GROUNDWATER REMEDIATION ACTIVITIES
 TRANSWESTERN PIPELINE COMPANY, LLC
 TRANSWESTERN COMPRESSOR STATION No. 9
 (ROSWELL COMPRESSOR STATION)
 ROSWELL, CHAVES COUNTY, NEW MEXICO

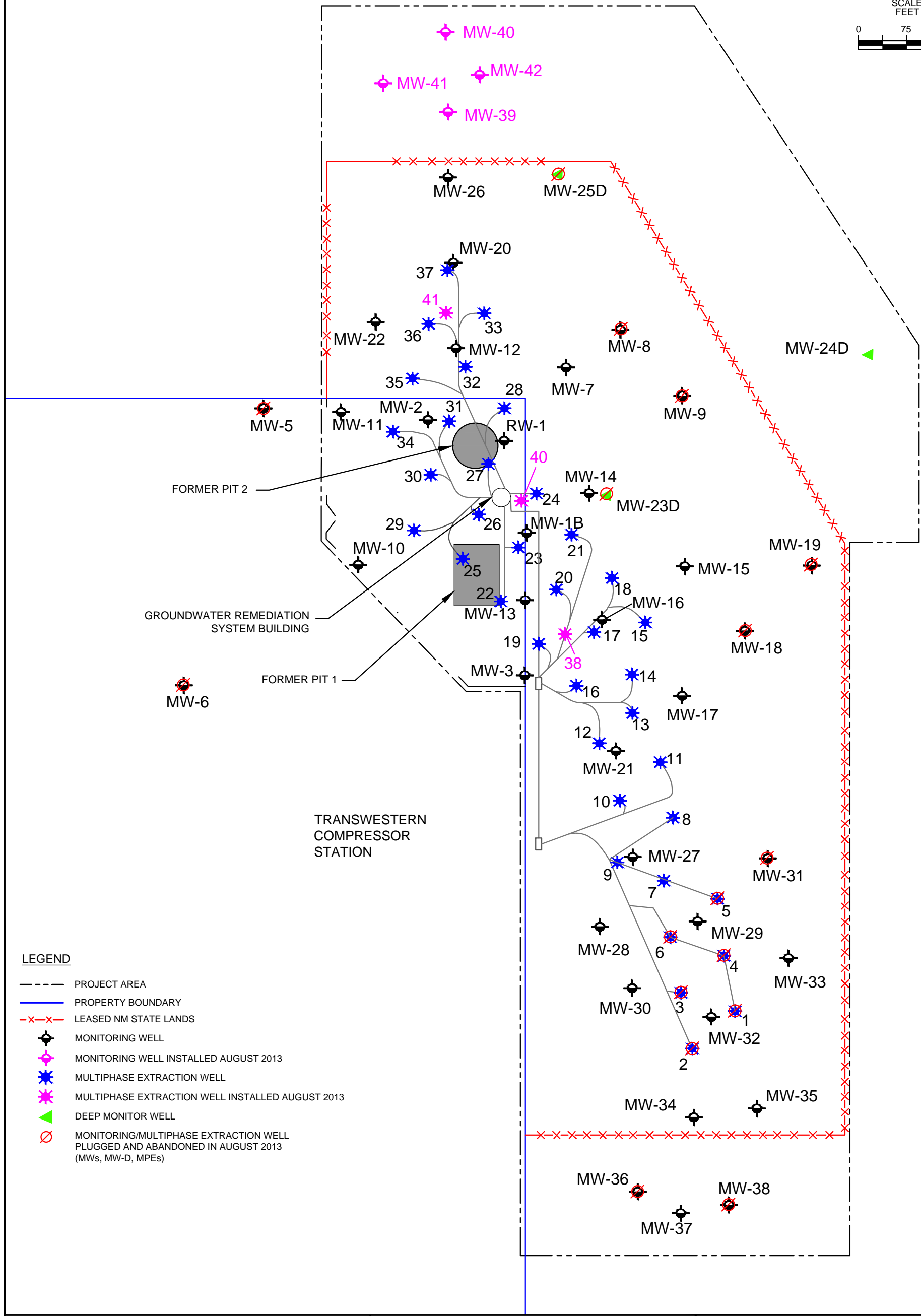
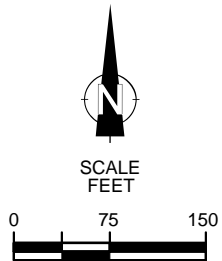
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EQUIPMENT COMPOUND DETAIL

DRAWN:	LDG	CHECKED:	GPF	DATE:	03/14	FIGURE:	1-4
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LEGEND

- PROJECT AREA
- PROPERTY BOUNDARY
- x-x- LEASED NM STATE LANDS
- ⦿ MONITORING WELL
- ⦿ MONITORING WELL INSTALLED AUGUST 2013
- ⦿ MULTIPHASE EXTRACTION WELL
- ⦿ MULTIPHASE EXTRACTION WELL INSTALLED AUGUST 2013
- ▲ DEEP MONITOR WELL
- ⦿ MONITORING/MULTIPHASE EXTRACTION WELL PLUGGED AND ABANDONED IN AUGUST 2013 (MWs, MW-D, MPEs)

REPORT OF 2013 GROUNDWATER REMEDIATION ACTIVITIES
TRANSWESTERN PIPELINE COMPANY, LLC
TRANSWESTERN COMPRESSOR STATION No. 9
(ROSWELL COMPRESSOR STATION)
ROSWELL, CHAVES COUNTY, NEW MEXICO

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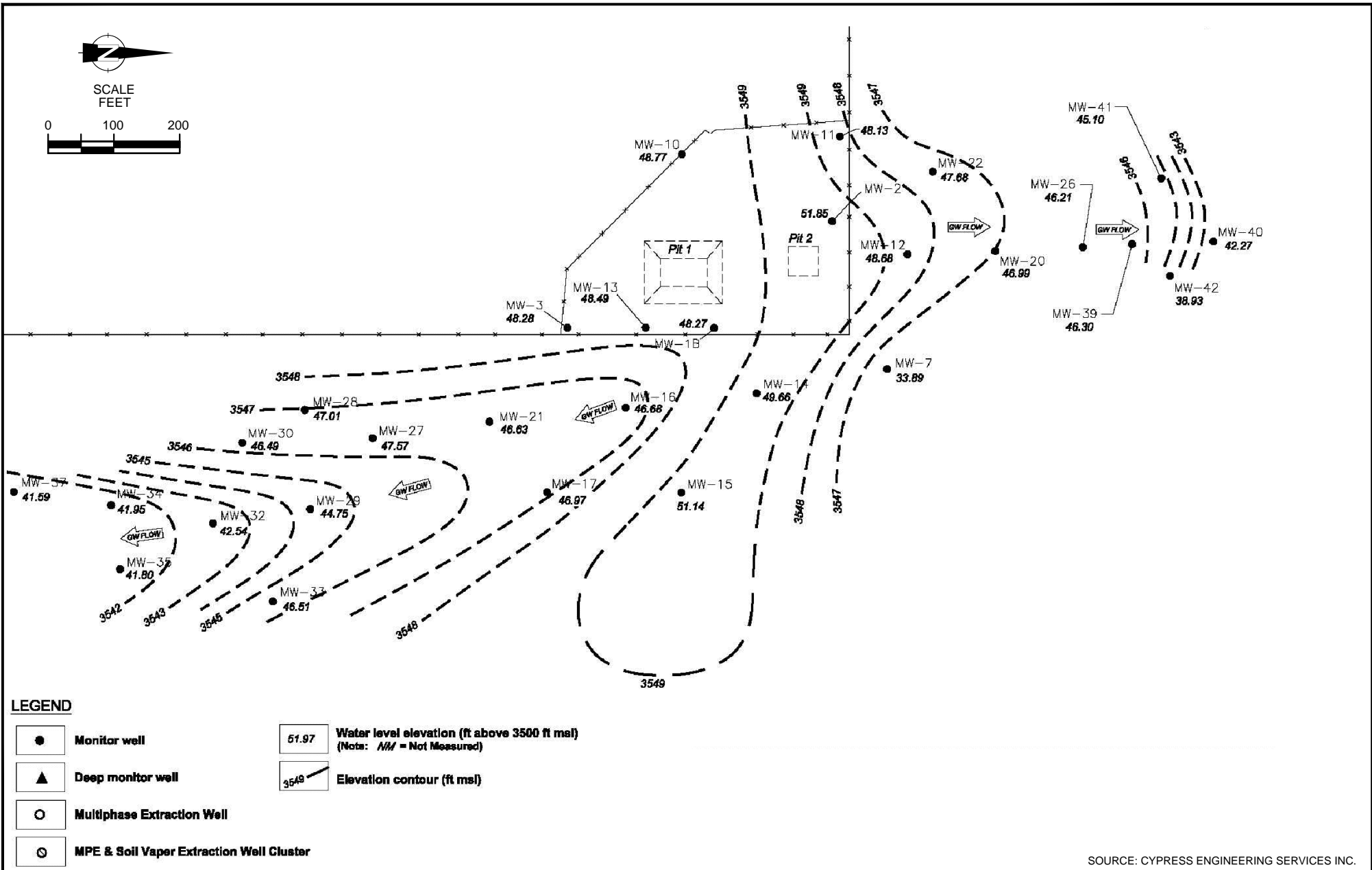
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WELL LOCATIONS

DRAWN:	LDG	CHECKED:	GPF	DATE:	03/14	FIGURE:	1-5
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T:\PROJECT FILES\Energy Transfer\Roswell\7-2013 Annual Report\CAD\Figure 1-5.dwg

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SOURCE: CYPRESS ENGINEERING SERVICES INC.

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ROSWELL, CHAVES COUNTY, NEW MEXICO

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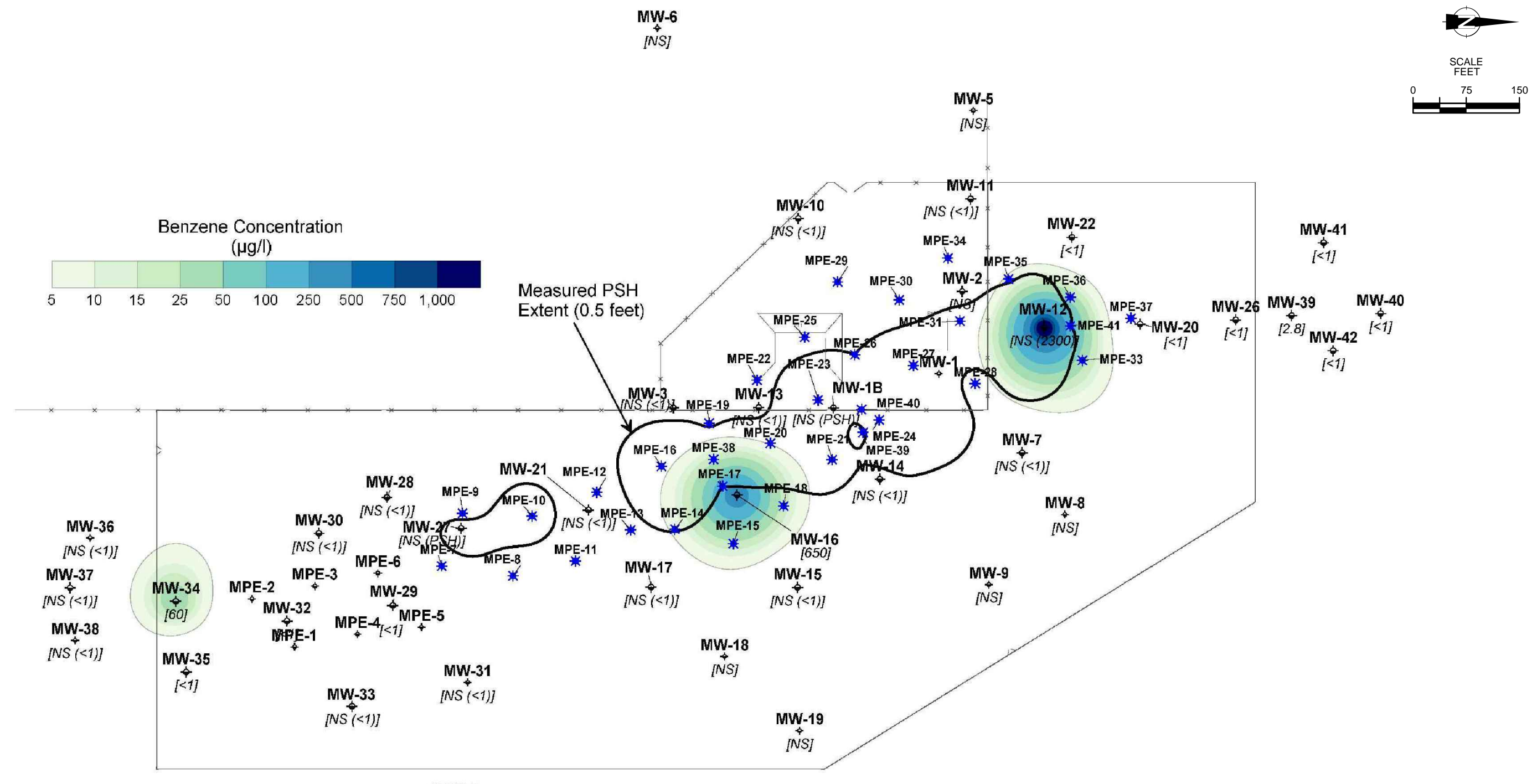
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GROUNDWATER SURFACE
ELEVATIONS IN THE UPPERMOST AQUIFER
NOVEMBER 3, 2013

DRAWN:	LDG	CHECKED:	GPF	DATE:	03/14	FIGURE:	4-1
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T:\PROJECT FILES\Energy Transfer\Roswell\7-2013 Annual Report\CAD\Figure 4-4.dwg



REPORT OF 2013 GROUNDWATER REMEDIATION ACTIVITIES
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TRANSWESTERN COMPRESSOR STATION No. 9
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ROSWELL, CHAVES COUNTY, NEW MEXICO

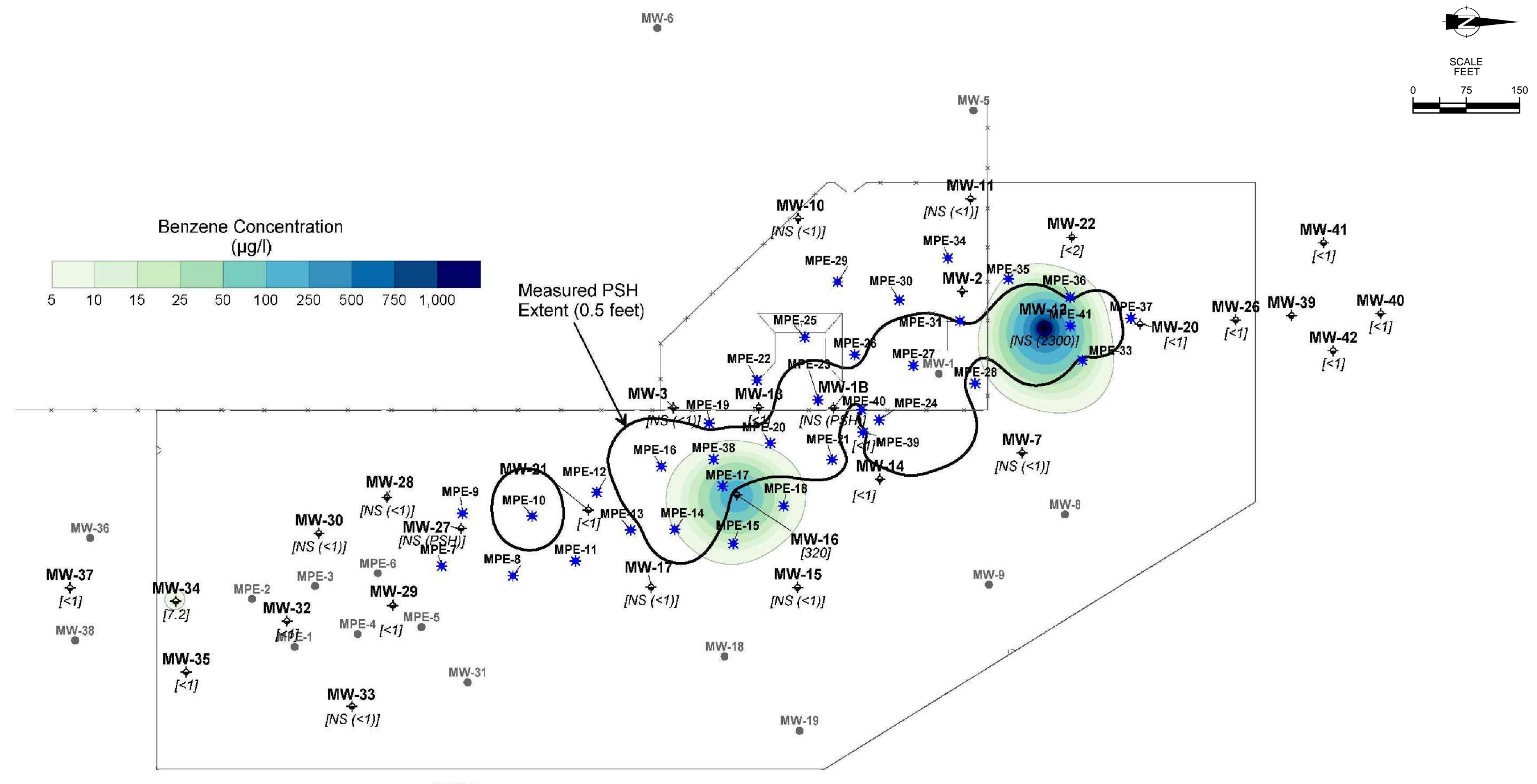
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DISTRIBUTION OF DISSOLVED BENZENE
IN THE UPPERMOST AQUIFER
APRIL 2013

DRAWN: LDG CHECKED: GPF DATE: 03/14 FIGURE: 4-4

PROJ. NO: 02.20120037.00

T:\PROJECT FILES\Energy Transfer\Roswell\7-2013 Annual Report\CAD\Figure 4-5.dwg

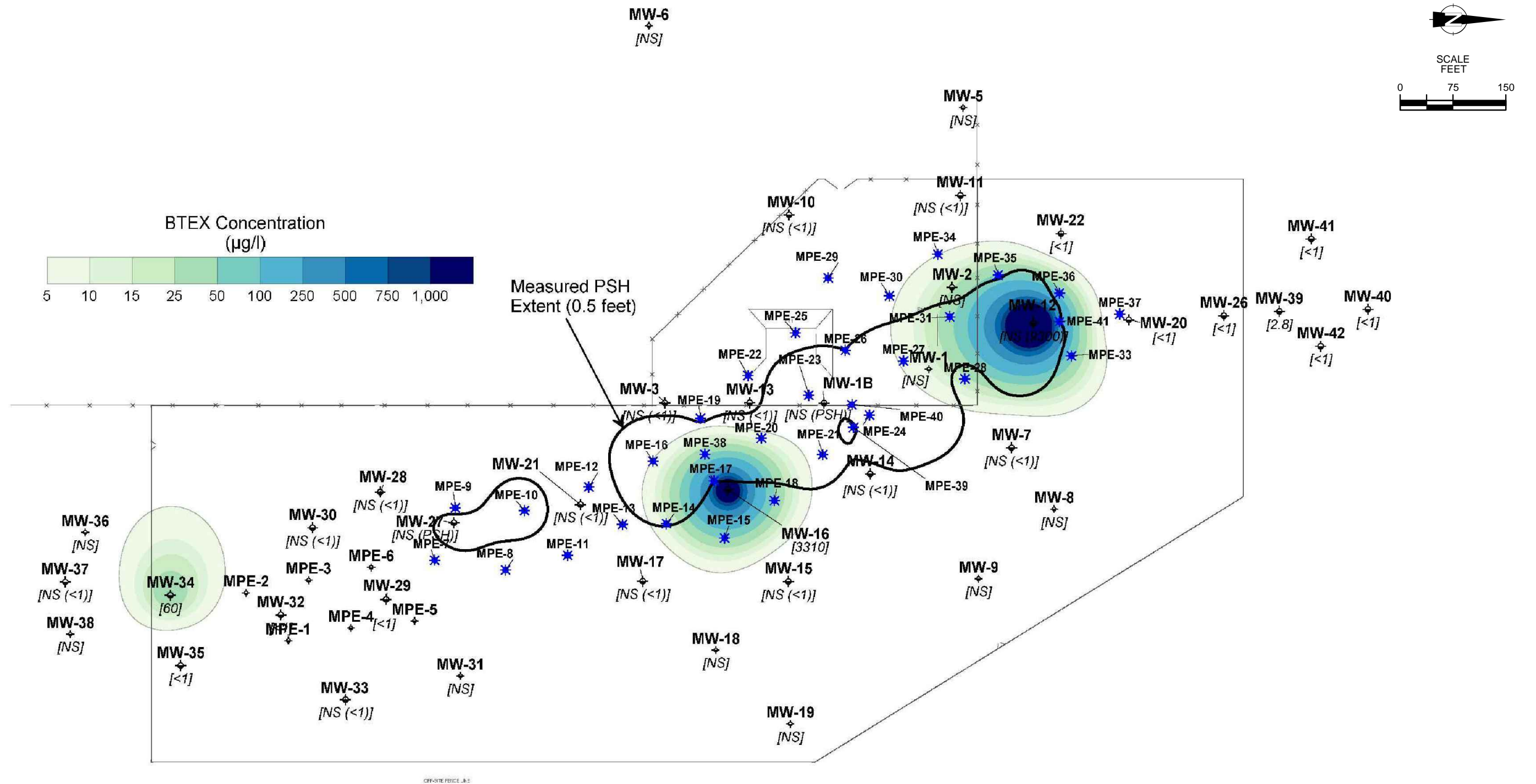


REPORT OF 2013 GROUNDWATER REMEDIATION ACTIVITIES
TRANSWESTERN PIPELINE COMPANY, LLC
TRANSWESTERN COMPRESSOR STATION No. 9
(ROSWELL COMPRESSOR STATION)
ROSWELL, CHAVES COUNTY, NEW MEXICO

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DISTRIBUTION OF DISSOLVED BENZENE
IN THE UPPERMOST AQUIFER
NOVEMBER 2013

T:\PROJECT FILES\Energy Transfer\Roswell\7-2013 Annual Report\CAD\Figure 4-6.dwg



REPORT OF 2013 GROUNDWATER REMEDIATION ACTIVITIES
TRANSWESTERN PIPELINE COMPANY, LLC
TRANSWESTERN COMPRESSOR STATION No. 9
(ROSWELL COMPRESSOR STATION)
ROSWELL, CHAVES COUNTY, NEW MEXICO

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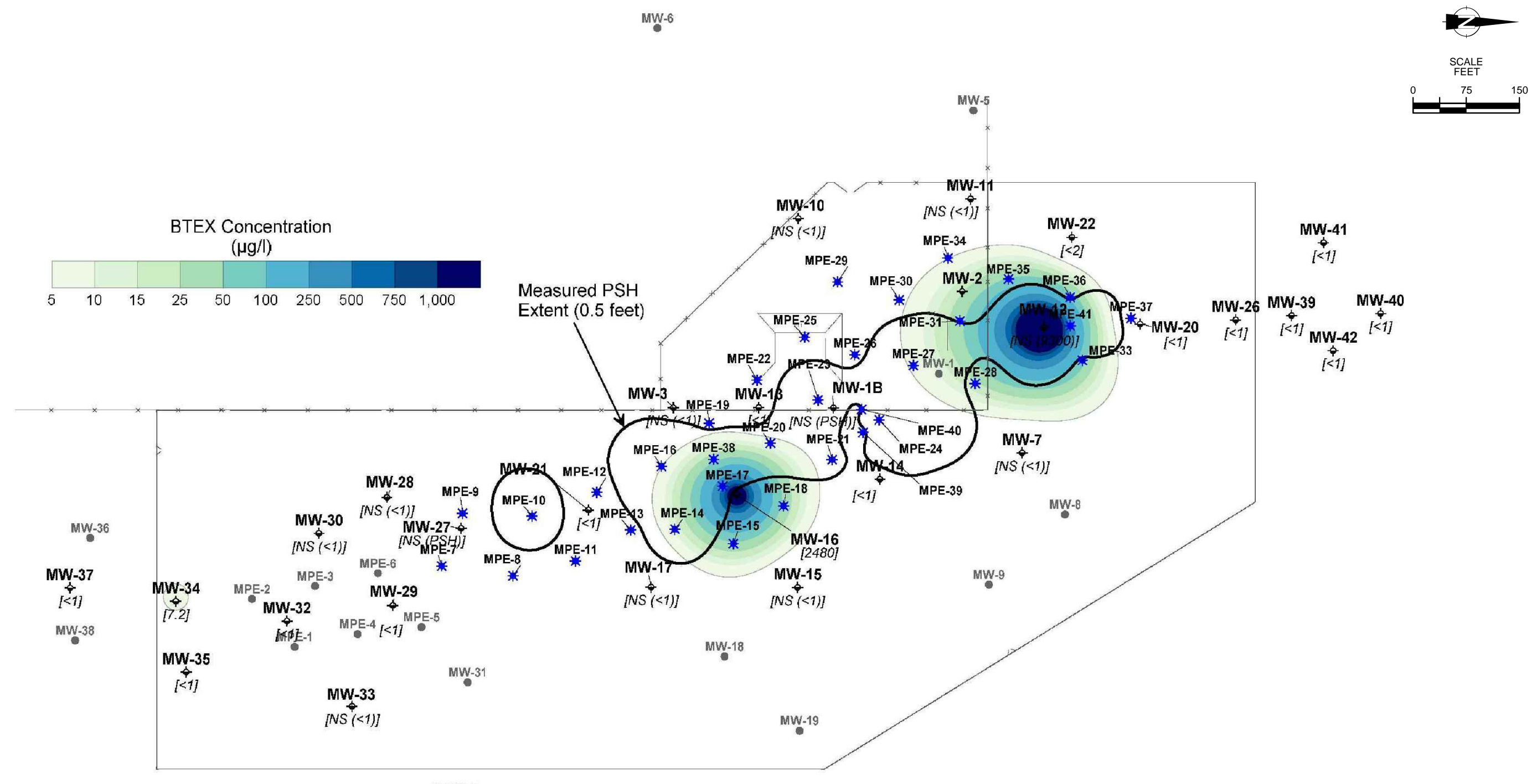
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DISTRIBUTION OF DISSOLVED BTEX
IN THE UPPERMOST AQUIFER
APRIL 2013

DRAWN:	LDG	CHECKED:	GPF	DATE:	03/14	FIGURE:	4-6
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T:\PROJECT FILES\Energy Transfer\Roswell\7-2013 Annual Report\CAD\Figure 4-7.dwg



LEGEND

MW-4
[5]

Monitoring Well with
Concentration (µg/l)

MPE-31 Multi-Phase Extraction Well



MW-38 Abandoned Well



NS [<1] - Not Sampled
Assumed Value Shown

REPORT OF 2013 GROUNDWATER REMEDIATION ACTIVITIES
TRANSWESTERN PIPELINE COMPANY, LLC
TRANSWESTERN COMPRESSOR STATION No. 9
(ROSWELL COMPRESSOR STATION)
ROSWELL, CHAVES COUNTY, NEW MEXICO

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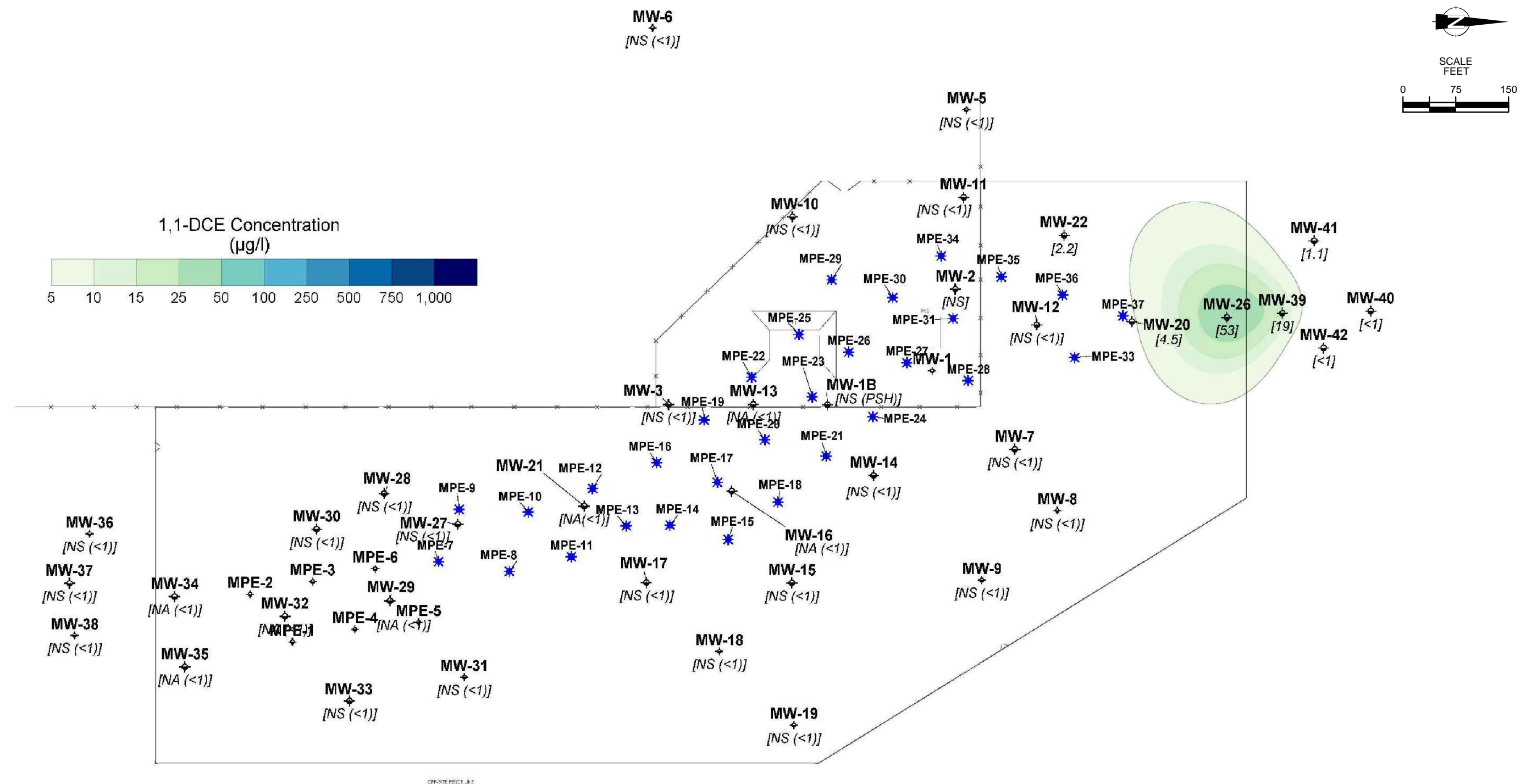
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DISTRIBUTION OF DISSOLVED BTEX
IN THE UPPERMOST AQUIFER
NOVEMBER 2013

DRAWN:	LDG	CHECKED:	GPF	DATE:	03/14	FIGURE:	4-7
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T:\PROJECT FILES\Energy Transfer\Roswell\7-2013 Annual Report\CAD\Figure 4-8.dwg



LEGEND

MW-4
[5]

Monitoring Well with
Concentration (µg/l)



MPE-31 Multi-Phase Extraction Well



MW-38 Abandoned Well

NS [<1] - Not Sampled
Assumed Value Shown

NOTE:

-MW-39 THROUGH MW-41 AND MPE-38 THROUGH MPE-41 WERE INSTALLED IN AUGUST 2013

REPORT OF 2013 GROUNDWATER REMEDIATION ACTIVITIES
TRANSWESTERN PIPELINE COMPANY, LLC
TRANSWESTERN COMPRESSOR STATION No. 9
(ROSWELL COMPRESSOR STATION)
ROSWELL, CHAVES COUNTY, NEW MEXICO

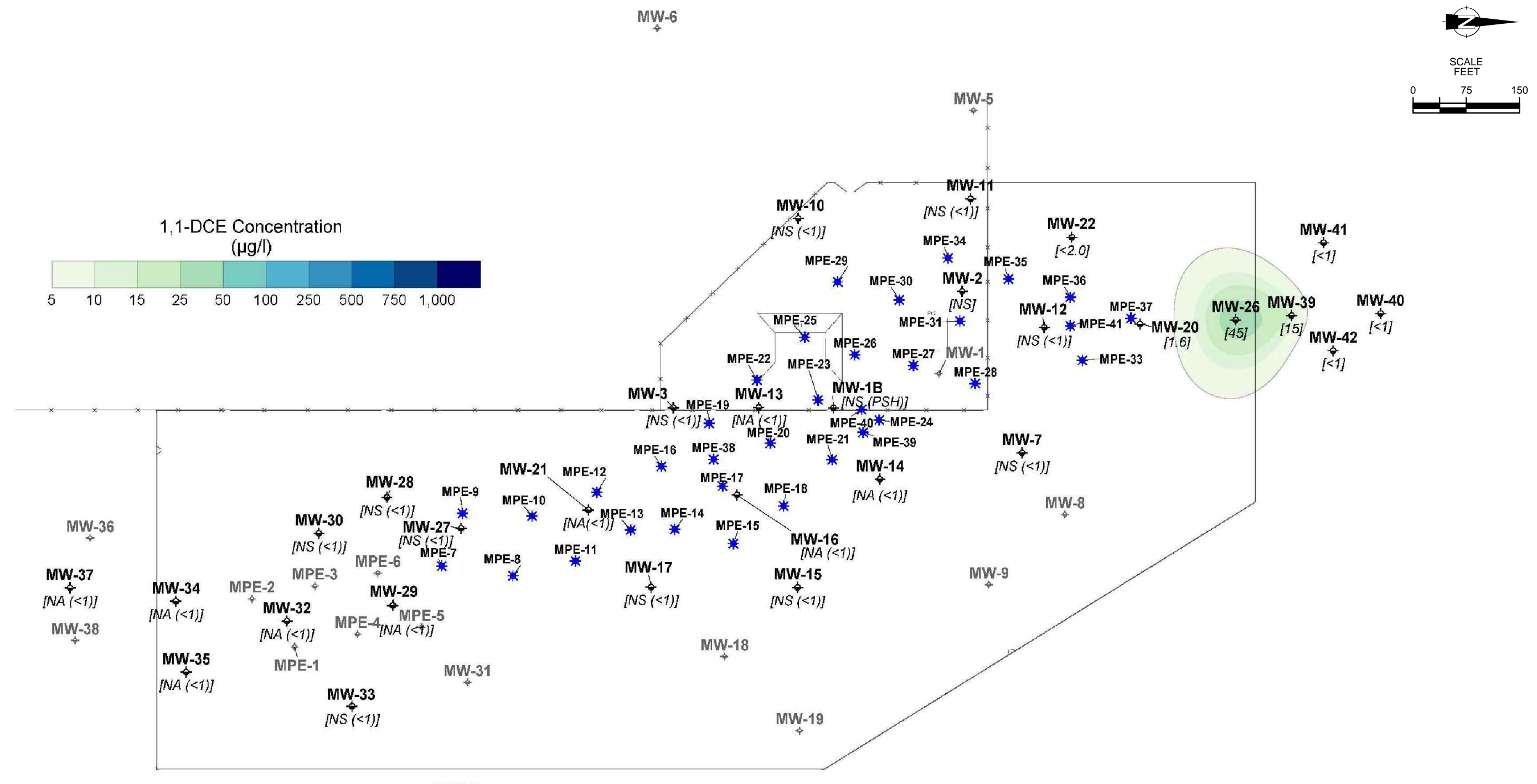
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DISTRIBUTION OF DISSOLVED 1,1-DCE
IN THE UPPERMOST AQUIFER
APRIL 2013

DRAWN:	LDG	CHECKED:	GPF	DATE:	03/14	FIGURE:	4-8
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T:\PROJECT FILES\Energy Transfer\Roswell\7-2013 Annual Report\CAD\Figure 4-9.dwg



LEGEND

- MW-4 [5] Monitoring Well with Concentration (µg/l)
- MW-38 Abandoned Well
- MPE-31 Multi-Phase Extraction Well
- NS [<1] - Not Sampled Assumed Value Shown

REPORT OF 2013 GROUNDWATER REMEDIATION ACTIVITIES
TRANSWESTERN PIPELINE COMPANY, LLC
TRANSWESTERN COMPRESSOR STATION No. 9
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DISTRIBUTION OF DISSOLVED 1,1-DCE
IN THE UPPERMOST AQUIFER
NOVEMBER 2013

DRAWN: LDG	CHECKED: GPF	DATE: 03/14	FIGURE: 4-9
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Appendix A
Copies of April and November 2013 Field Notes

GROUNDWATER SAMPLING LOG

SITE NAME: <i>TWP Roswell Station #9</i>		SITE LOCATION: <i>Roswell, NM</i>	
WELL NO: <i>MW-16</i>	SAMPLE ID: <i>TWP Roswell Stationing MW-16</i>	DATE: <i>04/17/13</i>	

PURGING DATA

WELL DIAMETER (inches): <u>2" 5/8 40 PVC</u>	TUBING DIAMETER (inches):	WELL SCREEN INTERVAL DEPTH: <u>46.4</u> feet to <u>71.4</u> feet	STATIC DEPTH TO WATER (feet): <u>66.17</u>	PURGE PUMP TYPE OR <u>SAVER</u> : <u>2" PVC Disposable</u>
WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY (only fill out if applicable)				
= (<u>71.46</u> feet - <u>66.17</u> feet) X <u>0.16</u> gallons/foot = <u>0.84</u> gallons				
EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME (only fill out if applicable)				
= gallons + (gallons/foot X feet) + gallons = gallons				

INITIAL PUMP OR TUBING DEPTH IN WELL (feet):	FINAL PUMP OR TUBING DEPTH IN WELL (feet):	PURGING INITIATED AT: 10:44	PURGING ENDED AT: 10:49	TOTAL VOLUME PURGED (gallons): 1.0
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[illegible]

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016

PURGING EQUIPMENT CODES: B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: <i>AmB Environmental / RES</i>	SAMPLER(S) SIGNATURE(S): <i>[Signature]</i>	SAMPLING INITIATED AT: <i>14:50</i>	SAMPLING ENDED AT: <i>14:55</i>
---	--	-------------------------------------	---------------------------------

PUMP OR TUBING DEPTH IN WELL (feet):	TUBING MATERIAL CODE:	FIELD-FILTERED: Y <u>N</u> Filtration Equipment Type:	FILTER SIZE: _____ μm
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FIELD DECONTAMINATION:	PUMP	Y	N	TUBING	Y	N (replaced)	DUPLICATE:	Y	N
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[illegible]

REMARKS:

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump;
RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.

2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)

pH: ± 0.2 units **Temperature:** ± 0.2 °C **Specific Conductance:** $\pm 5\%$ **Dissolved Oxygen:** all readings $\leq 20\%$ saturation (see Table FS 2200-2); optionally, ± 0.2 mg/L or $\pm 10\%$ (whichever is greater) **Turbidity:** all readings ≤ 20 NTU; optionally ± 5 NTU or $\pm 10\%$ (whichever is greater)

Revision Date: February 12, 2009

GROUNDWATER SAMPLING LOG

SITE NAME: TWP ROSWELL S/A 9		SITE LOCATION: ROSWELL NM	
WELL NO: MW-20	SAMPLE ID: TWP ROSWELL S/A 9		DATE: 4/17/13

PURGING DATA

WELL Sch 40 DIAMETER (inches): 2"	TUBING DIAMETER (inches):	WELL SCREEN INTERVAL DEPTH: 46.8 feet to 61.8 feet	STATIC DEPTH TO WATER (feet): 53.90	PURGE PUMP TYPE OR BAILER: SP
WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY (only fill out if applicable) = (64.0 feet - 53.90 feet) X 0.163 gallons/foot = 1.6 gallons				
EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME (only fill out if applicable) = gallons + (gallons/foot X feet) + gallons = gallons				

[illegible]

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016

PURGING EQUIPMENT CODES: B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLING DATA

[illegible]

REMARKS:

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump;
RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.

2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)

pH: ± 0.2 units **Temperature:** ± 0.2 °C **Specific Conductance:** $\pm 5\%$ **Dissolved Oxygen:** all readings $\leq 20\%$ saturation (see Table FS 2200-2); optionally, $+0.2$ mg/L or $+10\%$ (whichever is greater) **Turbidity:** all readings < 20 NTU; optionally $+5$ NTU or $+10\%$ (whichever is greater)

Revision Date: February 12, 2009

GROUNDWATER SAMPLING LOG

SITE NAME: TWP ROSWELL SHA 9		SITE LOCATION: ROSWELL NM	
WELL NO: MW-22	SAMPLE ID: TWP ROSWELL SHA 9	DATE: 4/17/13	

PURGING DATA

[illegible]

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: SANDY SHARP / CES						SAMPLER(S) SIGNATURE(S): <i>[Signature]</i>		SAMPLING INITIATED AT: 1745		SAMPLING ENDED AT: 1950	
PUMP OR TUBING DEPTH IN WELL (feet):				TUBING MATERIAL CODE:		FIELD-FILTERED: Y <input checked="" type="radio"/> N <input type="radio"/>		FILTER SIZE: _____ µm Filtration Equipment Type:			
FIELD DECONTAMINATION: DISINFECTABLE PUMP BAILEY Y <input checked="" type="radio"/> N <input type="radio"/> EQUIPMENT ADDING SAMPLER Y <input checked="" type="radio"/> N (replaced)						DUPLICATE: Y <input type="radio"/> N <input checked="" type="radio"/>					
SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)		
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH					
<i>Component 1</i>	3	CG	40ml	HCl	-	-	8260 VOCs	B	-		
<i>Component 2</i>	3	CG	40ml	HCl	-	-	8021 BTEX	B	-		
REMARKS: WELL BAILED DRY @ 2.1 gals. LET WELL RECHARGE PRIOR TO SAMPLING											
MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)											
SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailor; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)											

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.

2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)

pH: ± 0.2 units **Temperature:** ± 0.2 °C **Specific Conductance:** $\pm 5\%$ **Dissolved Oxygen:** all readings $\leq 20\%$ saturation (see Table FS 2200-2); optionally, $+0.2$ mg/L or $+10\%$ (whichever is greater) **Turbidity:** all readings < 20 NTU; optionally $+5$ NTU or $+10\%$ (whichever is greater)

Revision Date: February 12, 2009

GROUNDWATER SAMPLING LOG

SITE NAME: <u>TWP Roswell Station 9</u>	SITE LOCATION: <u>Roswell, NM</u>
WELL NO: <u>MW 23D</u>	SAMPLE ID: <u>TWP Roswell Station 9 MW 23D</u> DATE: <u>04/16/2013</u>

PURGING DATA

WELL <u>4" SCH 40 PVC</u>	TUBING DIAMETER (inches):	WELL SCREEN INTERVAL DEPTH: <u>167</u> feet to <u>187</u> feet	STATIC DEPTH TO WATER (feet): <u>71.53'</u>	PURGE PUMP TYPE <u>4" SCH 40 OR BAILER PVC Bailer</u>
WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY (only fill out if applicable) = (<u>122.47</u> feet - <u>71.53</u> feet) X <u>0.653</u> gallons/foot = <u>79.97</u> gallons				
EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME (only fill out if applicable) = _____ gallons + (_____ gallons/foot X _____ feet) + _____ gallons = _____ gallons				

INITIAL PUMP OR TUBING DEPTH IN WELL (feet):	FINAL PUMP OR TUBING DEPTH IN WELL (feet):	PURGING INITIATED AT: <u>1634</u>	PURGING ENDED AT: <u>1700</u>	TOTAL VOLUME PURGED (gallons): <u>40</u>
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TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (circle units) <u>µmhos/cm</u> or <u>µS/cm</u>	DISSOLVED OXYGEN (circle units) <u>mg/L</u> or % saturation	<u>ORP</u> TURBIDITY (NTUs) <u>MV143</u>	COLOR (describe)	ODOR (describe)
<u>1634</u>	<u>Initial</u>	<u>0</u>		<u>71.53</u>	<u>8.25</u>	<u>20.14</u>	<u>3.372</u>	<u>4.88</u>	<u>-30.2</u>	<u>Clear</u>	<u>None</u>
<u>1639</u>	<u>10</u>	<u>10</u>		<u>—</u>	<u>8.10</u>	<u>19.29</u>	<u>3.433</u>	<u>4.29</u>	<u>-39.0</u>	<u>Clear</u>	<u>None</u>
<u>1645</u>	<u>10</u>	<u>20</u>		<u>—</u>	<u>8.23</u>	<u>19.06</u>	<u>3.427</u>	<u>4.33</u>	<u>-25.4</u>	<u>Clear</u>	<u>None</u>
<u>1651</u>	<u>10</u>	<u>30</u>		<u>—</u>	<u>8.17</u>	<u>19.04</u>	<u>3.438</u>	<u>4.52</u>	<u>-32.7</u>	<u>Clear</u>	<u>None</u>
<u>1658</u>	<u>10</u>	<u>40</u>		<u>—</u>	<u>8.17</u>	<u>19.13</u>	<u>3.438</u>	<u>4.11</u>	<u>-32.7</u>	<u>Clear</u>	<u>None</u>
<u>Sampled MW-23D @ 17:00 HOUR.</u>											

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016

PURGING EQUIPMENT CODES: B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: <u>CMB Environmental / CES</u>	SAMPLER(S) SIGNATURE(S): <u>[Signature]</u>	SAMPLING INITIATED AT: <u>1621</u>	SAMPLING ENDED AT: <u>1700</u>
PUMP OR TUBING DEPTH IN WELL (feet): <u>Bailer</u>	TUBING MATERIAL CODE: <u>Rinse Sample</u>	FIELD-FILTERED: Y <u>(N)</u>	FILTER SIZE: _____ µm
FIELD DECONTAMINATION: <u>PUMP</u> <u>Q</u> <u>N</u>	TUBING Y <u>(N)</u> (replaced)	DUPLICATE: Y <u>(N)</u>	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH			
<u>—</u>	<u>3</u>	<u>CG</u>	<u>40mL</u>	<u>HCL</u>	<u>0</u>	<u>—</u>	<u>BTEX 802/</u>	<u>B</u>	<u>—</u>

REMARKS:

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.

2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)

pH: ± 0.2 units Temperature: ± 0.2 °C Specific Conductance: ± 5% Dissolved Oxygen: all readings ≤ 20% saturation (see Table FS 2200-2); optionally, ± 0.2 mg/L or ± 10% (whichever is greater) Turbidity: all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

Revision Date: February 12, 2009

GROUNDWATER SAMPLING LOG

SITE NAME: TWP Roswell station 9		SITE LOCATION: Roswell, NM	
WELL ID: MW 24D	SAMPLE ID: TWP Roswell station 9 MW24D	DATE: 04/16/2013	

PURGING DATA

WELL 4" SCH 40 PVL DIAMETER (inches):		TUBING DIAMETER (inches):		WELL SCREEN INTERVAL DEPTH: 146 feet to 176 feet		STATIC DEPTH TO WATER (feet): 62.76'		PUMP TYPE OR BAILER: 4" SCH 40 PVL Barker			
WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY (only fill out if applicable) = (180 feet - 62.76 feet) X 0.653 gallons/foot = 76.55 gallons											
EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME (only fill out if applicable) = gallons + (gallons/foot X feet) + gallons = gallons											
INITIAL PUMP OR TUBING DEPTH IN WELL (feet):			FINAL PUMP OR TUBING DEPTH IN WELL (feet):			PURGING INITIATED AT: 1458		PURGING ENDED AT: 1520		TOTAL VOLUME PURGED (gallons): 40	
TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (circle units) µmhos/cm or µS/cm	DISSOLVED OXYGEN (circle units) (mg/L) or % saturation	ORP TURBIDITY (NTU) m Volts	COLOR (describe)	ODOR (describe)
1458	Initial	0		62.76	8.09	21.42	N/A	4.54	-71.5	clear	None
1502	10	10		—	7.80	19.12	N/A	3.41	-44.1	clear	None
1509	20	20		—	7.39	18.89	N/A	3.28	-14.0	clear	None
1514	10	30		—	7.45	18.84	3.31	4.85	-0.8	clear	None
1520	10	40		—	7.63	18.69	3.330	4.10	1.5	clear	None
Sampled MW-24D @ 15:15: 40 hours											
WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88											
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0008; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016											
PURGING EQUIPMENT CODES: B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)											

SAMPLING DATA

[illegible]

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.

2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)

pH: ± 0.2 units **Temperature:** ± 0.2 °C **Specific Conductance:** $\pm 5\%$ **Dissolved Oxygen:** all readings $\leq 20\%$ saturation (see Table FS 2200-2); optionally, $+0.2$ mg/L or $+10\%$ (whichever is greater) **Turbidity:** all readings ≤ 20 NTU; optionally $+5$ NTU or $+10\%$ (whichever is greater)

Revision Date: February 12, 2009

GROUNDWATER SAMPLING LOG

SITE NAME: <u>TWP Roswell station 9</u>	SITE LOCATION: <u>Roswell NM</u>
WELL NO: <u>MW-25D</u>	SAMPLE ID: <u>TWP Roswell station MW25D</u> DATE: <u>04/17/2013</u>

PURGING DATA

WELL <u>4" SCH 40 PVC</u>	TUBING DIAMETER (inches):	WELL SCREEN INTERVAL DEPTH: <u>119 feet to 149 feet</u>	STATIC DEPTH TO WATER (feet): <u>58.06</u>	PURGE PUMP TYPE <u>4" SCH 40 Bailer</u>
WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY (only fill out if applicable) = (<u>150'</u> feet - <u>58.06'</u> feet) X <u>0.653</u> gallons/foot = <u>60.03</u> gallons				
EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME (only fill out if applicable) = _____ gallons + (_____ gallons/foot X _____ feet) + _____ gallons = _____ gallons				

INITIAL PUMP OR TUBING DEPTH IN WELL (feet):		FINAL PUMP OR TUBING DEPTH IN WELL (feet):		PURGING INITIATED AT: <u>0816</u>		PURGING ENDED AT: <u>0850</u>		TOTAL VOLUME PURGED (gallons): <u>40</u>			
TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (circle units) <u>µmhos/cm or µS/cm</u>	DISSOLVED OXYGEN (circle units) <u>mg/L or % saturation</u>	ORP TURBIDITY (NTU) <u>mV</u>	COLOR (describe)	ODOR (describe)
<u>0816</u>	<u>Initial</u>	<u>0</u>		<u>58.06</u>	<u>7.54</u>	<u>18.07</u>	<u>3.094</u>	<u>3.54</u>	<u>+5.4</u>	<u>clear</u>	<u>None</u>
<u>0820</u>	<u>10</u>	<u>10</u>		<u>—</u>	<u>7.35</u>	<u>18.19</u>	<u>3.170</u>	<u>3.83</u>	<u>6.5</u>	<u>clear</u>	<u>None</u>
<u>0826</u>	<u>10</u>	<u>20</u>			<u>7.31</u>	<u>18.02</u>	<u>3.170</u>	<u>3.03</u>	<u>10.0</u>	<u>clear</u>	<u>None</u>
<u>0844</u>	<u>10</u>	<u>30</u>			<u>7.38</u>	<u>17.83</u>	<u>3.166</u>	<u>3.54</u>	<u>11.3</u>	<u>clear</u>	<u>None</u>
<u>0848</u>	<u>10</u>	<u>40</u>			<u>7.41</u>	<u>17.82</u>	<u>3.168</u>	<u>3.77</u>	<u>13.0</u>	<u>clear</u>	<u>None</u>
<u>Sampled MW-25D @ 0850 hours</u>											

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016

PURGING EQUIPMENT CODES: B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: <u>CMB Environmental / CES</u>				SAMPLER(S) SIGNATURE(S): <u>[Signature]</u>				SAMPLING INITIATED AT: <u>0800</u> <u>0816</u>		SAMPLING ENDED AT: <u>0900</u> <u>0850</u>	
PUMP OR TUBING DEPTH IN WELL (feet): <u>Bailer</u>				TUBING MATERIAL CODE: <u>None</u>				FIELD-FILTERED: Y <u>(N)</u>		FILTER SIZE: _____ µm	
FIELD DECONTAMINATION: <u>PUMP</u> <u>(Y)</u> <u>N</u>				TUBING Y <u>(N)</u> <u>(replaced)</u>				DUPLICATE: Y <u>(N)</u>			
SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)		
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH					
<u>-</u>	<u>3</u>	<u>CG</u>	<u>40mL</u>	<u>HeL</u>	<u>0</u>	<u>—</u>	<u>BTEX 804</u>	<u>B</u>	<u>—</u>		

REMARKS:

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.

2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)

pH: ± 0.2 units Temperature: ± 0.2 °C Specific Conductance: ± 5% Dissolved Oxygen: all readings ≤ 20% saturation (see Table FS 2200-2); optionally, ± 0.2 mg/L or ± 10% (whichever is greater) Turbidity: all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

Revision Date: February 12, 2009

GROUNDWATER SAMPLING LOG

SITE NAME: TWP ROSWELL S/A 9		SITE LOCATION: Roswell NM	
WELL NO: MW-26		SAMPLE ID: TWP ROSWELL S/A 9	
		DATE: 4/17/13	

PURGING DATA

[illegible]

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: SANDY SHARP/CES						SAMPLER(S) SIGNATURE(S) 		SAMPLING INITIATED AT: 1/55		SAMPLING ENDED AT: 1243	
PUMP OR TUBING DEPTH IN WELL (feet):				TUBING MATERIAL CODE:			FIELD-FILTERED: Y N Filtration Equipment Type:		FILTER SIZE: _____ µm		
FIELD DECONTAMINATION: PUMP Y N TUBING Y (N) (replaced)								DUPLICATE: (Y) N			
SAMPLE CONTAINER SPECIFICATION							SAMPLE PRESERVATION				
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)		
	6	CG	40ml	HCL	-	-	8260 VOC'S	BP			
REMARKS:											
MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)											
SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailor; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)											

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.

2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)

pH: ± 0.2 units **Temperature:** ± 0.2 °C **Specific Conductance:** $\pm 5\%$ **Dissolved Oxygen:** all readings $\leq 20\%$ saturation (see Table FS 2200-2); optionally, ± 0.2 mg/L or $\pm 10\%$ (whichever is greater) **Turbidity:** all readings < 20 NTU; optionally ± 5 NTU or $\pm 10\%$ (whichever is greater)

Revision Date: February 12, 2009

GROUNDWATER SAMPLING LOG

SITE NAME: TWP Roswell SLA 9		SITE LOCATION: Roswell NM	
WELL NO: MW-29	SAMPLE ID: TWP Roswell SLA 9	DATE: 4/16/13	

PURGING DATA

WELL <u>34 1/2"</u> DIAMETER (inches):		TUBING DIAMETER (inches): -	WELL SCREEN INTERVAL DEPTH: <u>68</u> feet to <u>75</u> feet		STATIC DEPTH TO WATER (feet): <u>68.34</u>		PURGE PUMP TYPE OR BAILER: <u>BP</u>				
WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY (only fill out if applicable) <u>= (74.61 feet - 68.34 feet) X 0.163 gallons/foot = 1.0 gallons</u>											
EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME (only fill out if applicable) <u>= _____ gallons + (_____ gallons/foot X _____ feet) + _____ gallons = _____ gallons</u>											
INITIAL PUMP OR TUBING DEPTH IN WELL (feet):			FINAL PUMP OR TUBING DEPTH IN WELL (feet):			PURGING INITIATED AT: <u>1700</u>	PURGING ENDED AT: <u>1720</u>	TOTAL VOLUME PURGED (gallons): <u>2.0</u>			
TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (circle units) µmhos/cm or µS/cm	DISSOLVED OXYGEN (circle units) mg/L or % saturation	ORP TURBIDITY (NTUs) mVolts	COLOR (describe)	ODOR (describe)
<u>1706</u>	<u>0.5</u>	<u>0.5</u>		<u>68.34</u>	<u>7.07</u>	<u>19.72</u>	<u>2556</u>	<u>1.48</u>	<u>5.7</u>	<u>CLEAR</u>	<u>NONE</u>
<u>1711</u>	<u>0.5</u>	<u>1.0</u>			<u>7.03</u>	<u>19.75</u>	<u>2520</u>	<u>1.39</u>	<u>2.5</u>	<u>✓</u>	<u>✓</u>
<u>1716</u>	<u>0.5</u>	<u>1.5</u>			<u>7.02</u>	<u>19.85</u>	<u>2562</u>	<u>0.94</u>	<u>-3.8</u>	<u>✓</u>	<u>✓</u>
<u>1720</u>	<u>0.5</u>	<u>2.0</u>			<u>7.20</u>	<u>19.88</u>	<u>2606</u>	<u>0.51</u>	<u>-8.7</u>	<u>✓</u>	<u>✓</u>
<u>1720</u>	<u>SAMPLED</u>										
WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88 TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016											
PURGING EQUIPMENT CODES: B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)											

~~SAMPLING DATA~~

SAMPLED BY (PRINT) / AFFILIATION: <i>Sandy Sharpe / CES</i>				SAMPLER(S) SIGNATURE(S): <i>[Signature]</i>			SAMPLING INITIATED AT: <i>1700</i>		SAMPLING ENDED AT: <i>1735</i>		
PUMP OR TUBING DEPTH IN WELL (feet):				TUBING MATERIAL CODE:			FIELD-FILTERED: Y <input checked="" type="radio"/> N <input checked="" type="radio"/>		FILTER SIZE: _____ µm		
FIELD DECONTAMINATION: PUMP Y <input checked="" type="radio"/> N <input type="radio"/> TUBING Y <input checked="" type="radio"/> N (replaced) <input type="radio"/>						DUPLICATE: Y <input checked="" type="radio"/> N <input type="radio"/>					
SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD		SAMPLING EQUIPMENT CODE		SAMPLE PUMP FLOW RATE (mL per minute)
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH					
—	3	CG	40 mL	HCL	—	—	80% BTEX		BP		—
REMARKS:											
MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)											
SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailor; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)											

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.

2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)

pH: ± 0.2 units **Temperature:** ± 0.2 °C **Specific Conductance:** $\pm 5\%$ **Dissolved Oxygen:** all readings $\leq 20\%$ saturation (see Table FS 2200-2); optionally, $+0.2$ mg/L or $+10\%$ (whichever is greater) **Turbidity:** all readings ≤ 20 NTU; optionally $+5$ NTU or $+10\%$ (whichever is greater)

Revision Date: February 12, 2009

GROUNDWATER SAMPLING LOG

SITE NAME: TWP Roswell STA 9		SITE LOCATION: Roswell NM	
WELL NO: MW-32	SAMPLE ID: TWP Roswell STA 9	DATE: 4/16/13	

PURGING DATA

WELL Sch 40 DIAMETER (inches): 2"		TUBING DIAMETER (inches): -		WELL SCREEN INTERVAL DEPTH: 60 feet to 75 feet		STATIC DEPTH TO WATER (feet): 66.33		PURGE PUMP TYPE OR BAILER: BP			
WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY (only fill out if applicable) = (74.70 feet - 66.33 feet) X 0.163 gallons/foot = 1.4 gallons											
EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME (only fill out if applicable) = gallons + (gallons/foot X feet) + gallons = gallons											
INITIAL PUMP OR TUBING			FINAL PUMP OR TUBING			PURGING INITIATED AT: 1625		PURGING ENDED AT: 1653		TOTAL VOLUME PURGED (gallons): 3.75	
DEPT H IN WELL (feet):			DEPT H IN WELL (feet):								
TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (circle units) μmhos/cm or μS/cm	DISSOLVED OXYGEN (circle units) mg/L or % saturation	O.P. TURBIDITY (NTUs) m Volts	COLOR (describe)	ODOR (describe)
1629	0.5	0.5		66.33	7.17	19.73	3134	0.75	42.2	clear	NONE
1633	0.5	1.0			7.01	19.67	3105	0.28	44.0	" "	" "
1637	1.5	2.5			7.02	19.63	3142	0.24	43.2	" "	" "
1643	1.0	3.5			6.93	19.70	3178	0.18	44.4	" "	" "
1645	sampled										
WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88 TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016											
PURGING EQUIPMENT CODES: B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)											

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION:				SAMPLER(S) SIGNATURE(S):			SAMPLING INITIATED AT: 1625		SAMPLING ENDED AT: 1653	
PUMP OR TUBING DEPTH IN WELL (feet):				TUBING MATERIAL CODE:			FIELD-FILTERED: Y N Filtration Equipment Type:		FILTER SIZE: _____ µm	
FIELD DECONTAMINATION: PUMP Y N TUBING Y N (replaced)							DUPLICATE: Y N			
SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD		SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH				
—	3	CA	40 mL	HCE	—	—	802L BTEX		BP	—
REMARKS:										
MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)										
SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailor; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)										

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.

2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)

pH: ± 0.2 units **Temperature:** ± 0.2 °C **Specific Conductance:** $\pm 5\%$ **Dissolved Oxygen:** all readings $\leq 20\%$ saturation (see Table FS 2200-2); optionally, $+0.2$ mg/L or $+10\%$ (whichever is greater) **Turbidity:** all readings ≤ 20 NTU; optionally $+5$ NTU or $+10\%$ (whichever is greater)

Revision Date: February 12, 2009

GROUNDWATER SAMPLING LOG

SITE NAME: TWP Roswell S/A 9		SITE LOCATION: Roswell NM	
WELL NO: MW-34	SAMPLE ID: TWP Roswell S/A 9	DATE: 4/16/1988	

PURGING DATA

WELL SCH 40 2 1/2		TUBING DIAMETER (inches):		WELL SCREEN INTERVAL DEPTH: 49 feet to 79 feet		STATIC DEPTH TO WATER (feet): 63.25		PURGE PUMP TYPE OR BAILER: BP			
WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY (only fill out if applicable) $= (75.75 \text{ feet} - 63.25 \text{ feet}) \times 0.163 \text{ gallons/foot} = 2.0 \text{ gallons}$											
EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME (only fill out if applicable) $= \text{gallons} + (\text{gallons/foot} \times \text{feet}) + \text{gallons} = \text{gallons}$											
INITIAL PUMP OR TUBING DEPTH IN WELL (feet):			FINAL PUMP OR TUBING DEPTH IN WELL (feet):			PURGING INITIATED AT: 1540		PURGING ENDED AT: 1615		TOTAL VOLUME PURGED (gallons): 6.1	
TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (circle units) $\mu\text{mhos/cm}$ or $\mu\text{S/cm}$	DISSOLVED OXYGEN (circle units) mg/L or % saturation	ORP TURBIDITY (NTUs) or mVolts	COLOR (describe)	ODOR (describe)
1540	0.5	0.5		63.25	7.12	19.74	3800	0.30	-6.6	Brown Turbid	None
1558	2.5	3.0			7.08	19.71	3788	0.18	8.0	Clear	"
1605	1.0	4.0	.2		7.02	19.65	3782	0.17	15.0	"	"
1609	1.0	5.0	.2		7.03	19.63	3783	0.16	22.4	"	"
1614	1.0	6.0	.2		7.07	19.67	3781	0.14	26.1	"	"
1615	Sampled										
WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88 TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.008; 1/2" = 0.010; 5/8" = 0.016											
PURGING EQUIPMENT CODES: B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)											

~~SAMPLING DATA~~

SAMPLED BY (PRINT) / AFFILIATION: Sandy Sharp / CES				SAMPLER(S) SIGNATURE(S): 			SAMPLING INITIATED AT: 1540		SAMPLING ENDED AT: 1620		
PUMP OR TUBING DEPTH IN WELL (feet):				TUBING MATERIAL CODE:			FIELD-FILTERED: Y N Filtration Equipment Type:		FILTER SIZE: _____ µm		
FIELD DECONTAMINATION: PUMP Y N				TUBING Y N (replaced)			DUPLICATE: Y N				
SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD		SAMPLING EQUIPMENT CODE		SAMPLE PUMP FLOW RATE (mL per minute)
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH					
NA	3	CG	40ml	HCL	0	7.8	8021 BTEX		BP		—
REMARKS:											
MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)											
SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump; RFPP = Reverse Flow Peristaltic Pump; B = Bailor; SM = Straw Method (Tubing Gravity Drain); ESP = Electric Submersible Pump; O = Other (Specify)											

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.

2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)

pH: ± 0.2 units **Temperature:** ± 0.2 °C **Specific Conductance:** $\pm 5\%$ **Dissolved Oxygen:** all readings $\leq 20\%$ saturation (see Table FS 2200-2); optionally, $+0.2$ mg/L or $+10\%$ (whichever is greater) **Turbidity:** all readings ≤ 20 NTU; optionally $+5$ NTU or $+10\%$ (whichever is greater)

Revision Date: February 12, 2009

GROUNDWATER SAMPLING LOG

SITE NAME: TWP Roswell Sta 9	SITE LOCATION: Roswell NM
WELL NO: MW-35	SAMPLE ID: TWP Roswell Sta 9
	DATE: 4/16/19

PURGING DATA

WELL sch 40 PK " TUBING DIAMETER (inches):						WELL SCREEN INTERVAL DEPTH: feet TO WATER (feet)							STATIC DEPTH TO WATER (feet)								PURGE PUMP TYPE OR BAILER:								
WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY (only fill out if applicable) <div style="text-align: center;">= (feet - feet) X gallons/foot = gallons</div>																													
EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME (only fill out if applicable) <div style="text-align: center;">= gallons + (gallons/foot X feet) + gallons = gallons</div>																													
INITIAL PUMP OR TUBING DEPTH IN WELL (feet):						FINAL PUMP OR TUBING DEPTH IN WELL (feet):						PURGING INITIATED AT:						PURGING ENDED AT:						TOTAL VOLUME PURGED (gallons):					
TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (circle units) μmhos/cm or μS/cm	DISSOLVED OXYGEN (circle units) mg/L or % saturation	TURBIDITY (NTU) mVOLT	COLOR (describe)	ODOR (describe)																		
1454	0.5	0.5	-	60.28	7.17	19.89	4076	4.40	47.8	CLEAR	NONE																		
1504	1.0	1.5	0.1	"	7.41	20.02	4075	4.10	51.7	"	"																		
1514	1.0	2.5	0.1	-	7.12	20.21	4079	4.17	54.8	"	"																		
1527	1.25	3.75			7.14	20.25	4070	4.01	54.0	"	"																		
1530	SAMPLED	4.0																											
WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88 TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016																													
PURGING EQUIPMENT CODES: B = Bailor; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)																													

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Sandy Sharp/CES						SAMPLER(S) SIGNATURE(S): <i>[Signature]</i>			SAMPLING INITIATED AT: 1440		SAMPLING ENDED AT: 1535	
PUMP OR TUBING DEPTH IN WELL (feet):						TUBING MATERIAL CODE:			FIELD-FILTERED: Y (N) Filtration Equipment Type:		FILTER SIZE: _____ µm	
FIELD DECONTAMINATION: PUMP Y (N) TUBING Y (N) (replaced)									DUPLICATE: Y (N)			
SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION				INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)		
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH						
NA	3	CG	40ml	HCl	0	8.0	80% BTEX	BP	e			
REMARKS:												
MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)												
SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailor; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)												

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.

2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)

pH: ± 0.2 units **Temperature:** ± 0.2 °C **Specific Conductance:** $\pm 5\%$ **Dissolved Oxygen:** all readings $\leq 20\%$ saturation (see Table FS 2200-2); optionally, ± 0.2 mg/L or $\pm 10\%$ (whichever is greater) **Turbidity:** all readings ≤ 20 NTU; optionally ± 5 NTU or $\pm 10\%$ (whichever is greater)

Revision Date: February 12, 2009

GROUNDWATER SAMPLING LOG

SITE NAME: TWP Roswell Station #9		SITE LOCATION: 6381 N. Main Street Roswell NM 88201	
WELL NO: MW-13	SAMPLE ID: MW-13	DATE: 11/18/13	

PURGING DATA

WELL	TUBING	SCREEN INTERVAL						STATIC DEPTH		PURGE PUMP TYPE	
DIAMETER (inches): 2"	DIAMETER (inches): 1/2"	DEPTH: 57 feet TO 72 feet						TO WATER (feet): 64.70		OR BAILER: Dedicated BP QED 2"	
WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY = (72 feet - 64.70 feet) X 0.16 gallons/foot = 1.16 gallons 3 WELL VOLUMES = 3.50 gallons											
EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME (only fill out if applicable) = gallons + (gallons/foot X feet) + gallons = gallons											
INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 65.65		FINAL PUMP OR TUBING DEPTH IN WELL (feet): 65.65		PURGING INITIATED AT: 13:33		PURGING ENDED AT: 14:11		TOTAL VOLUME PURGED (gallons): 2.5			
TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (circle units) μmhos/cm or μS/cm	DISSOLVED OXYGEN (circle units) mg/L or % saturation	OXYGEN REDUCTION POTENTIAL (mV)/vol%	COLOR (describe)	ODOR (describe)
13:33	Initial	0	0.10	64.70	7.42	21.29	3.294	5.74	-26.1/31.8	clear	NONE
13:43	1	1	0.10	—	7.22	21.71	3.323	4.12	-15.9/14.5	clear	NONE
13:52	2	2	0.10	—	7.18	21.43	3.326	2.92	-14.3/26.3	clear	NONE
2:14:00	3	2.5	Well pumped Down - will let re-charge then sample.								
	3.5										
INSTRUMENTS USED: YSI 556 MPS Serial # 05F 2274AL											
WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88 TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0008; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.008; 1/2" = 0.010; 5/8" = 0.016											
PURGING EQUIPMENT USED: B = Bailor; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)											

SAMPLING DATA¹

SAMPLED BY (PRINT) / AFFILIATION: <i>Clayton M Barnhill / CFS</i>				SAMPLE(S) SIGNATURE(S): <i>[Signature]</i>			SAMPLING INITIATED AT: <i>14:06</i>		SAMPLING ENDED AT: <i>14:11</i>		
PUMP OR TUBING DEPTH IN WELL (feet): <i>65.65'</i>				TUBING MATERIAL CODE: <i>PE</i>			FIELD-FILTERED: Y <input checked="" type="radio"/> N <input checked="" type="radio"/>		FILTER SIZE: _____ µm		
FIELD DECONTAMINATION: PUMP Y <input checked="" type="radio"/> N <input checked="" type="radio"/> TUBING Y <input checked="" type="radio"/> N <input checked="" type="radio"/> (replaced)							DUPLICATE: Y <input checked="" type="radio"/> N <input checked="" type="radio"/>				
SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD		SAMPLING EQUIPMENT CODE		SAMPLE PUMP FLOW RATE (mL per minute)
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)		FINAL pH				
<i>413</i>	<i>3</i>	<i>CG</i>	<i>40mL</i>	<i>HCL</i>	<i>120 mL</i>		<i>7.18</i>	<i>BTEX 8260</i>	<i>BP</i>	<i>0.10</i>	
REMARKS: <i>Placed For PE H₂O in on-site Drum</i> <i>Well Dumped Down</i> <i>2.5 Gallons purge.</i>											
MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)											
SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailor; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPF = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)											

NOTES: 1. Sample collection will occur after 3 well volumes are purged or after well stabilization:

STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS:

pH: $\leq 10\%$ units **Temperature:** $\leq 10\%$ °C **Specific Conductance:** $\leq 10\%$ $\mu\text{S}/\text{cm}$ **Dissolved Oxygen:** all readings $< 10\%$ mg/L

Oxygen Reduction Potential: $\leq 10\%$ mV

Revision Date: October 22, 2013

GROUNDWATER SAMPLING LOG

SITE NAME: TWP Roswell Station # 9		SITE LOCATION: 6381 N. main street Roswell NM 88207	
WELL NO: MW-14	SAMPLE ID: MW-14	DATE: 11/18/2013	

PURGING DATA

WELL	TUBING DIAMETER (inches): 2"	WELL SCREEN INTERVAL DEPTH: 49.5 feet to 64.5 feet	STATIC DEPTH TO WATER (feet): 55.89	PURGE PUMP TYPE OR BAILER: QED 2" Dedicated BP							
WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY = (64.5 feet - 55.89 feet) X 4370.16 gallons/foot = 1.37 gallons 3 WELL VOLUMES = 4.11 gallons											
EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME (only fill out if applicable) = gallons + (gallons/foot X feet) + gallons = gallons											
INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 57.85'		FINAL PUMP OR TUBING DEPTH IN WELL (feet): 57.85'		PURGING INITIATED AT: 11:25							
				PURGING ENDED AT: 11:58							
				TOTAL VOLUME PURGED (gallons): 4.25							
TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (circle units) μmhos/cm or μS/cm	DISSOLVED OXYGEN (circle units) mg/L or % saturation	OXYGEN REDUCTION POTENTIAL (mV)	COLOR (describe)	ODOR (describe)
11:25	Initial	0	0.20	55.89	7.22	18.20	3.137	5.93	-15.4/217.8	Clear	None
11:30	1	1	0.20	—	7.14	19.10	3.189	3.52	-11.7/216.6	Clear	None
11:35	2	2	0.20	—	7.14	19.07	3.205	2.84	-11.3/215.7	Clear	None
11:43	3	3	0.14	—	7.21	18.85	3.212	2.76	-12.2/205.6	Clear	None
11:54	4.25	4.25	0.14	—	7.12	18.46	3.223	3.40	-11.7/197.6	Clear	None
INSTRUMENTS USED: YSI 556 MPS Series / # 05F 2274AL											
WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88											
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016											
PURGING EQUIPMENT USED: B = Bailor; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)											

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION:						SAMPLER(S) SIGNATURE(S):			SAMPLING INITIATED AT:	SAMPLING ENDED AT:
PUMP OR TUBING DEPTH IN WELL (feet):				TUBING MATERIAL CODE:	FIELD-FILTERED: Y <input checked="" type="checkbox"/> N <input checked="" type="checkbox"/>			Filtration Equipment Type:	FILTER SIZE: _____ µm	
FIELD DECONTAMINATION: PUMP Y <input checked="" type="checkbox"/> N <input checked="" type="checkbox"/> TUBING Y <input checked="" type="checkbox"/> N (replaced)							DUPLICATE: Y <input checked="" type="checkbox"/> N <input checked="" type="checkbox"/>			
SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)	
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH				
MW-14	3	CG	40 mL	HCL	120 mL	7.12	BTEX8200	BP	0.14	
REMARKS: FORGE H ₂ O Placed in on-site Drum										
MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)										
SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailor; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)										

NOTES: 1. Sample collection will occur after 3 well volumes are purged or after well stabilization;

STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS:

pH: $\leq 10\%$ units **Temperature:** $\leq 10\%$ °C **Specific Conductance:** $\leq 10\%$ $\mu\text{S}/\text{cm}$ **Dissolved Oxygen:** all readings $< 10\%$ mg/L

Oxygen Reduction Potential: $\leq 10\%$ mV

Revision Date: October 22, 2013

GROUNDWATER SAMPLING LOG

SITE NAME: TWP Roswell Station 9		SITE LOCATION: 6301 N. Main Street Roswell, NM 88201	
WELL NO: MW-16	SAMPLE ID: MW-16	DATE: 11/18/13	

PURGING DATA

WELL DIAMETER (inches): <u>2"</u>		TUBING DIAMETER (inches): <u>N/A</u>		SCREEN INTERVAL DEPTH: <u>46.4</u> feet to <u>71.4</u> feet		STATIC DEPTH TO WATER (feet): <u>66.48</u>		PURGE PUMP TYPE OR BAILER: <u>PVC Disposable</u>			
WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY = (<u>71.46</u> feet - <u>66.48</u> feet) X <u>0.16</u> gallons/foot = <u>0.79</u> gallons 3 WELL VOLUMES = <u>2.39</u> gallons											
EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME (only fill out if applicable) = _____ gallons + (_____ gallons/foot X _____ feet) + _____ gallons = _____ gallons											
INITIAL PUMP OR TUBING DEPTH IN WELL (feet): <u>N/A</u>			FINAL PUMP OR TUBING DEPTH IN WELL (feet): <u>N/A</u>			PURGING INITIATED AT: <u>14:50</u>		PURGING ENDED AT: <u>14:50</u>		TOTAL VOLUME PURGED (gallons): <u>1 gallon</u>	
TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (circle units) µmhos/cm or µS/cm	DISSOLVED OXYGEN (circle units) mg/L or % saturation	OXYGEN REDUCTION POTENTIAL (mV)	COLOR (describe)	ODOR (describe)
<u>14:40</u>	<u>Initial</u>	<u>0</u>	<u>0.25</u>	<u>66.48</u>	<u>No parameters taken</u>			<u>—</u>	<u>Black</u>	<u>Strong odor & Schrey</u>	
<u>14:50</u>	<u>1</u>	<u>DRY</u>	<u>0.25</u>	<u>—</u>	<u>Strong hydrocarbon odor in</u>						
	<u>1.5</u>		<u>0.25</u>	<u>—</u>	<u>Black H₂O with strong Schrey</u>						
	<u>2.0</u>		<u>0.25</u>	<u>—</u>	<u>well Bailor Dry @ 14:50</u>						
	<u>2.5</u>		<u>0.25</u>	<u>—</u>	<u>purged - will let re-charge then sample.</u>						
INSTRUMENTS USED: <u>YSI 556 MAS Serial # 05F2274AL X No Parameters Taken</u>											
WELL CAPACITY (Gallons Per Foot): <u>0.75" = 0.02;</u> <u>1" = 0.04;</u> <u>1.25" = 0.06;</u> <u>2" = 0.16;</u> <u>3" = 0.37;</u> <u>4" = 0.65;</u> <u>5" = 1.02;</u> <u>6" = 1.47;</u> <u>12" = 5.88</u> TUBING INSIDE DIA. CAPACITY (Gal./Ft.): <u>1/8" = 0.0006;</u> <u>3/16" = 0.0014;</u> <u>1/4" = 0.0026;</u> <u>5/16" = 0.004;</u> <u>3/8" = 0.006;</u> <u>1/2" = 0.010;</u> <u>5/8" = 0.016</u>											
PURGING EQUIPMENT USED: <u>B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)</u>											

~~SAMPLING DATA~~

SAMPLED BY (PRINT) / AFFILIATION: <i>Clayton M. Barnhill / CES</i>				SAMPLER(S) SIGNATURE(S): <i>[Signature]</i>			SAMPLING INITIATED AT: <i>14:55</i>		SAMPLING ENDED AT: <i>1500</i>	
PUMP OR TUBING DEPTH IN WELL (feet): <i>N/A</i>				TUBING MATERIAL CODE: <i>N/A</i>		FIELD-FILTERED: Y <i>(N)</i> Filtration Equipment Type:		FILTER SIZE: _____ µm		
FIELD DECONTAMINATION: PUMP Y <i>(N)</i>				TUBING Y <i>(N (replaced))</i>			DUPLICATE: Y <i>(N)</i>			
SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD		SAMPLING EQUIPMENT CODE	
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH				
<i>MW-16</i>	<i>3</i>	<i>CG</i>	<i>40mL</i>	<i>HCL</i>	<i>120 mL</i>	<i>N/A</i>	<i>BTEX 8260</i>		<i>B</i>	
REMARKS: <i>Well pumped down @ 2.5 PURGE H₂O Placed in - on-site DRUM</i>										
MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)										
SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailor; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)										

NOTES: 1. Sample collection will occur after 3 well volumes are purged or after well stabilization:

STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS:

pH: $\leq 10\%$ units **Temperature:** $\leq 10\%$ °C **Specific Conductance:** $\leq 10\%$ $\mu\text{S}/\text{cm}$ **Dissolved Oxygen:** all readings $\leq 10\%$ mg/L

Oxygen Reduction Potential: $\leq 10\%$ mV

Revision Date: October 22, 2013

GROUNDWATER SAMPLING LOG

SITE NAME: <u>TWP Roswell Station 9</u>	SITE LOCATION: <u>6381 N Main Street Roswell NM 8820</u>
WELL NO: <u>MW-20</u>	SAMPLE ID: <u>MW-20</u> DATE: <u>11/18/2013</u>

PURGING DATA

WELL DIAMETER (inches): <u>2"</u>	TUBING DIAMETER (inches): <u>1/2"</u>	WELL SCREEN INTERVAL DEPTH: <u>468</u> feet to <u>618</u> feet	STATIC DEPTH TO WATER (feet): <u>54.35</u>	PURGE PUMP TYPE: <u>QED</u> OR BAILER: <u>Peristaltic 2" BP</u>
WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY				
= (<u>64</u> feet - <u>54.35</u> feet) X <u>0.16</u> gallons/foot = <u>1.54</u> gallons				
3 WELL VOLUMES = <u>4.63</u> gallons				
EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME (only fill out if applicable)				
= gallons + (gallons/foot X feet) + gallons = gallons				

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): <u>N/A</u>	FINAL PUMP OR TUBING DEPTH IN WELL (feet): <u>N/A</u>	PURGING INITIATED AT: <u>10:07</u>	PURGING ENDED AT:	TOTAL VOLUME PURGED (gallons): <u>4.75</u>
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TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (circle units) μmhos/cm or μS/cm	DISSOLVED OXYGEN (circle units) mg/L or % saturation	OXYGEN REDUCTION POTENTIAL (mV)	COLOR (describe)	ODOR (describe)
10:07	Initial	0	0.123	54.35	7.34	18.06	3.178	7.15	-21.1/176.2	Clear	None
10:15	1	1	0.125	—	7.31	18.27	3.202	7.30	-20.5/169.5	Clear	None
10:20	2	2	0.20	—	7.24	18.33	3.197	7.24	-17.4/172.6	Clear	None
10:25	3	3	0.20	—	7.25	18.29	3.183	5.52	-16.7/173.1	Clear	None
10:30	4	4	0.20	—	7.27	18.27	3.177	5.44	-17.2/173.9	Clear	None
10:34	4.75	4.75	0.20	—	7.22	18.28	3.174	5.42	-15.9/171.8	Clear	None

INSTRUMENTS USED: <u>YSI 556 MPS Serial # 05F2274 AL</u>	
WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88	
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016	
PURGING EQUIPMENT USED: B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)	

SAMPLING DATA¹

SAMPLED BY (PRINT) / AFFILIATION: <u>Clayton M Barnhill / CES</u>	SAMPLER'S SIGNATURE(S): <u>[Signature]</u>	SAMPLING INITIATED AT: <u>10:34</u>	SAMPLING ENDED AT: <u>10:36</u>
PUMP OR TUBING DEPTH IN WELL (feet): <u>N/A</u>	TUBING MATERIAL CODE: <u>PE</u>	FIELD-FILTERED: Y <u>(N)</u>	FILTER SIZE: _____ μm
FIELD DECONTAMINATION: PUMP Y <u>(N)</u> TUBING Y <u>(N)</u> (replaced)		DUPLICATE: Y <u>(N)</u>	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (ml per minute)
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH			
MW-20	3	CG	40mL	HCL	120 mL	7.22	VOL'S 8260	BP	0.20 GPM

REMARKS: Placed purged H₂O in on-site 55 Gallon Drum

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)
SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPF = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)

NOTES: 1. Sample collection will occur after 3 well volumes are purged or after well stabilization:

STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS:

pH: ≤ 10% units Temperature: ≤ 10% °C Specific Conductance: ≤ 10% μS/cm Dissolved Oxygen: all readings ≤ 10% mg/L
 Oxygen Reduction Potential: ≤ 10% mV

Revision Date: October 22, 2013

GROUNDWATER SAMPLING LOG

SITE NAME: TWP Roswell Station 9		SITE LOCATION: 6381 N Main Street Roswell NM 88204	
WELL NO: MW-21	SAMPLE ID: MW-21	DATE: 11/18/2013	

PURGING DATA

WELL DIAMETER (inches): 2"	TUBING DIAMETER (inches): 1/2"	WELL SCREEN INTERVAL DEPTH 54 feet to 74 feet	STATIC DEPTH TO WATER (feet): 66.08	PURGE PUMP TYPE QED 2" OR BAILER: Dedicated BP
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WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY

$$= (75 \text{ feet} - 66.08 \text{ feet}) \times 0.16 \text{ gallons/foot} = 1.42 \text{ gallons}$$

3 WELL VOLUMES = 4.28 gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME

$$= \text{gallons} + (\text{gallons/foot} \times \text{feet}) + \text{gallons} = \text{gallons}$$

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 68.21	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 68.21	PURGING INITIATED AT: 12:05	PURGING ENDED AT: 12:36	TOTAL VOLUME PURGED (gallons): 4.50
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[illegible]

INSTRUMENTS USED:

Y5I ~~MPS~~ 556 MPS Serial # 05F2274AL

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88

TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016

PURGING EQUIPMENT USED: B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

PURGING EQUIPMENT USED: B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: <i>Clayton M Barnhill / CES</i>	SAMPLER(S) SIGNATURE(S): <i>[Signature]</i>	SAMPLING INITIATED AT: <i>12:33</i>	SAMPLING ENDED AT: <i>12:36</i>
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PUMP OR TUBING DEPTH IN WELL (feet): <i>68.2'</i>	TUBING MATERIAL CODE: <i>PE</i>	FIELD-FILTERED: Y <i>(N)</i> Filtration Equipment Type:	FILTER SIZE: _____ μm
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FIELD DECONTAMINATION: PUMP Y N TUBING Y N (replaced) DUPLICATE: Y ~~N~~

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (ml. per minute)
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH			

1421	B	CG	40 mL	H ₂ O	120 mL	7.2.0	BTF x 82/100	BP	0.13
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CC	11/20	FILE	1/20	FILE	1/20	FILE	1/20	FILE	1/20	FILE
CC	11/20	FILE	1/20	FILE	1/20	FILE	1/20	FILE	1/20	FILE

[illegible]

REMARKS:

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump;
RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)

NOTES: 1. Sample collection will occur after 3 well volumes are purged or after well stabilization:

STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS:

pH: $\leq 10\%$ units **Temperature:** $\leq 10\%$ °C **Specific Conductance:** $\leq 10\%$ $\mu\text{S}/\text{cm}$ **Dissolved Oxygen:** all readings $< 10\%$ mg/L

Oxygen Reduction Potential: $\leq 10\%$ mV

Revision Date: October 22, 2013

GROUNDWATER SAMPLING LOG

SITE NAME: TWP Roswell Station 9		SITE LOCATION: 6381 N. Main Street Roswell NM	
WELL NO: MW-22	SAMPLE ID: MW-22	DATE: 11/18/2013	

PURGING DATA

WELL DIAMETER (inches):	TUBING DIAMETER (inches):	WELL SCREEN INTERVAL:	STATIC DEPTH TO WATER (feet):	PUMP RAMP TYPE OR GAILER:
2"	N/A / 2"	to feet to feet	58.94	Dedicated ESP
WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY = (68 feet - 58.94 feet) X 0.16 gallons/foot = 1.44 gallons				
3 WELL VOLUMES = 4.34 gallons				
EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME (only fill out if applicable) <div style="text-align:right; margin-right: 50px;">gallons + (gallons/foot X feet) + gallons = gallons</div>				
INITIAL PUMP OR TUBING DEPTH IN WELL (feet):		FINAL PUMP OR TUBING DEPTH IN WELL (feet):		PURGING INITIATED AT: 10:50
				PURGING ENDED AT: 11:10
				TOTAL VOLUME PURGED (gallons): 4.50

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (circle units) μmhos/cm or μS/cm	DISSOLVED OXYGEN (circle units) mg/L or % saturation	OXYGEN REDUCTION POTENTIAL (mV)	COLOR (describe)	ODOR (describe)
10:50 Initial	0.25	0.25	58.94	7.10	18.25	3.255	6.45	-9.2/169.5	Reddish Turbid	None	
10:53	1	1.25	—	7.17	18.41	3.166	6.98	-13.1/170.4	Reddish Turbid	None	
10:58	2	2.00	—	7.19	18.42	3.062	7.04	-14.4/180.8	Reddish Turbid	None	
11:01	3	3.00	—	7.21	18.25	3.096	7.20	-15.6/183.1	Reddish Turbid	None	
11:07	4.5	4.50	—	7.21	18.36	2.852	6.87	-14.8/189.6	Translucent	None	

INSTRUMENTS USED: YSI 556 MPS Serial # 05F2274AL

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.008; 1/2" = 0.010; 5/8" = 0.016

PURGING EQUIPMENT USED: B = Bailor; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: <i>Claudio M Barnhill / CFS</i>						SAMPLER(S) SIGNATURE(S): <i>[Signature]</i>		SAMPLING INITIATED AT: <i>11:08</i>	SAMPLING ENDED AT: <i>11:10</i>
PUMP OR TUBING DEPTH IN WELL (feet): <i>N/A</i>				TUBING MATERIAL CODE: <i>N/A</i>	FIELD-FILTERED: Y <input checked="" type="checkbox"/> N <input checked="" type="checkbox"/> Filtration Equipment Type:			FILTER SIZE: _____ μm	
FIELD DECONTAMINATION: PUMP Y <input checked="" type="checkbox"/> N <input checked="" type="checkbox"/>							TUBING Y <input checked="" type="checkbox"/> N (replaced)		
SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (ml per minute)
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH			
<i>MW-22</i>	<i>3</i>	<i>CG</i>	<i>40 mL</i>	<i>HCL</i>	<i>120 mL</i>	<i>7.2</i>	<i>VOC's 8260</i>	<i>B</i>	<i>GPM 0.25</i>
REMARKS: <i>Placed purge & H2O in On-Site Drum</i>									
MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)									
SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailor; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)									

NOTES: 1. Sample collection will occur after 3 well volumes are purged or after well stabilization:

STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS:

pH: $\leq 10\%$ units **Temperature:** $\leq 10\%$ °C **Specific Conductance:** $\leq 10\%$ $\mu\text{S}/\text{cm}$ **Dissolved Oxygen:** all readings $\leq 10\%$ mg/L
Oxygen Reduction Potential: $\leq 10\%$ mV

Revision Date: October 22, 2013

GROUNDWATER SAMPLING LOG

SITE NAME: <u>Twp Roswell station 9</u>	SITE LOCATION: <u>6381 North Main Street Roswell NM 85201</u>
WELL NO: <u>MW-24D</u>	SAMPLE ID: <u>MW-24D</u> DATE: <u>11/18/13</u>

PURGING DATA

WELL DIAMETER (inches): <u>4"</u>	TUBING DIAMETER (inches): <u>3/8</u>	WELL SCREEN INTERVAL DEPTH: <u>146</u> feet to <u>176</u> feet	STATIC DEPTH TO WATER (feet): <u>64.42</u>	PURGE PUMP TYPE <u>ES-120'</u> OR BAILER: <u>1.85 submersible</u>
WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY				
= (<u>180</u> feet - <u>64.42</u> feet) X <u>0.653</u> gallons/foot = <u>75.47</u> gallons				
3 WELL VOLUMES = <u>226.42</u> gallons				
EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME (only fill out if applicable)				
= gallons + (gallons/foot X feet) + gallons = gallons				

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): <u>120'</u>	FINAL PUMP OR TUBING DEPTH IN WELL (feet): <u>120'</u>	PURGING INITIATED AT: <u>15:11</u>	PURGING ENDED AT: <u>15:33</u>	TOTAL VOLUME PURGED (gallons): <u>55</u>
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TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (circle units) μmhos/cm or μS/cm	DISSOLVED OXYGEN (circle units) mg/L or % saturation	OXYGEN REDUCTION POTENTIAL (mV)	COLOR (describe)	ODOR (describe)
15:11	Initial	0	2.5	64.42	7.36	17.62	3.205	0.33	0.33	clear	None
15:15	10	10	2.5	—	7.13	18.58	3.225	0.17	-12.2/-15.1	clear	None
15:19	20	20	2.5	—	7.12	18.70	3.223	0.17	-12.0/-17.1	clear	None
15:23	30	30	2.5	—	7.12	18.72	3.223	0.15	-10.8/-58.1	clear	None
15:27	40	40	2.5	—	7.11	18.76	3.222	0.14	-10.3/-62.5	clear	None
15:33	55	55	2.5	—	7.11	18.80	3.217	0.16	-10.1/-63.5	clear	None

INSTRUMENTS USED: VSI 556 mps Serial # 05F 2274AL

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88

TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016

PURGING EQUIPMENT USED: B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: <u>Clayton M Barnhill / CES</u>	SAMPLER(S) SIGNATURE(S): <u>[Signature]</u>	SAMPLING INITIATED AT: <u>15:35</u>	SAMPLING ENDED AT: <u>15:37</u>
PUMP OR TUBING DEPTH IN WELL (feet): <u>120'</u>	TUBING MATERIAL CODE: <u>PP</u>	FIELD-FILTERED: Y <input checked="" type="checkbox"/> Filtration Equipment Type: <u> </u>	FILTER SIZE: <u> </u> μm
FIELD DECONTAMINATION: PUMP <input checked="" type="checkbox"/> N TUBING Y <input checked="" type="checkbox"/> (replaced)	DUPLICATE: Y <input checked="" type="checkbox"/> N <input type="checkbox"/>		

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE FLOW RATE (ml per minute)
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH			
MW24D	3	CG	40mL	HCL	120 mL	7.11	BTEX 8200	B	2.5 GPM

REMARKS: PURGE H₂O ON GROUND SURFACE.

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)

- NOTES:** 1. Sample collection will occur after 3 well volumes are purged or after well stabilization:
- STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS:
- pH: ≤ 10% units Temperature: ≤ 10% °C Specific Conductance: ≤ 10% μS/cm Dissolved Oxygen: all readings ≤ 10% mg/L
- Oxygen Reduction Potential: ≤ 10% mV

Revision Date: October 22, 2013

GROUNDWATER SAMPLING LOG

SITE NAME: <u>TWP Roswell Station 9</u>	SITE LOCATION: <u>6381 N. Main Street Roswell NM</u>
WELL NO: <u>MW-26</u>	SAMPLE ID: <u>MW-26</u> DATE: <u>11/15/13 88207</u>

PURGING DATA

WELL DIAMETER (inches): <u>2"</u>	TUBING DIAMETER (inches): <u>1/2"</u>	WELL SCREEN INTERVAL DEPTH: <u>43</u> feet to <u>63</u> feet	STATIC DEPTH TO WATER (feet): <u>52.22</u>	PURGE PUMP TYPE <u>Dod. 20 BP</u> OR BAILER: <u>QEP 20 BP</u>
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WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY
 = (65 feet - 52.22 feet) X 0.16 gallons/foot = 2.04 gallons
 3 WELL VOLUMES = 6.13 gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
 (only fill out if applicable)
 = _____ gallons + (_____ gallons/foot X _____ feet) + _____ gallons = _____ gallons

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): <u>56.63</u>	FINAL PUMP OR TUBING DEPTH IN WELL (feet): <u>56.63</u>	PURGING INITIATED AT: <u>1603</u>	PURGING ENDED AT: <u>1631</u>	TOTAL VOLUME PURGED (gallons): <u>6.25</u>
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TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (circle units) μmhos/cm or μS/cm	DISSOLVED OXYGEN (circle units) mg/L or % saturation	OXYGEN REDUCTION POTENTIAL (mV)/ <u>app</u>	COLOR (describe)	ODOR (describe)
<u>1603</u>	<u>Initial</u>	<u>0</u>	<u>0.40</u>	<u>52.22</u>	<u>7.46</u>	<u>19.24</u>	<u>3.108</u>	<u>6.07</u>	<u>-34.7/864</u>	<u>Clear</u>	<u>None</u>
<u>1608</u>	<u>2</u>	<u>2</u>	<u>0.40</u>	<u>—</u>	<u>6.93</u>	<u>18.42</u>	<u>3.136</u>	<u>5.20</u>	<u>-8.7/118.3</u>	<u>Trace Reddish</u>	<u>None</u>
<u>1615</u>	<u>4</u>	<u>4</u>	<u>0.28</u>	<u>—</u>	<u>6.90</u>	<u>18.42</u>	<u>3.135</u>	<u>4.72</u>	<u>-7.9/131.1</u>	<u>Clear</u>	<u>None</u>
<u>1628</u>	<u>6.25</u>	<u>6.25</u>	<u>0.173</u>	<u>—</u>	<u>6.91</u>	<u>18.40</u>	<u>3.141</u>	<u>4.50</u>	<u>-6.7/149.8</u>	<u>Clear</u>	<u>None</u>

INSTRUMENTS USED: VSI 556 MP5 Serial # 05F2274 AL

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
 TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016

PURGING EQUIPMENT USED: B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLING DATA¹

SAMPLED BY (PRINT) / AFFILIATION: <u>Clayton M. Barnhill / CES</u>	SAMPLER(S) SIGNATURE(S): <u>[Signature]</u>	SAMPLING INITIATED AT: <u>1629</u>	SAMPLING ENDED AT: <u>1631</u>
PUMP OR TUBING DEPTH IN WELL (feet): <u>56.63'</u>	TUBING MATERIAL CODE: <u>PE</u>	FIELD-FILTERED: Y <u>(N)</u>	FILTER SIZE: _____ μm
FIELD DECONTAMINATION: PUMP Y <u>(N)</u> TUBING Y <u>(N)</u> (replaced)		DUPLICATE: <u>(N)</u>	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH			
<u>MW-26</u>	<u>3</u>	<u>CG</u>	<u>40mL</u>	<u>HCL</u>	<u>120 mL</u>	<u>6.91</u>	<u>VOC'S 8260</u>	<u>BP</u>	<u>0.173</u>
<u>MW-26</u>	<u>3</u>	<u>CG</u>	<u>40mL</u>	<u>HCL</u>	<u>120 mL</u>	<u>6.91</u>	<u>VOC'S 8260</u>	<u>BP</u>	<u>0.173</u>

REMARKS: Placed purge H₂O in on-site 55 Gallon DRUM

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPF = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)

NOTES: 1. Sample collection will occur after 3 well volumes are purged or after well stabilization:

STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS:

pH: ≤ 10% units Temperature: ≤ 10% °C Specific Conductance: ≤ 10% μS/cm Dissolved Oxygen: all readings ≤ 10% mg/L
 Oxygen Reduction Potential: ≤ 10% mV

Revision Date: October 22, 2013

GROUNDWATER SAMPLING LOG

SITE NAME: <i>Twp Roswell Station #9</i>		SITE LOCATION:	
WELL NO: <i>MW-29</i>	SAMPLE ID: <i>MW-29</i>		DATE: <i>11/14/13</i>

PURGING DATA

WELL DIAMETER (inches): 2"		TUBING DIAMETER (inches): 1/2"		WELL SCREEN INTERVAL DEPTH: 60 feet to 75 feet		STATIC DEPTH TO WATER (feet): 69.47		PURGE PUMP TYPE Dedicated OR BAILER: QED 2" BP			
WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY = (74.45 feet - 69.47 feet) X 0.16 gallons/foot = 0.79 gallons 3 WELL VOLUMES = 2.39 gallons											
EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME (only fill out if applicable) = gallons + (gallons/foot X feet) + gallons = gallons											
INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 68.87		FINAL PUMP OR TUBING DEPTH IN WELL (feet): 68.87		PURGING INITIATED AT: 1625		PURGING ENDED AT: 1654		TOTAL VOLUME PURGED (gallons): 2.50			
TIME	VOLUME PURGED (gallons)	CUMUL VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (circle units) μmhos/cm or μS/cm	DISSOLVED OXYGEN (circle units) mg/L or % saturation	OXYGEN REDUCTION POTENTIAL (mV) / vol.	COLOR (describe)	ODOR (describe)
1625	0	Initial	0.10	69.47	7.19	18.37	2.384	3.49	-20/-49.5 clean		None
1628	0.5	0.50	0.10	—	7.33	18.43	2.311	2.94	-19.7/-58.2 clean		None
1635	1.0	1.0	0.10	—	7.03	18.67	2.178	2.87	-14.6/-53.6 clear		None
1645	2.0	2.0	0.10	—	6.98	18.72	2.262	1.51	-11.7/-77.2 clean		None
1650	2.5	2.5	0.10	—	6.98	18.72	2.273	1.33	-11.7/-80.3 clean		None
INSTRUMENTS USED:											
VSI 556 mps Serial # 05F2274 AL											
WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88											
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016											
PURGING EQUIPMENT USED: B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)											

SAMPLING DATA

[illegible]

NOTES: 1. Sample collection will occur after 3 well volumes are purged or after well stabilization:

STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS:

pH: $\leq 10\%$ units **Temperature:** $\leq 10\%$ °C **Specific Conductance:** $\leq 10\%$ $\mu\text{S}/\text{cm}$ **Dissolved Oxygen:** all readings $< 10\%$ mg/L

Oxygen Reduction Potential: $\leq 10\%$ mV

Revision Date: October 22, 2013

GROUNDWATER SAMPLING LOG

SITE NAME: TWP Roswell Station #9		SITE LOCATION: 6381 N. Main Street Roswell, NM 88201	
WELL NO: MW-32	SAMPLE ID: MW-32	DATE: 11/14/13	

PURGING DATA

WELL DIAMETER (inches): <u>2"</u>	TUBING DIAMETER (inches): <u>1/2"</u>	WELL SCREEN INTERVAL DEPTH: <u>60</u> feet to <u>75</u> feet	STATIC DEPTH TO WATER (feet): <u>66.95</u>	PURGE PUMP TYPE <u>Dedicated</u> OR BAILER: <u>QED 2" Bladder</u> <u>PRAP</u>
WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY				
= (<u>74.20</u> feet - <u>66.95</u> feet) X <u>0.16</u> gallons/foot = <u>1.16</u> gallons				
3 WELL VOLUMES = <u>3.48</u> gallons				
EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME				
(only fill out if applicable)				
= gallons + (gallons/foot X feet) + gallons = gallons				

[illegible]

INSTRUMENTS USED:

Y5I 556 mps Serial # 05F2274 AL

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.08; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016

PURGING EQUIPMENT USED: B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLING DATA¹

SAMPLED BY (PRINT) / AFFILIATION: Clayton M Barnhill / CES				SAMPLER(S) SIGNATURE(S): <i>[Signature]</i>			SAMPLING INITIATED AT: 1538		SAMPLING ENDED AT: 1600	
PUMP OR TUBING DEPTH IN WELL (feet): 68-61				TUBING MATERIAL CODE: PE			FIELD-FILTERED: Y <u>(N)</u> Filtration Equipment Type:		FILTER SIZE: ____ µm	
FIELD DECONTAMINATION: PUMP Y <u>(N)</u> TUBING Y <u>(N)</u> (replaced)							DUPLICATE: Y <u>(N)</u>			
SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)	
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH				
MW32	3	CG	40mL	HCL	120 mL	6.97	BTEX 8240	BP	0.336 gpa	
REMARKS:										
MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)										
SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailor; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)										

NOTES: 1. Sample collection will occur after 3 well volumes are purged or after well stabilization:

STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS:

pH: $\leq 10\%$ units **Temperature:** $\leq 10\%$ °C **Specific Conductance:** $\leq 10\%$ $\mu\text{S}/\text{cm}$ **Dissolved Oxygen:** all readings $< 10\%$ mg/L

Oxygen Reduction Potential: $\leq 10\%$ mV

Revision Date: October 22, 2013

GROUNDWATER SAMPLING LOG

SITE NAME: <u>TWP Roswell Station # 9</u>	SITE LOCATION: <u>638/ N. Main St. Roswell, NM 88201</u>
WELL NO: <u>MW-34</u>	DATE: <u>11/14/2013</u>

PURGING DATA

WELL DIAMETER (inches): <u>2"</u>	TUBING DIAMETER (inches): <u>1/2"</u>	WELL SCREEN INTERVAL DEPTH: <u>49</u> feet to <u>79</u> feet	STATIC DEPTH TO WATER (feet): <u>63.81</u>	PURGE PUMP TYPE: <u>Dedicated</u> OR BAILER: <u>2" Bladder</u>
WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY				
= (<u>75.75</u> feet - <u>63.81</u> feet) X <u>0.16</u> gallons/foot = <u>1.91</u> gallons				
3 WELL VOLUMES = <u>5.73</u> gallons				
EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME (only fill out if applicable)				
= _____ gallons + (_____ gallons/foot X _____ feet) + _____ gallons = _____ gallons				

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 67.0			FINAL PUMP OR TUBING DEPTH IN WELL (feet): 67.0			PURGING INITIATED AT: 10:13		PURGING ENDED AT: 11:11		TOTAL VOLUME PURGED (gallons): 5.75	
TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (circle units) μmhos/cm or μS/cm	DISSOLVED OXYGEN (circle units) mg/L or % saturation	OXYGEN REDUCTION POTENTIAL (mV)	COLOR (describe)	ODOR (describe)
10:14	Initial	Initial	0.071	63.81	7.11	18.42	3.080	5.32	19.4/23.0	Clear	None
10:28	1	1	0.071	—	7.04	18.93	3.083	0.55	-14.6/-93.6	Clear	None
10:32	2	2	0.25	—	7.04	18.82	3.078	0.53	-14.6/-96.6	Clear	None
10:43	3	3	0.091	—	7.03	18.96	3.070	0.35	-14.4/-104.3	Clear	None
10:53	4	4	0.10	—	7.03	18.90	3.066	0.43	-14.3/-103.2	Clear	None
11:07	5.75	5.75	0.071		7.03	18.92	3.063	0.33	-14.1/-101.9	Clear	None

INSTRUMENTS USED: VSI 556 MPS Serial # 05F 2274 AL

WELL CAPACITY (Gallons Per Foot): 0.76" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88

TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016

PURGING EQUIPMENT USED: B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: <u>Clayton M Barnhill / CES</u>				SAMPLER(S) SIGNATURE(S): <u>[Signature]</u>				SAMPLING INITIATED AT: <u>11:08</u>		SAMPLING ENDED AT: <u>11:11</u>	
PUMP OR TUBING DEPTH IN WELL (feet): <u>67.0</u>				TUBING MATERIAL CODE: <u>PE</u>		FIELD-FILTERED: Y <u>(N)</u>		FILTER SIZE: _____ μm			
FIELD DECONTAMINATION: PUMP Y <u>(N)</u>				TUBING Y <u>(N)</u> (replaced)		DUPLICATE: <u>(Y)</u> N					
SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (ml per minute)		
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH					
<u>MW-34</u>	<u>3</u>	<u>CG</u>	<u>40mL</u>	<u>HCL</u>	<u>120 mL</u>	<u>7.03</u>	<u>BTEX 8260</u>	<u>BP</u>	<u>0.071</u>		
<u>MW-34 Dup.</u>	<u>3</u>	<u>CG</u>	<u>40mL</u>	<u>HCL</u>	<u>120 mL</u>	<u>7.03</u>	<u>BTEX 8260</u>	<u>BP</u>	<u>0.071</u>		

REMARKS: _____

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)

NOTES: 1. Sample collection will occur after 3 well volumes are purged or after well stabilization:
 STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS:
 pH: ≤ 10% units Temperature: ≤ 10% °C Specific Conductance: ≤ 10% μS/cm Dissolved Oxygen: all readings ≤ 10% mg/L
 Oxygen Reduction Potential: ≤ 10% mV

Revision Date: October 22, 2013

GROUNDWATER SAMPLING LOG

SITE NAME: TWP Roswell Station #9	SITE LOCATION: 6361 N Maril Street Roswell, NM 88201
WELL NO: MW-35	SAMPLE ID: MW-35
DATE: 11/14/13	

PURGING DATA

WELL DIAMETER (inches): 2"	TUBING DIAMETER (inches): 1/2"	WELL SCREEN INTERVAL DEPTH: 49 feet to 79 feet	STATIC DEPTH TO WATER (feet): 60.81	PURGE PUMP TYPE: Peristaltic OR BAILER: RED 2" Bladder
WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY				
= (76.71' feet - 60.81' feet) X 0.16 gallons/foot = 2.54 gallons				
3 WELL VOLUMES = 7.63 gallons				
EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME (only fill out if applicable)				
= gallons + (gallons/foot X feet) + gallons = gallons				

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 61.05	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 61.05	PURGING INITIATED AT: 12:38	PURGING ENDED AT: 1443	TOTAL VOLUME PURGED (gallons): 7.75
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TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (circle units) μmhos/cm or μS/cm	DISSOLVED OXYGEN (circle units) mg/L or % saturation	OXYGEN REDUCTION POTENTIAL (mV)	COLOR (describe)	ODOR (describe)
12:38	0	0	0.035	60.81	7.39	19.14	3.298	6.07	-32.2	1443	Turnin None
13:10	1	1	0.035	—	7.13	19.50	3.290	6.08	-19.2	121.9	Turnin None
13:36	2	2	0.038	—	7.10	19.14	3.296	6.39	-17.7	140.8	Clear None
13:47	3	3	0.09	—	7.09	19.05	3.298	6.29	-17.3	146.3	Clear None
13:55	4	4	0.125	—	7.06	19.01	3.299	6.16	-17.6	150.1	Clear None
14:04	5	5	0.125	—	7.07	18.93	3.299	5.66	-17.6	152.4	Clear None
14:15	6	6	0.08	—	7.03	18.98	3.302	6.10	-16.1	152.2	Clear None
14:37	7.75	7.75	0.08	—	7.11	18.93	3.299	6.14	-16.5	151.2	Clear None

INSTRUMENTS USED:

YSI 556 mps Serial # 05F 2274 AL

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016

PURGING EQUIPMENT USED: B = Bailor; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLING DATA¹

SAMPLED BY (PRINT) / AFFILIATION: Chapman, Barnhi, CES	SAMPLED BY SIGNATURE(S): <i>[Signature]</i>	SAMPLING INITIATED AT: 14:40	SAMPLING ENDED AT: 1443
PUMP OR TUBING DEPTH IN WELL (feet): 61.05	TUBING MATERIAL CODE: PE	FIELD-FILTERED: Y <input checked="" type="checkbox"/> N <input type="checkbox"/>	FILTER SIZE: — μm
FIELD DECONTAMINATION: PUMP Y <input checked="" type="checkbox"/> N <input type="checkbox"/> TUBING Y <input checked="" type="checkbox"/> N <input type="checkbox"/> (replaced)		DUPLICATE: Y <input checked="" type="checkbox"/> N <input type="checkbox"/>	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH			
MW-35	3	CG	40mL	HCL	120 mL	7.11	BTEX 8260	BP	0.086 gpm

REMARKS:

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailor; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPF = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)

NOTES: 1. Sample collection will occur after 3 well volumes are purged or after well stabilization:

STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS:

pH: ≤ 10% units Temperature: ≤ 10% °C Specific Conductance: ≤ 10% μS/cm Dissolved Oxygen: all readings ≤ 10% mg/L
Oxygen Reduction Potential: ≤ 10% mV

Revision Date: October 22, 2013

GROUNDWATER SAMPLING LOG

SITE NAME: <u>TWP Roswell Station #9</u>	SITE LOCATION: <u>6351 N Main St. Roswell, NM 88201</u>
WELL NO: <u>MW-37</u>	SAMPLE ID: <u>MW-37</u>
DATE: <u>11/14/2013</u>	

PURGING DATA

WELL DIAMETER (inches): <u>2"</u>	TUBING DIAMETER (inches): <u>1/2"</u>	WELL SCREEN INTERVAL DEPTH: <u>50</u> feet to <u>70</u> feet	STATIC DEPTH TO WATER (feet): <u>58.99</u>	PURGE PUMP TYPE: <u>Dedicated</u> OR BAILER: <u>RED 2" Blk Pump</u>
WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY				
= (<u>69.61'</u> - <u>58.99</u>) feet X <u>0.16</u> gallons/foot = <u>1.69</u> gallons				
3 WELL VOLUMES = <u>5.09</u> gallons				
EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME				
= gallons + (gallons/foot X feet) + gallons = gallons				

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 64.20'			FINAL PUMP OR TUBING DEPTH IN WELL (feet): 64.20'			PURGING INITIATED AT: 0922		PURGING ENDED AT: 0951		TOTAL VOLUME PURGED (gallons): 5.09 gal.	
TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (circle units) μmhos/cm or μS/cm	DISSOLVED OXYGEN (circle units) mg/L or % saturation	OXYGEN REDUCTION POTENTIAL (mV)	COLOR (describe)	ODOR (describe)
0925	Initial	0	0.33	—	7.11	18.15	3.170	6.08	-30.4/202	TURBID	None
0928	1	1	0.33	—	7.17	18.57	3.133	3.82	-19.6/192.2	TURBID	None
0932	2	2	0.33	—	7.09	18.62	3.100	3.74	-17.1/188.6	TURBID	None
0940	3	3	0.125	—	7.03	18.64	3.148	3.61	-14.7/181.0	Clear	None
0945	4	4	0.20	—	7.03	18.62	3.160	3.59	-14.1/181.0	Clear	None
0947	5	5	0.50	—	7.02	18.63	3.162	3.54	-13.8/180.3	Clear	None

INSTRUMENTS USED: YSI 556 MPS Scriber # 05F 2274 ML

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
 TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016

PURGING EQUIPMENT USED: B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: <u>Cayton M Barnhill / CES</u>				SAMPLER(S) SIGNATURE(S): <u>[Signature]</u>				SAMPLING INITIATED AT: <u>0949</u>		SAMPLING ENDED AT: <u>0951</u>	
PUMP OR TUBING DEPTH IN WELL (feet): <u>64.20'</u>				TUBING MATERIAL CODE: <u>PE</u>		FIELD-FILTERED: Y <u>(N)</u>		FILTER SIZE: <u> </u> μm			
FIELD DECONTAMINATION: PUMP Y <u>(N)</u>				TUBING Y <u>(N)</u> (replaced)				DUPLICATE: Y <u>(N)</u>			
SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)		
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH					
<u>MW-37</u>	<u>3</u>	<u>CG</u>	<u>40 mL</u>	<u>HCL</u>	<u>120 mL</u>	<u>7.02</u>	<u>BTEX 8260</u>	<u>BP</u>	<u>0.50 GPM</u>		

REMARKS:

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)

NOTES: 1. Sample collection will occur after 3 well volumes are purged or after well stabilization:

STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS:

pH: ≤ 10% units Temperature: ≤ 10% °C Specific Conductance: ≤ 10% μS/cm Dissolved Oxygen: all readings ≤ 10% mg/L
 Oxygen Reduction Potential: ≤ 10% mV

Revision Date: October 22, 2013

GROUNDWATER SAMPLING LOG

SITE NAME: <u>TWP Roswell Station #9</u>	SITE LOCATION: <u>6381 N Main Street Roswell NM 88201</u>
WELL NO: <u>MW-39</u>	DATE: <u>11/15/13</u>

PURGING DATA

WELL DIAMETER (inches): <u>2"</u>	TUBING DIAMETER (inches): <u>1/2"</u>	WELL SCREEN INTERVAL DEPTH: <u>51.08</u> feet to <u>51.08</u> feet	STATIC DEPTH TO WATER (feet): <u>51.08</u>	PURGE PUMP TYPE OR BAILER:
WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY = (<u>70.11</u> feet - <u>51.08</u> feet) X <u>0.16</u> gallons/foot = <u>3.04</u> gallons 3 WELL VOLUMES = <u>9.13</u> gallons				
EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME (only fill out if applicable) = <u> </u> gallons + (<u> </u> gallons/foot X <u> </u> feet) + <u> </u> gallons = <u> </u> gallons				
INITIAL PUMP OR TUBING DEPTH IN WELL (feet): <u>64.0</u>	FINAL PUMP OR TUBING DEPTH IN WELL (feet): <u>64.0</u>	PURGING INITIATED AT: <u>13:30</u>	PURGING ENDED AT: <u>14:28</u>	TOTAL VOLUME PURGED (gallons): <u>106.41</u>

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (circle units) μmhos/cm or μS/cm	DISSOLVED OXYGEN (circle units) mg/L or % saturation	OXYGEN REDUCTION POTENTIAL (mV)	COLOR (describe)	ODOR (describe)
<u>13:30</u>	<u>Initial</u>	<u>0</u>	<u>0.16</u>	<u>51.08</u>	<u>7.23</u>	<u>19.20</u>	<u>3.201</u>	<u>4.81</u>	<u>-22.8/135.7</u>	<u>TURBID Reddish</u>	<u>None</u>
<u>13:42</u>	<u>2</u>	<u>2</u>	<u>0.16</u>	<u>—</u>	<u>6.94</u>	<u>18.85</u>	<u>3.214</u>	<u>4.27</u>	<u>-9.5/144.2</u>	<u>TURBID</u>	<u>None</u>
<u>13:52</u>	<u>4</u>	<u>4</u>	<u>0.20</u>	<u>—</u>	<u>6.92</u>	<u>18.69</u>	<u>3.212</u>	<u>3.81</u>	<u>-8.9/153.3</u>	<u>TURBID</u>	<u>None</u>
<u>14:03</u>	<u>6</u>	<u>6</u>	<u>0.20</u>	<u>—</u>	<u>6.98</u>	<u>18.79</u>	<u>3.216</u>	<u>3.04</u>	<u>-12.1/154.4</u>	<u>TURBID</u>	<u>None</u>
<u>14:13</u>	<u>8</u>	<u>8</u>	<u>0.20</u>	<u>—</u>	<u>6.99</u>	<u>18.69</u>	<u>3.215</u>	<u>2.58</u>	<u>-12.6/155.4</u>	<u>TURBID</u>	<u>None</u>
<u>14:24</u>	<u>10</u>	<u>10</u>	<u>0.20</u>	<u>—</u>	<u>7.06</u>	<u>18.58</u>	<u>3.219</u>	<u>2.30</u>	<u>-15.6/155.1</u>	<u>TURBID</u>	<u>None</u>

INSTRUMENTS USED: VSI 556 MPS Serial # 05F2274AL

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
 TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016

PURGING EQUIPMENT USED: B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLING DATA¹

SAMPLED BY (PRINT) / AFFILIATION: <u>Clayton M. Barnhill / CES</u>				SAMPLER(S) SIGNATURE(S): <u>[Signature]</u>				SAMPLING INITIATED AT: <u>14:25</u>		SAMPLING ENDED AT: <u>14:28</u>	
PUMP OR TUBING DEPTH IN WELL (feet): <u>64.0</u>				TUBING MATERIAL CODE: <u>PE</u>		FIELD-FILTERED: Y <input checked="" type="checkbox"/> N <input type="checkbox"/>		FILTER SIZE: <u> </u> μm			
FIELD DECONTAMINATION: PUMP <u>Y</u> N <input type="checkbox"/> TUBING Y <input checked="" type="checkbox"/> N (replaced)				DUPLICATE: <u>Y</u> N <input type="checkbox"/>							

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (ml per minute)
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH			
<u>MW-39</u>	<u>3</u>	<u>CG</u>	<u>40 mL</u>	<u>HCL</u>	<u>120 mL</u>	<u>7.06</u>	<u>VOC'S 8260</u>	<u>BP</u>	<u>0.20 GPM</u>
<u>MW-39</u>	<u>3</u>	<u>CG</u>	<u>40 mL</u>	<u>HCL</u>	<u>120 mL</u>	<u>7.06</u>	<u>VOC'S 8260</u>	<u>BP</u>	<u>0.20 GPM</u>
<u>Dup</u>									

REMARKS: Forge H₂O Placed in - on-site 55 Gallon Drum

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)

NOTES: 1. Sample collection will occur after 3 well volumes are purged or after well stabilization:

STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS:

pH: ≤ 10% units Temperature: ≤ 10% °C Specific Conductance: ≤ 10% μS/cm Dissolved Oxygen: all readings ≤ 10% mg/L
 Oxygen Reduction Potential: ≤ 10% mV

Revision Date: October 22, 2013

GROUNDWATER SAMPLING LOG

SITE NAME: <u>TWP Roswell Station # 9</u>	SITE LOCATION: <u>6381 N. Main Street Roswell NM 88201</u>
WELL NO: <u>MW-40</u>	SAMPLE ID: <u>MW-40</u> DATE: <u>11/15/13</u>

PURGING DATA

WELL DIAMETER (inches): <u>2"</u>	TUBING DIAMETER (inches): <u>1/2"</u>	WELL SCREEN INTERVAL DEPTH: feet to feet	STATIC DEPTH TO WATER (feet): <u>54.21</u>	PURGE PUMP TYPE: <u>Dedicated</u> OR BAILER: <u>RED 2' BP</u>
WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY $= (70.13 \text{ feet} - 54.21 \text{ feet}) \times 0.16 \text{ gallons/foot} = 2.54 \text{ gallons}$				
3 WELL VOLUMES = <u>7.64</u> gallons				
EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME (only fill out if applicable) $= \text{gallons} + (\text{gallons/foot} \times \text{feet}) + \text{gallons} = \text{gallons}$				

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): <u>62.31</u>	FINAL PUMP OR TUBING DEPTH IN WELL (feet): <u>62.31</u>	PURGING INITIATED AT: <u>10:58</u>	PURGING ENDED AT: <u>10:19</u>	TOTAL VOLUME PURGED (gallons): <u>8</u>
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TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (circle units) μmhos/cm or μS/cm	DISSOLVED OXYGEN (circle units) mg/L or % saturation	OXYGEN REDUCTION POTENTIAL (mV)	COLOR (describe)	ODOR (describe)
10:58	Initial	0	4.005	54.21	7.12	18.02	3.167	5.12	-16.2/131.2	TURBID	None
10:02	2	2	0.50	—	6.92	18.43	3.122	3.84	-7.8/139.6	TURBID	None
10:06	4	4	0.50	—	6.90	18.47	3.120	3.70	-7.5/143.9	TURBID	None
10:12	6	6	0.33	—	6.88	18.46	3.116	3.71	-6.8/148.0	TURBID	None
10:17	8	8	0.33	—	6.88	18.47	3.114	3.92	-6.7/152.1	TURBID	None

INSTRUMENTS USED:

YSI 556 MPS Serial # 05F2274AL

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016

PURGING EQUIPMENT USED: B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: <u>Clayton M Barnhill / CES</u>	SAMPLER(S) SIGNATURE(S): <u>[Signature]</u>	SAMPLING INITIATED AT: <u>10:17</u>	SAMPLING ENDED AT: <u>10:19</u>
PUMP OR TUBING DEPTH IN WELL (feet): <u>62.31</u>	TUBING MATERIAL CODE: <u>PE</u>	FIELD-FILTERED: Y <u>(N)</u>	FILTER SIZE: <u> </u> μm
FIELD DECONTAMINATION: PUMP <u>(Y)</u> N TUBING Y <u>(N)</u> (replaced)		DUPLICATE: Y <u>(N)</u>	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH			
MW-40	3	CG	40 mL	HCL	120 mL	6.88	VOC'S 8260	BP	0.33

REMARKS:

Placed Purge H₂O in On-site DRUM

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)
SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)

NOTES: 1. Sample collection will occur after 3 well volumes are purged or after well stabilization:

STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS:

pH: ≤ 10% units Temperature: ≤ 10% °C Specific Conductance: ≤ 10% μS/cm Dissolved Oxygen: all readings ≤ 10% mg/L
Oxygen Reduction Potential: ≤ 10% mV

Revision Date: October 22, 2013

GROUNDWATER SAMPLING LOG

SITE NAME: <u>TWP Roswell Station 9</u>	SITE LOCATION: <u>6381 N. Main Street Roswell, NM 88201</u>
WELL NO: <u>MW-41</u>	SAMPLE ID: <u>MW-41</u> DATE: <u>11/15/13</u>

PURGING DATA

WELL DIAMETER (inches): <u>2"</u>	TUBING DIAMETER (inches): <u>1/2"</u>	WELL SCREEN INTERVAL DEPTH: feet to feet	STATIC DEPTH TO WATER (feet): <u>56.63</u>	PURGE PUMP TYPE <u>Dedicated</u> OR BAILER: <u>RED SP 2"</u>
WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY				
= (<u>70.06</u> feet - <u>56.63</u> feet) X <u>0.16</u> gallons/foot = <u>2.14</u> gallons				
3 WELL VOLUMES = <u>6.44</u> gallons				
EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME (only fill out if applicable)				
= gallons + (gallons/foot X feet) + gallons = gallons				

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): <u>58.49</u>	FINAL PUMP OR TUBING DEPTH IN WELL (feet): <u>58.49</u>	PURGING INITIATED AT: <u>10:53</u>	PURGING ENDED AT: <u>11:21</u>	TOTAL VOLUME PURGED (gallons): <u>6.50</u>
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TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (circle units) μmhos/cm or μS/cm	DISSOLVED OXYGEN (circle units) mg/L or % saturation	OXYGEN REDUCTION POTENTIAL (mV)	COLOR (describe)	ODOR (describe)
<u>10:53</u>	<u>Initial</u>	<u>0</u>	<u>0.25</u>	<u>56.63</u>	<u>7.16</u>	<u>18.28</u>	<u>3.053</u>	<u>6.37</u>	<u>-18.3/145</u>	<u>Red Silty</u>	<u>None</u>
<u>10:01</u>	<u>2</u>	<u>2</u>	<u>0.25</u>	<u>—</u>	<u>6.94</u>	<u>18.80</u>	<u>3.034</u>	<u>6.94</u>	<u>-9.9/155.3</u>	<u>Turbid</u>	<u>None</u>
<u>11:08</u>	<u>4</u>	<u>4</u>	<u>0.29</u>	<u>—</u>	<u>6.93</u>	<u>18.83</u>	<u>3.032</u>	<u>5.77</u>	<u>-9.5/158.0</u>	<u>Clear</u>	<u>None</u>
<u>11:19</u>	<u>6.50</u>	<u>6.50</u>	<u>0.29</u>	<u>—</u>	<u>6.94</u>	<u>18.94</u>	<u>3.033</u>	<u>5.73</u>	<u>-9.8/159.1</u>	<u>Clear</u>	<u>None</u>

INSTRUMENTS USED: <u>XSI 556 mps Serial # 05F2274AL</u>	
WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88	
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016	
PURGING EQUIPMENT USED: B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)	

SAMPLING DATA¹

SAMPLED BY (PRINT) / AFFILIATION: <u>Clayton Barnhill / CES</u>	SAMPLER(S) SIGNATURE(S): <u>[Signature]</u>	SAMPLING INITIATED AT: <u>11:19</u>	SAMPLING ENDED AT: <u>11:21</u>
PUMP OR TUBING DEPTH IN WELL (feet): <u>58.49</u>	TUBING MATERIAL CODE: <u>PE</u>	FIELD-FILTERED: Y <u>(N)</u>	FILTER SIZE: μm
FIELD DECONTAMINATION: PUMP <u>(Y)</u> N TUBING Y <u>(N)</u> Replaced		DUPLICATE: Y <u>(N)</u>	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH			
<u>MW-41</u>	<u>3</u>	<u>CG</u>	<u>40mL</u>	<u>HCL</u>	<u>120 mL</u>	<u>6.94</u>	<u>Vox's 8260</u>	<u>BP</u>	<u>0.29</u>

REMARKS: <u>Purge H₂O Placed in On-site 55 Gallon Drum</u>	
MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)	
SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)	

NOTES: 1. Sample collection will occur after 3 well volumes are purged or after well stabilization:
 STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS:
 pH: ≤ 10% units Temperature: ≤ 10% °C Specific Conductance: ≤ 10% μS/cm Dissolved Oxygen: all readings ≤ 10% mg/L
 Oxygen Reduction Potential: ≤ 10% mV

Revision Date: October 22, 2013

GROUNDWATER SAMPLING LOG

SITE NAME: <u>TWP Res well station #9</u>	SITE LOCATION: <u>6381 North Main Street Roswell NM 88201</u>
WELL NO: <u>MW-42</u>	DATE: <u>11/15/13</u>

PURGING DATA

WELL DIAMETER (inches): <u>2"</u>	TUBING DIAMETER (inches): <u>1/2"</u>	WELL SCREEN INTERVAL DEPTH: <u>56.28</u> feet to <u>56.28</u> feet	STATIC DEPTH TO WATER (feet): <u>56.28</u>
PURGE PUMP TYPE: <u>Debris Filter</u> OR BAILER: <u>QED B.P.2"</u>			
WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY = (<u>75.95</u> feet - <u>56.28</u> feet) X <u>0.16</u> gallons/foot = <u>3.14</u> gallons 3 WELL VOLUMES = <u>9.44</u> gallons			
EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME (only fill out if applicable) = <u> </u> gallons + (<u> </u> gallons/foot X <u> </u> feet) + <u> </u> gallons = <u> </u> gallons			
INITIAL PUMP OR TUBING DEPTH IN WELL (feet): <u>64.03</u>	FINAL PUMP OR TUBING DEPTH IN WELL (feet): <u>64.03</u>	PURGING INITIATED AT: <u>0841</u>	PURGING ENDED AT: <u>0917</u>
		TOTAL VOLUME PURGED (gallons): <u>9.50</u>	

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (circle units) μmhos/cm or μS/cm	DISSOLVED OXYGEN (circle units) mg/L or % saturation	OXYGEN REDUCTION POTENTIAL (mV)	COLOR (describe)	ODOR (describe)
<u>0841</u>	<u>Initial</u>	<u>0</u>	<u>0.25</u>	<u>56.28</u>	<u>6.85</u>	<u>16.85</u>	<u>3.136</u>	<u>4.18</u>	<u>-6.4/173.1</u>	<u>Turbid</u>	<u>Reddish</u>
<u>0850</u>	<u>2</u>	<u>2</u>	<u>0.25</u>	<u>—</u>	<u>6.92</u>	<u>17.81</u>	<u>3.158</u>	<u>3.38</u>	<u>-8.6/170.6</u>	<u>Turbid</u>	<u>Reddish</u>
<u>0858</u>	<u>4</u>	<u>4</u>	<u>0.25</u>	<u>—</u>	<u>6.91</u>	<u>17.93</u>	<u>3.155</u>	<u>3.38</u>	<u>-8.6/170.0</u>	<u>Clear</u>	<u>None</u>
<u>0906</u>	<u>6</u>	<u>6</u>	<u>0.25</u>	<u>—</u>	<u>6.91</u>	<u>18.09</u>	<u>3.147</u>	<u>3.49</u>	<u>-8.5/169.0</u>	<u>Clear</u>	<u>None</u>
<u>0911</u>	<u>8</u>	<u>8.48</u>	<u>0.40</u>	<u>—</u>	<u>6.91</u>	<u>18.10</u>	<u>3.144</u>	<u>3.74</u>	<u>-8.5/168.5</u>	<u>Clear</u>	<u>None</u>
<u>0916</u>	<u>9.50</u>	<u>9.50</u>	<u>0.40</u>	<u>—</u>	<u>6.91</u>	<u>18.16</u>	<u>3.121</u>	<u>3.87</u>	<u>-8.5/167.8</u>	<u>Clear</u>	<u>None</u>

INSTRUMENTS USED: YSI MPS 556 Serial # 05F 2274AL

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0008; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.008; 1/2" = 0.010; 5/8" = 0.016

PURGING EQUIPMENT USED: B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLING DATA¹

SAMPLED BY (PRINT) / AFFILIATION: <u>Clayton M Barnhill / CES</u>				SAMPLER(S) SIGNATURE(S): <u>[Signature]</u>				SAMPLING INITIATED AT: <u>0916</u>		SAMPLING ENDED AT: <u>0917</u>	
PUMP OR TUBING DEPTH IN WELL (feet): <u>64.03</u>				TUBING MATERIAL CODE: <u>PE</u>		FIELD-FILTERED: Y <input checked="" type="checkbox"/> <u>N</u>				FILTER SIZE: <u> </u> μm	
FIELD DECONTAMINATION: PUMP <input checked="" type="checkbox"/> <u>N</u>				TUBING Y <input checked="" type="checkbox"/> <u>N</u> (replaced)				DUPLICATE: Y <input checked="" type="checkbox"/> <u>N</u>			

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH			
<u>MW-42</u>	<u>3</u>	<u>CG</u>	<u>40mL</u>	<u>HCL</u>	<u>120 mL</u>	<u>6.91</u>	<u>VOC'S 8260</u>	<u>BP</u>	<u>0.40</u>

REMARKS: PURGE H₂O Placed in 55 Gallon Drum - On-Site.

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPF = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)

NOTES: 1. Sample collection will occur after 3 well volumes are purged or after well stabilization:

STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS:

pH: ≤ 10% units Temperature: ≤ 10% °C Specific Conductance: ≤ 10% μS/cm Dissolved Oxygen: all readings ≤ 10% mg/L
Oxygen Reduction Potential: ≤ 10% mV

Revision Date: October 22, 2013

Location TWP Roswell Station 9 Date 11/14/13

Project / Client GW Sampling 2013
By: CMB Environmental & Geological
Services Inc. Page 1 of 2

Field Calibration of YSI 556 mps
Serial # 05F2274AL

D.O. Initial = 0725 hr
= 8.52 mg/L Final = 8.30 mg/L
0735.

Conductivity Standard: 1413 $\mu\text{m/cm}$

Calitech Express 03/14/2014
Initial = 1.547 $\mu\text{m/cm}$
Final = 1.413 $\mu\text{m/cm}$ @ 0740 hr.

pH Standard: 2 point Calibration

Calitech 7.0 pH Solution
Express H70713 08/13/2014
Initial = 7.05
Final = 7.00

Calitech 4.0 pH Solution
Initial = 3.98 pH
Final = 4.00 pH - 0745 hr.

TWP Roswell Station 9 Date 11/14/13

GW Sampling 2013
By: CMB Environmental & Geological
Services Inc. Page 2 of 2

OHMV/OKP Calibration:

WTW R#28 YSI 3682
Zobell Solution. No Expiration
date listed

Initial = -10.3 p $\mu\text{mV}/\mu\text{S}$ 361.0
T $^{\circ}\text{C}$ = 16.64 36.2
Final = 230 p μV = 6.89 0755
hr.

Arrive on-site 0820 hr.

Left site @ 17:30 hr.

Ambient Temp 57.0 F

Wind North 15-20 mph.

11/15/13 - 0835 hr.

Re-calibrated D.O.

Initial = 8.15

Final = 8.30.

11/18/13 arrive on-site @ 0845

Re-calibrated YSI 556 mps

D.O. = Initial = 7.11 mg/L Final = 8.30 mg/L

Cond. = Initial = 1.352 $\mu\text{m/cm}$ Final = 1.413 $\mu\text{m/cm}$

pH = Initial = 7.06.84 Final = 7.00

Drift Initial = 3.70

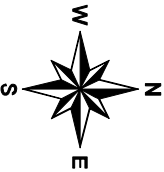
Drift number Initial = 14.77 @ 234.7 Final = 235

Appendix B
Copy of May 2013 *RWP* Figure 6-4 and
2013 Plume Stability Analysis Figures

Plume Characteristics

Estimated Decrease
in Plume Area: 49.5 %

Average Decrease in Thickness
in Wells with PSH: 10 %



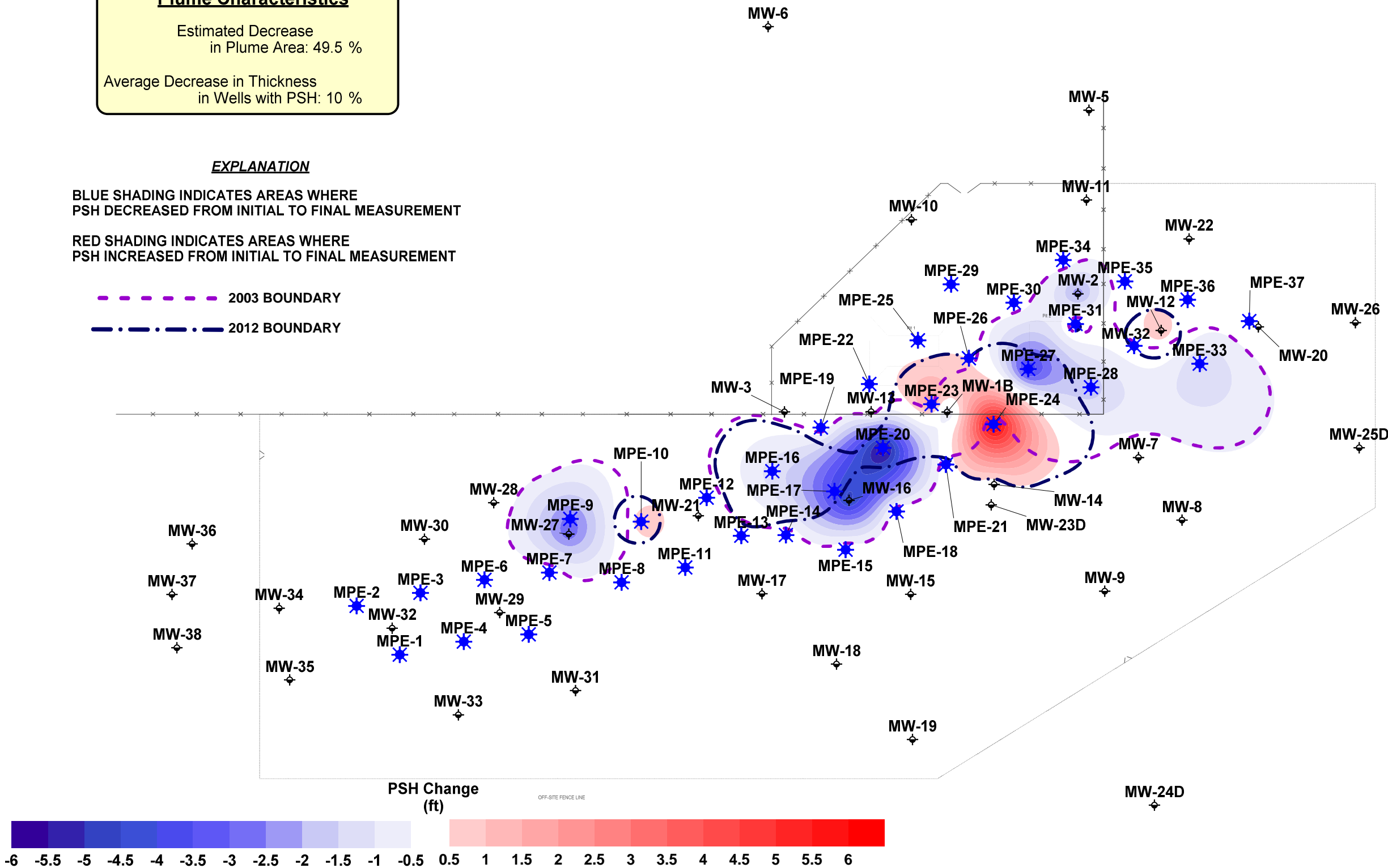
EXPLANATION

BLUE SHADING INDICATES AREAS WHERE
PSH DECREASED FROM INITIAL TO FINAL MEASUREMENT

RED SHADING INDICATES AREAS WHERE
PSH INCREASED FROM INITIAL TO FINAL MEASUREMENT

--- 2003 BOUNDARY

- - - 2012 BOUNDARY



LEGEND

- MW-4**
Monitoring Well
- MPE-31**
Multi-Phase Extraction Well

SCALE

0 FT 75 FT 150 FT

TRANSWESTERN PIPELINE COMPANY
COMPRESSOR STATION NO. 9

ROSWELL, CHAVES COUNTY, NEW MEXICO

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Houston, Tx 77014
Firm 7572

CHANGE IN EXTENT OF PSH

DRAWN: KMG CHECKED: JDH DATE: 05/13 FIGURE: 6-4

FILENAME:

Summary of Plume Stability Characteristics

Date	Area (Acres)	Average Conc. (µg/l)	Mass Indicator (lbs)
1997	0.46	14.8	0.11
1998	0.77	14.0	0.18
1999	0.87	13.9	0.20
2000	1.28	14.4	0.30
2001	2.21	17.8	0.64
2002	2.03	15.1	0.50
2003	2.04	16.9	0.56
2004	1.94	17.1	0.54
2005	1.96	23.1	0.74
2006	1.75	14.3	0.41
2007	1.77	14.5	0.42
2008	1.93	15.7	0.49
2009	1.76	13.1	0.38
2010	1.83	13.7	0.41
2011	1.56	13.5	0.34
2012	1.61	12.2	0.32
2013	1.19	12.9	0.25

Mann-Kendall Trend Analysis Summary

Parameter	# of samples, n	S Statistic	Confidence Factor	Coeff. of Variation	Conclusion
Plume Area	17	-2	51.6%	0.32	Stable/No Trend
Plume Average Concentration	17	-46	96.8%	0.17	Decreasing Trend
Plume Mass Indicator	17	0	50.0%	0.42	Stable/No Trend

Linear Regression Trend Analysis Summary

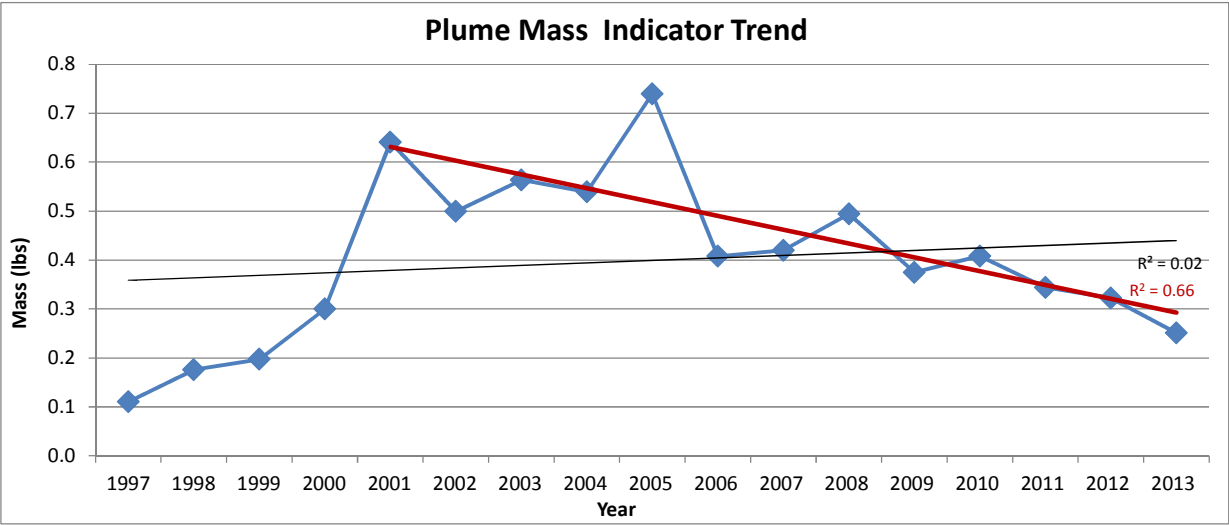
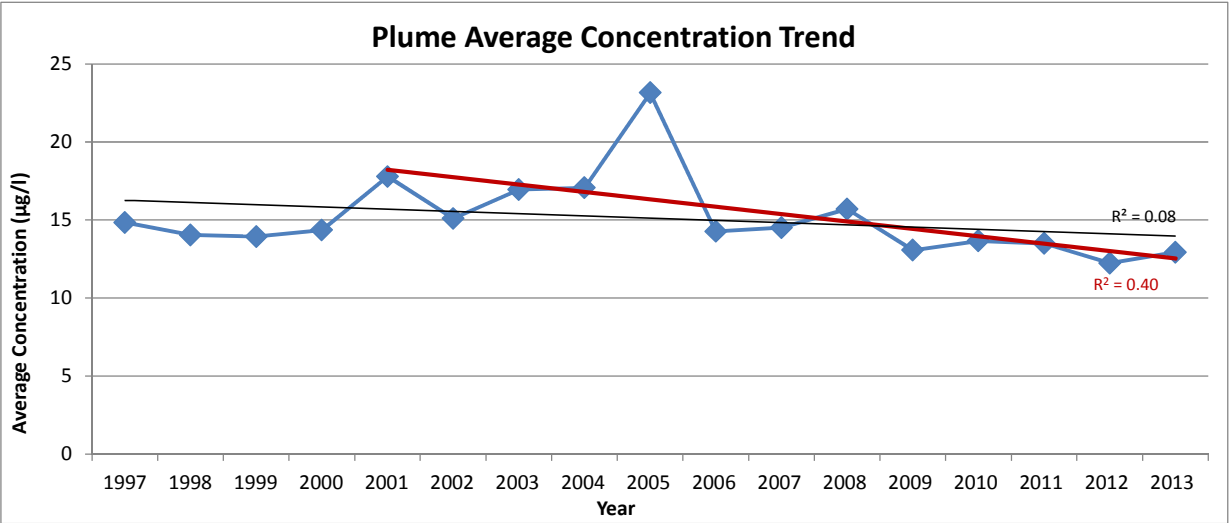
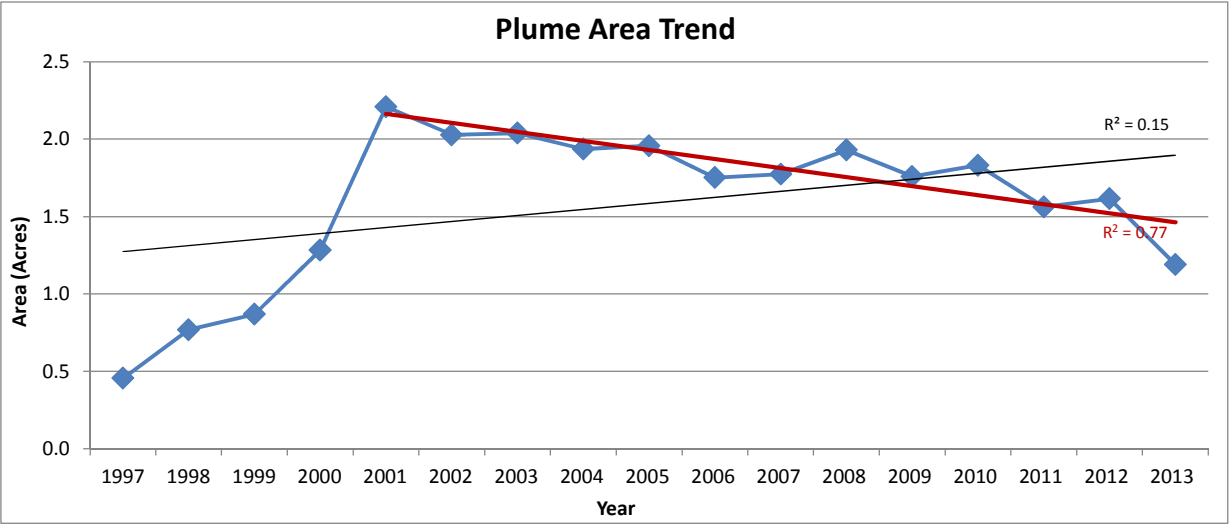
Parameter	# of samples, n	Slope (yr ⁻¹)	R ²	Confidence Factor	Coeff. of Variation	Conclusion
Plume Area	17	14.22	0.15	88.0%	0.32	Stable/No Trend
Plume Average Concentration	17	-52.39	0.08	72.8%	0.17	Stable/No Trend
Plume Mass Indicator	17	1.85	0.02	44.0%	0.42	Stable/No Trend

Mann-Kendall Trend Analysis Summary - Data Since 2001

Parameter	# of samples, n	S Statistic	Confidence Factor	Coeff. of Variation	Conclusion
Plume Area	13	-58	100.0%	0.14	Decreasing Trend
Plume Average Concentration	13	-50	99.9%	0.19	Decreasing Trend
Plume Mass Indicator	13	-56	100.0%	0.29	Decreasing Trend

Linear Regression Trend Analysis Summary - Data Since 2001

Parameter	# of samples, n	Slope (yr ⁻¹)	R ²	Confidence Factor	Coeff. of Variation	Conclusion
Plume Area	13	-21.31	0.77	100.0%	0.14	Decreasing Trend
Plume Average Concentration	13	-172.64	0.40	98.0%	0.19	Decreasing Trend
Plume Mass Indicator	13	-10.30	0.66	99.9%	0.29	Decreasing Trend



Note: 2012 analysis includes all sampling events.

Roswell Station Remediation Site
Transwestern Pipeline Company, LLC
Chaves County, New Mexico

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1,1-DCE Plume Stability
Analysis Summary

DRAWN: EWL CHECKED: JAR DATE: November 8, 2013 FIGURE: 2

Summary of Plume Stability Characteristics

Date	Area (Acres)	Average Conc. (µg/l)	Mass Indicator (lbs)
1996	8.7	355	50.1
1997	8.5	179	24.9
1998	7.9	130	16.8
1999	7.8	149	19.0
2000	7.9	155	19.9
2001	8.1	195	25.7
2002	8.0	175	22.9
2003	7.8	106	13.5
2004	3.1	43.1	2.17
2005	3.7	26.1	1.59
2006	3.6	25.3	1.49
2007	2.8	69.2	3.17
2008	2.0	50.2	1.67
2009	1.8	55.6	1.65
2010	1.7	56.6	1.56
2011	2.2	47.2	1.72
2012	1.7	64.2	1.82
2013	1.7	63.9	1.78

Mann-Kendall Trend Analysis Summary

Parameter	# of samples, n	S Statistic	Confidence Factor	Coeff. of Variation	Conclusion
Plume Area	18	-125	100.0%	0.60	Decreasing Trend
Plume Average Concentration	18	-69	99.5%	0.77	Decreasing Trend
Plume Mass Indicator	18	-83	99.9%	1.15	Decreasing Trend

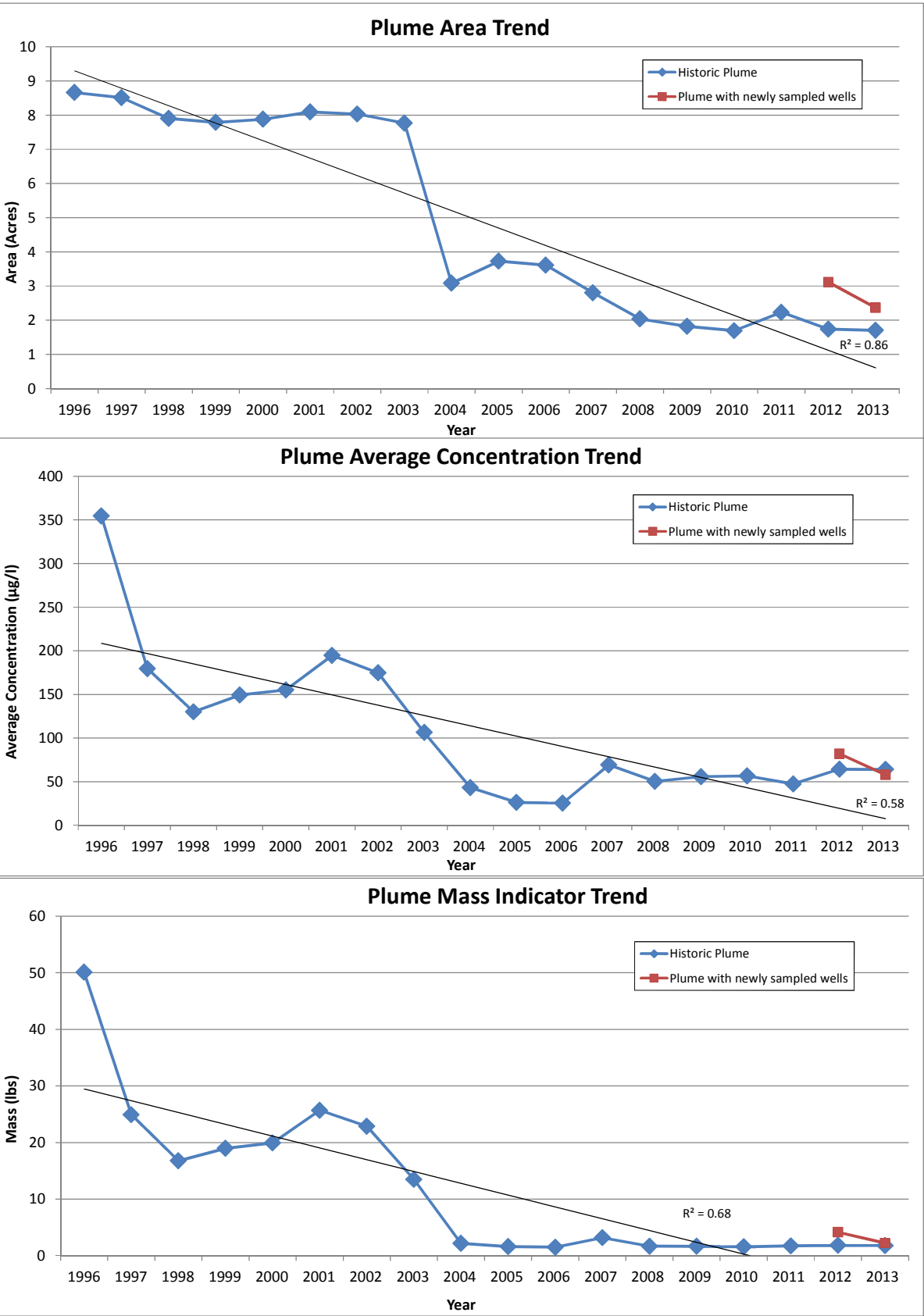
Linear Regression Trend Analysis Summary

Parameter	# of samples, n	Slope (yr ⁻¹)	R ²	Confidence Factor	Coeff. of Variation	Conclusion
Plume Area	18	-186.70	0.86	100.0%	0.60	Decreasing Trend
Plume Average Concentration	18	-4315.24	0.58	100.0%	0.77	Decreasing Trend
Plume Mass Indicator	18	-761.92	0.68	100.0%	1.15	Decreasing Trend

Notes: Wells not sampled prior to 2012 are not included in analysis, but are tracked on graphs.
MPE wells are not included in the analysis.
2012 includes three sampling events.

Roswell Station Remediation Site
Transwestern Pipeline Company, LLC
Chaves County, New Mexico

Benzene Plume Stability Analysis
Summary



Summary of Plume Stability Characteristics

Date	Area (Acres)	Average Conc. (µg/l)	Mass Indicator (lbs)
1996	8.9	369	53.5
1997	8.6	188	26.3
1998	8.0	139	18.1
1999	7.8	157	20.0
2000	7.9	162	21.0
2001	8.1	203	27.0
2002	8.1	187	24.7
2003	7.9	113	14.5
2004	3.1	43.9	2.24
2005	3.7	26.4	1.61
2006	3.7	27.9	1.67
2007	2.9	98.5	4.67
2008	2.2	88.3	3.23
2009	2.0	97	3.21
2010	1.9	99	3.06
2011	2.4	81	3.22
2012	2.0	155	5.0
2013	1.9	159	5.0

Mann-Kendall Trend Analysis Summary

Parameter	# of samples, n	S Statistic	Confidence Factor	Coeff. of Variation	Conclusion
Plume Area	18	-123	100.0%	0.57	Decreasing Trend
Plume Average Concentration	18	-49	96.5%	0.60	Decreasing Trend
Plume Mass Indicator	18	-63	99.1%	1.05	Decreasing Trend

Linear Regression Trend Analysis Summary

Parameter	# of samples, n	Slope (yr ⁻¹)	R ²	Confidence Factor	Coeff. of Variation	Conclusion
Plume Area	18	-183.48	0.85	100.0%	0.57	Decreasing Trend
Plume Average Concentration	18	-2846.72	0.27	97.4%	0.60	Decreasing Trend
Plume Mass Indicator	18	-749.80	0.63	100.0%	1.05	Decreasing Trend

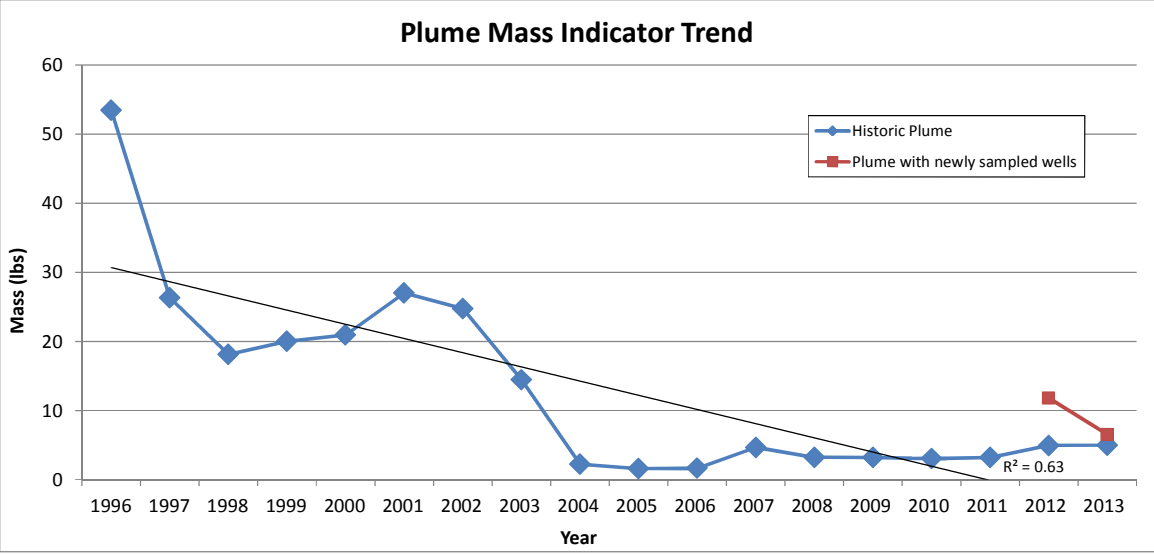
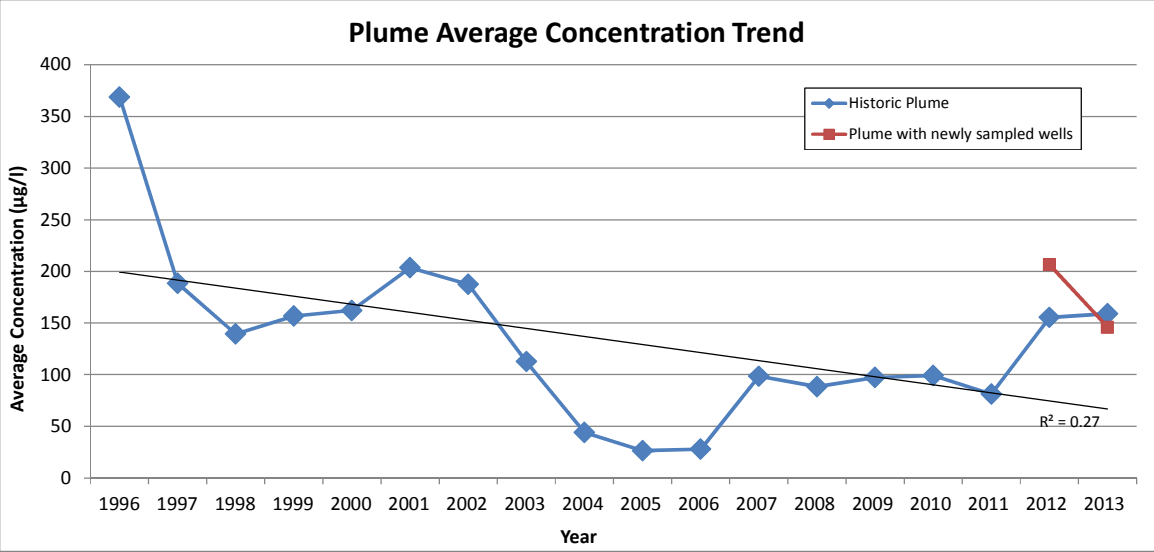
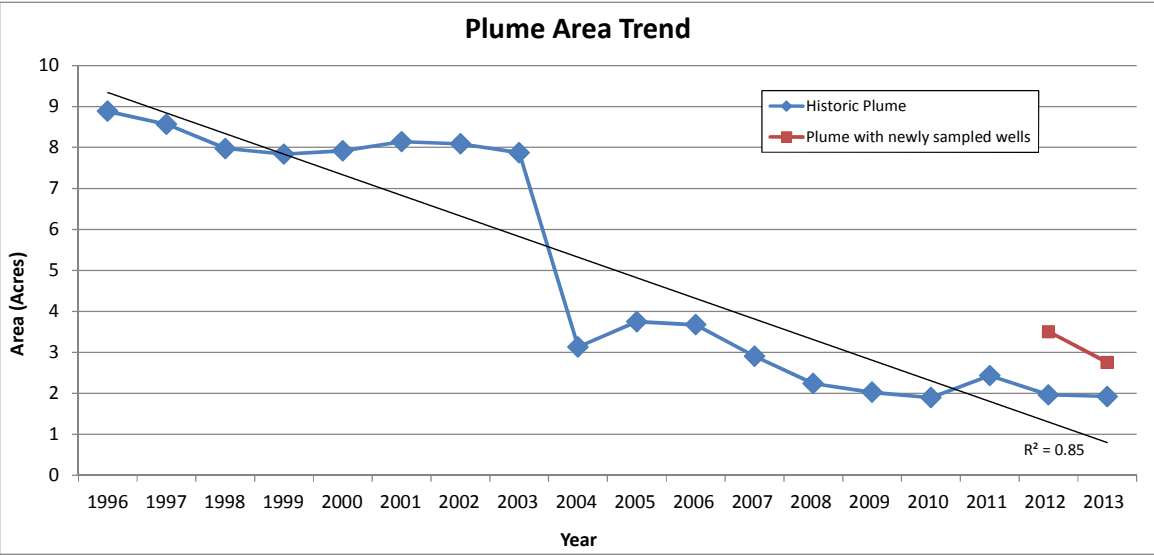
Notes: Wells not sampled prior to 2012 are not included in analysis, but are tracked on graphs.
MPE wells are not included in the analysis.
2012 includes three sampling events.

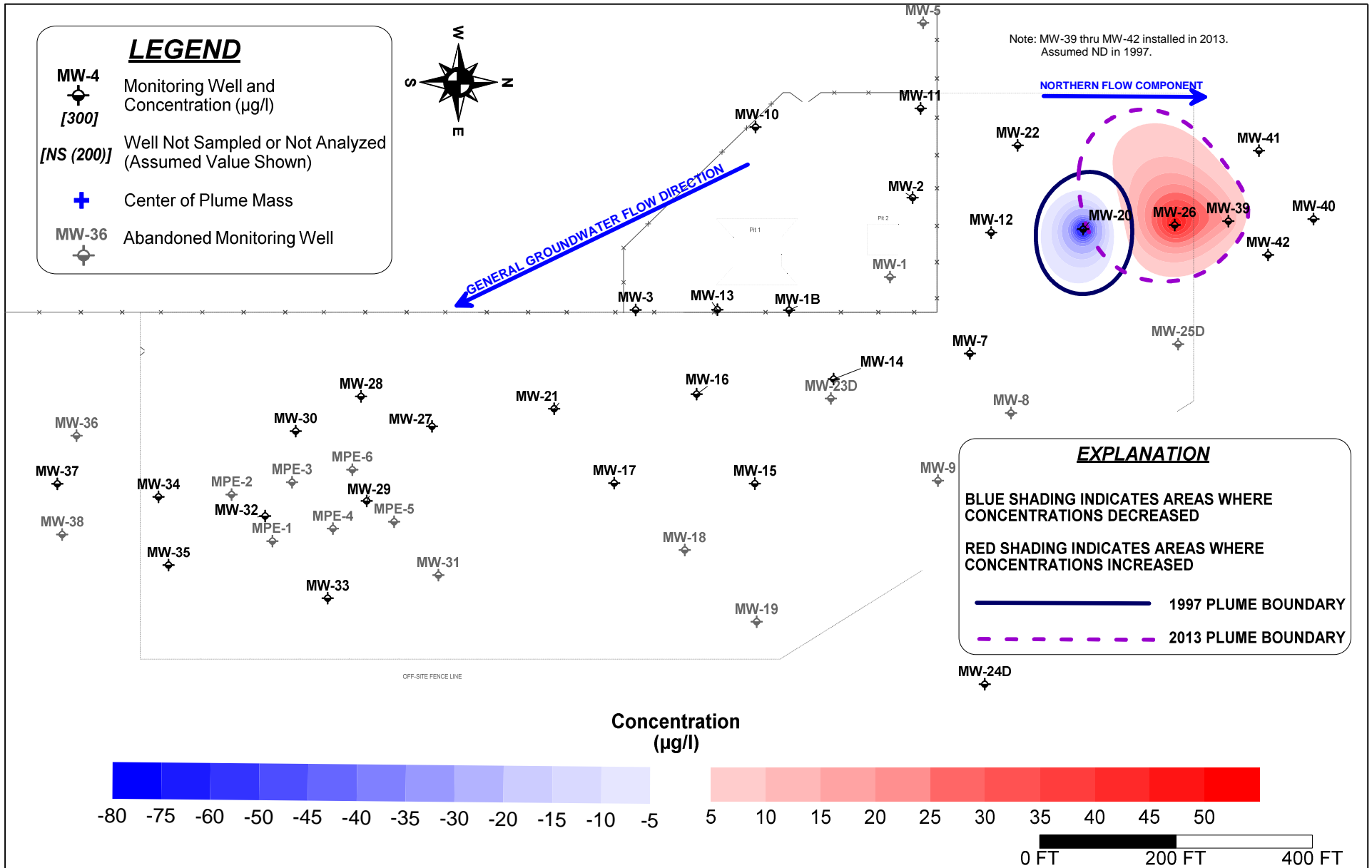
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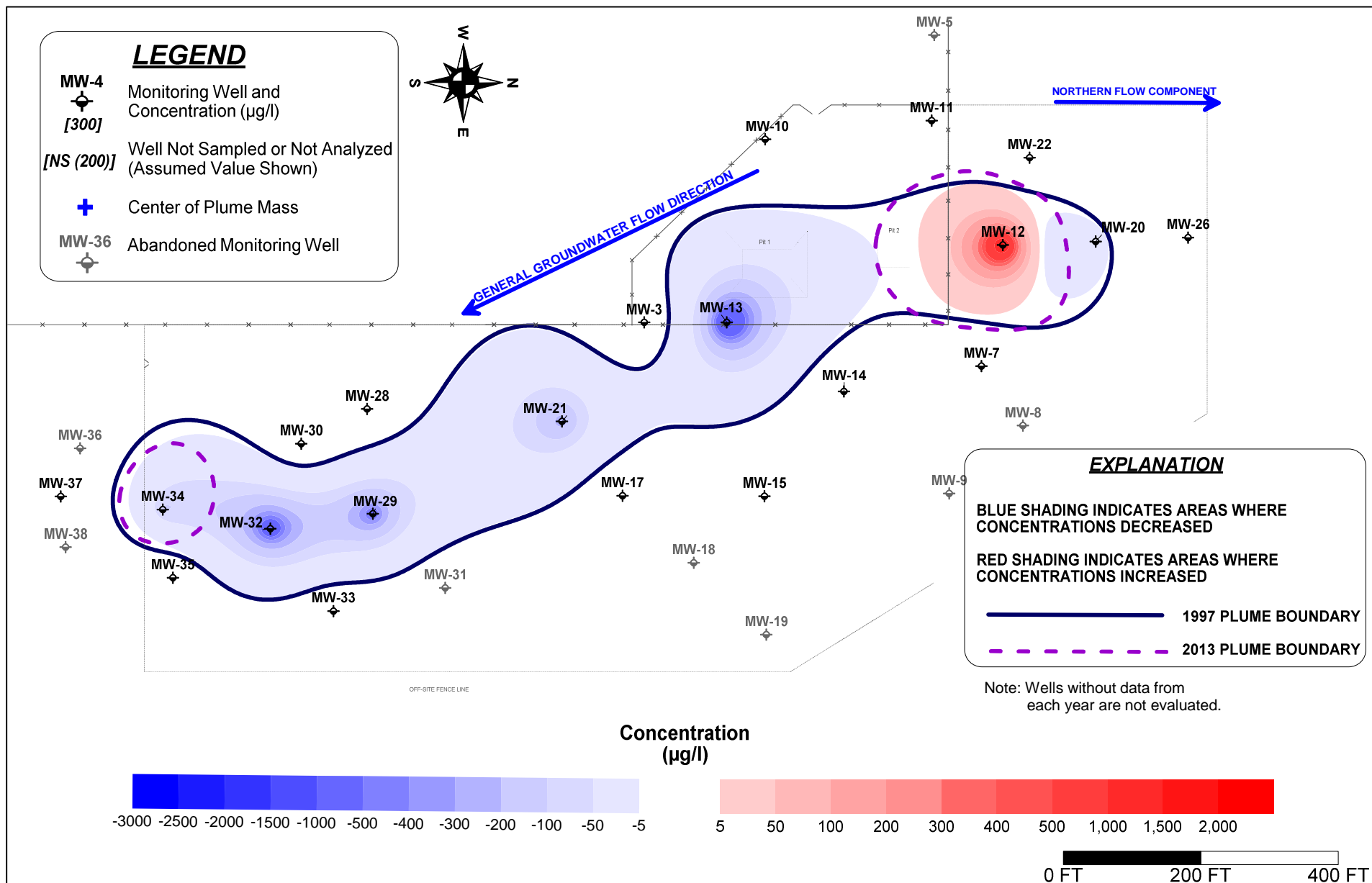
BTEX Plume Stability Analysis
Summary





Roswell Station Remediation Site
Transwestern Pipeline Company, LLC
Chaves County, New Mexico

1,1-DCE Plume Difference 2013 vs. 1997



Roswell Station Remediation Site
Transwestern Pipeline Company, LLC
Chaves County, New Mexico

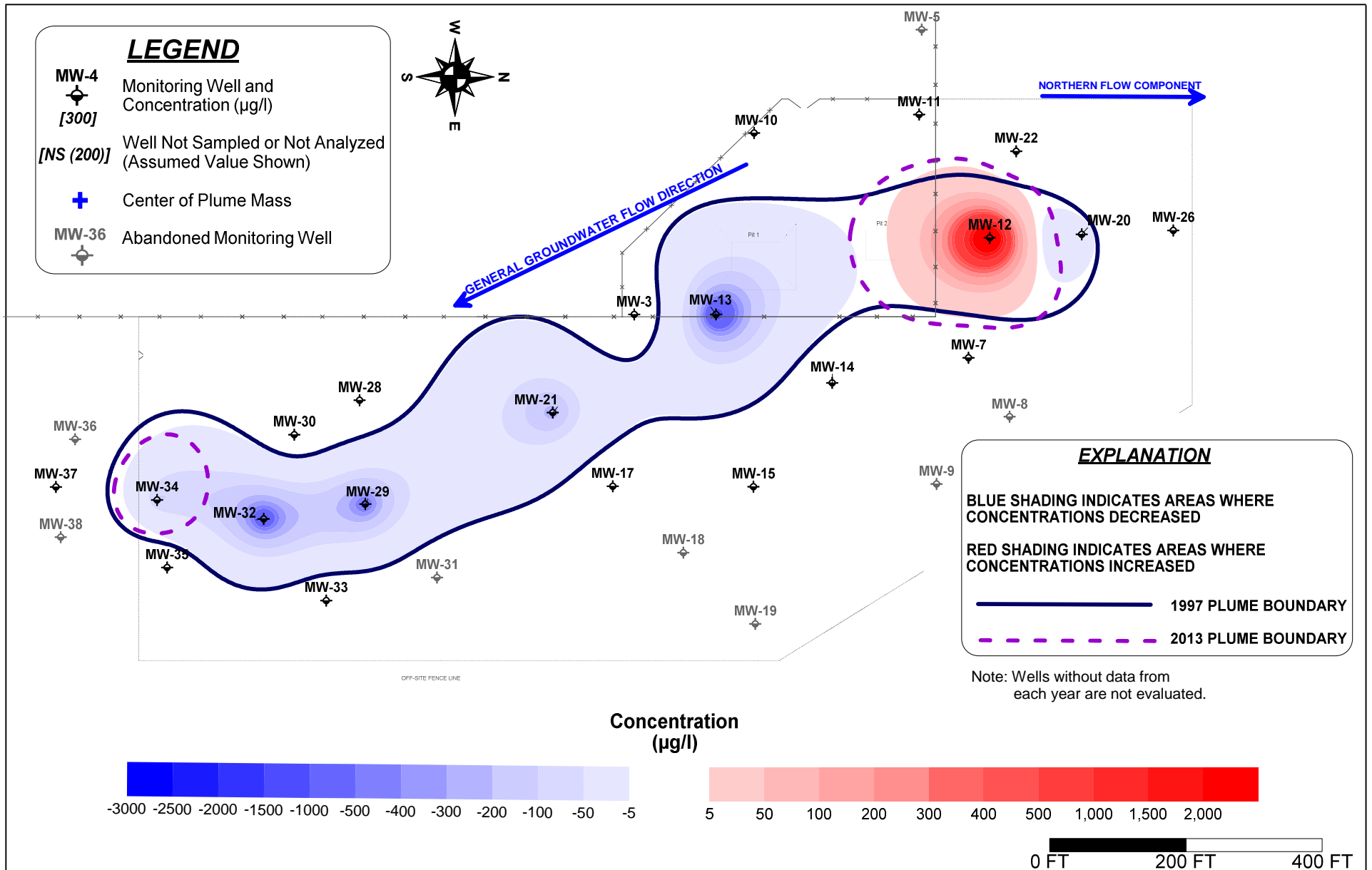


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Benzene Plume Difference 2013 vs 1997

DRAWN:	EWL	CHECKED:	JAR	DATE:	November 5, 2013	FIGURE:	9
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BTEX Plume Difference 2013 vs 1997

DRAWN:	CHECKED:	DATE:	FIGURE:
EWL	JAR	November 12, 2013	10

Appendix C
Analytical Data Packages – Semiannual Groundwater Sampling

Data Validation Report - RPDs
Roswell Compressor Station - Roswell, NM

Sample ID	Sampling Date		BTEX (ug/L)				Other VOCs (ug/L)		
			Benzene	Toluene	Ethylbenzene	Xylenes (total)	1,1-Dichloroethane	1,2,4-Trimethylbenzene	1,1-Dichloroethene
MW-16	04/17/13		650	< 50	210	2400	NA	NA	NA
(MW-16 Dup)	04/17/13		690	< 50	230	2400	NA	NA	NA
	RPD:		-6.0	---	-9.1	0.0	---	--	---
MW-26	04/17/13		< 1.0	< 1.0	< 1.0	< 1.5	6.2	< 1.0	53
(MW-26 Dup)	04/17/13		< 1.0	< 1.0	< 1.0	< 1.5	6.4	< 1.0	56
	RPD:		---	---	---	---	-3.2	---	-5.5
MW-21	11/18/13		< 1.0	< 1.0	< 1.0	< 2.0	NA	NA	NA
(MW-21 Dup)	11/18/13		< 1.0	< 1.0	< 1.0	< 2.0	NA	NA	NA
	RPD:		---	---	---	---	---	---	---
MW-26	11/15/13		< 1.0	< 1.0	< 1.0	< 1.5	6.0	< 1.0	45
(MW-26 Dup)	11/15/13		< 1.0	< 1.0	< 1.0	< 1.5	5.9	< 1.0	46
	RPD:		---	---	---	---	1.7	---	-2.2
MW-34	11/14/13		7.2	< 1.0	< 1.0	< 2.0	NA	NA	NA
(MW-34 Dup)	11/14/13		7.2	< 1.0	< 1.0	< 2.0	NA	NA	NA
	RPD:		---	---	---	---	---	---	---
MW-39	11/15/13		< 1.0	< 1.0	< 1.0	< 1.5	1.6	< 1.0	15
(MW-39 Dup)	11/15/13		< 1.0	< 1.0	< 1.0	< 1.5	1.5	< 1.0	16
	RPD:		---	---	---	---	6.5	---	-6.5

NOTES:

Relative Percent Difference (RPD) = $[(S-D) / ((S+D)/2)] * 100$

S = Concentration of analyte in Real Sample

D = Concentration of analyte in Duplicate Sample



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

May 03, 2013

George Robinson
Cypress Engineering
7171 Highway 6 North
Suite 102
Houston, TX 770952422
TEL: (281) 797-3420
FAX: (281) 859-1881

RE: Transwestern Pipeline Company Roswell St

Order No.: 1304777

Dear George Robinson:

Hall Environmental Analysis Laboratory received 18 sample(s) on 4/18/2013 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. 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. 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.

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 1304777

Date Reported: 5/3/2013

CLIENT: Cypress Engineering

Client Sample ID: MW-35

Project: Transwestern Pipeline Company Roswell

Collection Date: 4/16/2013 3:30:00 PM

Lab ID: 1304777-001

Matrix: AQUEOUS

Received Date: 4/18/2013 1:15:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	ND	1.0		µg/L	1	4/25/2013 11:55:35 PM
Toluene	ND	1.0		µg/L	1	4/25/2013 11:55:35 PM
Ethylbenzene	ND	1.0		µg/L	1	4/25/2013 11:55:35 PM
Xylenes, Total	ND	2.0		µg/L	1	4/25/2013 11:55:35 PM
Surr: 4-Bromofluorobenzene	89.8	69.4-129		%REC	1	4/25/2013 11:55:35 PM

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1304777

Date Reported: 5/3/2013

CLIENT: Cypress Engineering

Client Sample ID: MW-34

Project: Transwestern Pipeline Company Roswell

Collection Date: 4/16/2013 4:15:00 PM

Lab ID: 1304777-002

Matrix: AQUEOUS

Received Date: 4/18/2013 1:15:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	60	1.0		µg/L	1	4/26/2013 12:25:50 AM
Toluene	ND	1.0		µg/L	1	4/26/2013 12:25:50 AM
Ethylbenzene	ND	1.0		µg/L	1	4/26/2013 12:25:50 AM
Xylenes, Total	ND	2.0		µg/L	1	4/26/2013 12:25:50 AM
Surr: 4-Bromofluorobenzene	94.2	69.4-129		%REC	1	4/26/2013 12:25:50 AM

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1304777

Date Reported: 5/3/2013

CLIENT: Cypress Engineering

Client Sample ID: FIELD BLANK 1

Project: Transwestern Pipeline Company Roswell

Collection Date: 4/16/2013 4:20:00 PM

Lab ID: 1304777-003

Matrix: AQUEOUS

Received Date: 4/18/2013 1:15:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	ND	1.0		µg/L	1	4/26/2013 1:26:34 AM
Toluene	ND	1.0		µg/L	1	4/26/2013 1:26:34 AM
Ethylbenzene	ND	1.0		µg/L	1	4/26/2013 1:26:34 AM
Xylenes, Total	ND	2.0		µg/L	1	4/26/2013 1:26:34 AM
Surr: 4-Bromofluorobenzene	91.4	69.4-129		%REC	1	4/26/2013 1:26:34 AM

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1304777

Date Reported: 5/3/2013

CLIENT: Cypress Engineering

Client Sample ID: MW-32

Project: Transwestern Pipeline Company Roswell

Collection Date: 4/16/2013 4:45:00 PM

Lab ID: 1304777-004

Matrix: AQUEOUS

Received Date: 4/18/2013 1:15:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	ND	1.0		µg/L	1	4/26/2013 1:56:47 AM
Toluene	ND	1.0		µg/L	1	4/26/2013 1:56:47 AM
Ethylbenzene	ND	1.0		µg/L	1	4/26/2013 1:56:47 AM
Xylenes, Total	ND	2.0		µg/L	1	4/26/2013 1:56:47 AM
Surr: 4-Bromofluorobenzene	92.2	69.4-129		%REC	1	4/26/2013 1:56:47 AM

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH greater than 2
RL Reporting Detection Limit

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1304777

Date Reported: 5/3/2013

CLIENT: Cypress Engineering

Client Sample ID: MW-29

Project: Transwestern Pipeline Company Roswell

Collection Date: 4/16/2013 5:20:00 PM

Lab ID: 1304777-005

Matrix: AQUEOUS

Received Date: 4/18/2013 1:15:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	ND	1.0		µg/L	1	4/26/2013 2:27:07 AM
Toluene	ND	1.0		µg/L	1	4/26/2013 2:27:07 AM
Ethylbenzene	ND	1.0		µg/L	1	4/26/2013 2:27:07 AM
Xylenes, Total	ND	2.0		µg/L	1	4/26/2013 2:27:07 AM
Surr: 4-Bromofluorobenzene	92.4	69.4-129		%REC	1	4/26/2013 2:27:07 AM

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1304777

Date Reported: 5/3/2013

CLIENT: Cypress Engineering

Client Sample ID: MW-24D

Project: Transwestern Pipeline Company Roswell

Collection Date: 4/16/2013 3:40:00 PM

Lab ID: 1304777-006

Matrix: AQUEOUS

Received Date: 4/18/2013 1:15:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	ND	1.0		µg/L	1	4/26/2013 2:57:17 AM
Toluene	ND	1.0		µg/L	1	4/26/2013 2:57:17 AM
Ethylbenzene	ND	1.0		µg/L	1	4/26/2013 2:57:17 AM
Xylenes, Total	ND	2.0		µg/L	1	4/26/2013 2:57:17 AM
Surr: 4-Bromofluorobenzene	92.8	69.4-129		%REC	1	4/26/2013 2:57:17 AM

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1304777

Date Reported: 5/3/2013

CLIENT: Cypress Engineering

Client Sample ID: MW-23D

Project: Transwestern Pipeline Company Roswell

Collection Date: 4/16/2013 5:00:00 PM

Lab ID: 1304777-007

Matrix: AQUEOUS

Received Date: 4/18/2013 1:15:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	ND	1.0		µg/L	1	4/26/2013 3:27:17 AM
Toluene	ND	1.0		µg/L	1	4/26/2013 3:27:17 AM
Ethylbenzene	ND	1.0		µg/L	1	4/26/2013 3:27:17 AM
Xylenes, Total	ND	2.0		µg/L	1	4/26/2013 3:27:17 AM
Surr: 4-Bromofluorobenzene	92.7	69.4-129		%REC	1	4/26/2013 3:27:17 AM

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH greater than 2
RL Reporting Detection Limit

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1304777

Date Reported: 5/3/2013

CLIENT: Cypress Engineering

Client Sample ID: MW-25D

Project: Transwestern Pipeline Company Roswell

Collection Date: 4/17/2013 8:50:00 AM

Lab ID: 1304777-008

Matrix: AQUEOUS

Received Date: 4/18/2013 1:15:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	ND	1.0		µg/L	1	4/26/2013 3:57:33 AM
Toluene	ND	1.0		µg/L	1	4/26/2013 3:57:33 AM
Ethylbenzene	ND	1.0		µg/L	1	4/26/2013 3:57:33 AM
Xylenes, Total	ND	2.0		µg/L	1	4/26/2013 3:57:33 AM
Surr: 4-Bromofluorobenzene	91.6	69.4-129		%REC	1	4/26/2013 3:57:33 AM

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1304777

Date Reported: 5/3/2013

CLIENT: Cypress Engineering

Client Sample ID: MW-16

Project: Transwestern Pipeline Company Roswell

Collection Date: 4/17/2013 2:50:00 PM

Lab ID: 1304777-009

Matrix: AQUEOUS

Received Date: 4/18/2013 1:15:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	650	50		µg/L	50	4/26/2013 6:49:36 PM
Toluene	ND	50		µg/L	50	4/26/2013 6:49:36 PM
Ethylbenzene	210	50		µg/L	50	4/26/2013 6:49:36 PM
Xylenes, Total	2400	100		µg/L	50	4/26/2013 6:49:36 PM
Surr: 4-Bromofluorobenzene	105	69.4-129		%REC	50	4/26/2013 6:49:36 PM

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1304777

Date Reported: 5/3/2013

CLIENT: Cypress Engineering

Client Sample ID: MW-16 DUP

Project: Transwestern Pipeline Company Roswell

Collection Date: 4/17/2013 2:50:00 PM

Lab ID: 1304777-010

Matrix: AQUEOUS

Received Date: 4/18/2013 1:15:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	690	50		µg/L	50	4/26/2013 8:20:21 PM
Toluene	ND	50		µg/L	50	4/26/2013 8:20:21 PM
Ethylbenzene	230	50		µg/L	50	4/26/2013 8:20:21 PM
Xylenes, Total	2400	100		µg/L	50	4/26/2013 8:20:21 PM
Surr: 4-Bromofluorobenzene	103	69.4-129		%REC	50	4/26/2013 8:20:21 PM

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1304777

Date Reported: 5/3/2013

CLIENT: Cypress Engineering

Client Sample ID: MW-20

Project: Transwestern Pipeline Company Roswell

Collection Date: 4/17/2013 11:40:00 AM

Lab ID: 1304777-011

Matrix: AQUEOUS

Received Date: 4/18/2013 1:15:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: RAA
Benzene	ND	1.0		µg/L	1	4/27/2013 2:26:34 AM
Toluene	ND	1.0		µg/L	1	4/27/2013 2:26:34 AM
Ethylbenzene	ND	1.0		µg/L	1	4/27/2013 2:26:34 AM
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	4/27/2013 2:26:34 AM
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	4/27/2013 2:26:34 AM
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	4/27/2013 2:26:34 AM
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	4/27/2013 2:26:34 AM
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	4/27/2013 2:26:34 AM
Naphthalene	ND	2.0		µg/L	1	4/27/2013 2:26:34 AM
1-Methylnaphthalene	ND	4.0		µg/L	1	4/27/2013 2:26:34 AM
2-Methylnaphthalene	ND	4.0		µg/L	1	4/27/2013 2:26:34 AM
Acetone	ND	10		µg/L	1	4/27/2013 2:26:34 AM
Bromobenzene	ND	1.0		µg/L	1	4/27/2013 2:26:34 AM
Bromodichloromethane	ND	1.0		µg/L	1	4/27/2013 2:26:34 AM
Bromoform	ND	1.0		µg/L	1	4/27/2013 2:26:34 AM
Bromomethane	ND	3.0		µg/L	1	4/27/2013 2:26:34 AM
2-Butanone	ND	10		µg/L	1	4/27/2013 2:26:34 AM
Carbon disulfide	ND	10		µg/L	1	4/27/2013 2:26:34 AM
Carbon Tetrachloride	ND	1.0		µg/L	1	4/27/2013 2:26:34 AM
Chlorobenzene	ND	1.0		µg/L	1	4/27/2013 2:26:34 AM
Chloroethane	ND	2.0		µg/L	1	4/27/2013 2:26:34 AM
Chloroform	ND	1.0		µg/L	1	4/27/2013 2:26:34 AM
Chloromethane	ND	3.0		µg/L	1	4/27/2013 2:26:34 AM
2-Chlorotoluene	ND	1.0		µg/L	1	4/27/2013 2:26:34 AM
4-Chlorotoluene	ND	1.0		µg/L	1	4/27/2013 2:26:34 AM
cis-1,2-DCE	ND	1.0		µg/L	1	4/27/2013 2:26:34 AM
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	4/27/2013 2:26:34 AM
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	4/27/2013 2:26:34 AM
Dibromochloromethane	ND	1.0		µg/L	1	4/27/2013 2:26:34 AM
Dibromomethane	ND	1.0		µg/L	1	4/27/2013 2:26:34 AM
1,2-Dichlorobenzene	ND	1.0		µg/L	1	4/27/2013 2:26:34 AM
1,3-Dichlorobenzene	ND	1.0		µg/L	1	4/27/2013 2:26:34 AM
1,4-Dichlorobenzene	ND	1.0		µg/L	1	4/27/2013 2:26:34 AM
Dichlorodifluoromethane	ND	1.0		µg/L	1	4/27/2013 2:26:34 AM
1,1-Dichloroethane	3.2	1.0		µg/L	1	4/27/2013 2:26:34 AM
1,1-Dichloroethene	4.5	1.0		µg/L	1	4/27/2013 2:26:34 AM
1,2-Dichloropropane	ND	1.0		µg/L	1	4/27/2013 2:26:34 AM
1,3-Dichloropropane	ND	1.0		µg/L	1	4/27/2013 2:26:34 AM
2,2-Dichloropropane	ND	2.0		µg/L	1	4/27/2013 2:26:34 AM
1,1-Dichloropropene	ND	1.0		µg/L	1	4/27/2013 2:26:34 AM
Hexachlorobutadiene	ND	1.0		µg/L	1	4/27/2013 2:26:34 AM
2-Hexanone	ND	10		µg/L	1	4/27/2013 2:26:34 AM

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1304777

Date Reported: 5/3/2013

CLIENT: Cypress Engineering

Client Sample ID: MW-20

Project: Transwestern Pipeline Company Roswell

Collection Date: 4/17/2013 11:40:00 AM

Lab ID: 1304777-011

Matrix: AQUEOUS

Received Date: 4/18/2013 1:15:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: RAA
Isopropylbenzene	ND	1.0		µg/L	1	4/27/2013 2:26:34 AM
4-Isopropyltoluene	ND	1.0		µg/L	1	4/27/2013 2:26:34 AM
4-Methyl-2-pentanone	ND	10		µg/L	1	4/27/2013 2:26:34 AM
Methylene Chloride	ND	3.0		µg/L	1	4/27/2013 2:26:34 AM
n-Butylbenzene	ND	3.0		µg/L	1	4/27/2013 2:26:34 AM
n-Propylbenzene	ND	1.0		µg/L	1	4/27/2013 2:26:34 AM
sec-Butylbenzene	ND	1.0		µg/L	1	4/27/2013 2:26:34 AM
Styrene	ND	1.0		µg/L	1	4/27/2013 2:26:34 AM
tert-Butylbenzene	ND	1.0		µg/L	1	4/27/2013 2:26:34 AM
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	4/27/2013 2:26:34 AM
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	4/27/2013 2:26:34 AM
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	4/27/2013 2:26:34 AM
trans-1,2-DCE	ND	1.0		µg/L	1	4/27/2013 2:26:34 AM
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	4/27/2013 2:26:34 AM
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	4/27/2013 2:26:34 AM
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	4/27/2013 2:26:34 AM
1,1,1-Trichloroethane	ND	1.0		µg/L	1	4/27/2013 2:26:34 AM
1,1,2-Trichloroethane	ND	1.0		µg/L	1	4/27/2013 2:26:34 AM
Trichloroethene (TCE)	ND	1.0		µg/L	1	4/27/2013 2:26:34 AM
Trichlorofluoromethane	ND	1.0		µg/L	1	4/27/2013 2:26:34 AM
1,2,3-Trichloropropane	ND	2.0		µg/L	1	4/27/2013 2:26:34 AM
Vinyl chloride	ND	1.0		µg/L	1	4/27/2013 2:26:34 AM
Xylenes, Total	ND	1.5		µg/L	1	4/27/2013 2:26:34 AM
Surr: 1,2-Dichloroethane-d4	82.0	70-130		%REC	1	4/27/2013 2:26:34 AM
Surr: 4-Bromofluorobenzene	85.9	69.5-130		%REC	1	4/27/2013 2:26:34 AM
Surr: Dibromofluoromethane	85.4	70-130		%REC	1	4/27/2013 2:26:34 AM
Surr: Toluene-d8	83.9	70-130		%REC	1	4/27/2013 2:26:34 AM

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1304777

Date Reported: 5/3/2013

CLIENT: Cypress Engineering

Client Sample ID: MW-26

Project: Transwestern Pipeline Company Roswell

Collection Date: 4/17/2013 12:25:00 PM

Lab ID: 1304777-012

Matrix: AQUEOUS

Received Date: 4/18/2013 1:15:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: RAA
Benzene	ND	1.0		µg/L	1	4/27/2013 2:58:14 AM
Toluene	ND	1.0		µg/L	1	4/27/2013 2:58:14 AM
Ethylbenzene	ND	1.0		µg/L	1	4/27/2013 2:58:14 AM
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	4/27/2013 2:58:14 AM
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	4/27/2013 2:58:14 AM
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	4/27/2013 2:58:14 AM
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	4/27/2013 2:58:14 AM
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	4/27/2013 2:58:14 AM
Naphthalene	ND	2.0		µg/L	1	4/27/2013 2:58:14 AM
1-Methylnaphthalene	ND	4.0		µg/L	1	4/27/2013 2:58:14 AM
2-Methylnaphthalene	ND	4.0		µg/L	1	4/27/2013 2:58:14 AM
Acetone	ND	10		µg/L	1	4/27/2013 2:58:14 AM
Bromobenzene	ND	1.0		µg/L	1	4/27/2013 2:58:14 AM
Bromodichloromethane	ND	1.0		µg/L	1	4/27/2013 2:58:14 AM
Bromoform	ND	1.0		µg/L	1	4/27/2013 2:58:14 AM
Bromomethane	ND	3.0		µg/L	1	4/27/2013 2:58:14 AM
2-Butanone	ND	10		µg/L	1	4/27/2013 2:58:14 AM
Carbon disulfide	ND	10		µg/L	1	4/27/2013 2:58:14 AM
Carbon Tetrachloride	ND	1.0		µg/L	1	4/27/2013 2:58:14 AM
Chlorobenzene	ND	1.0		µg/L	1	4/27/2013 2:58:14 AM
Chloroethane	ND	2.0		µg/L	1	4/27/2013 2:58:14 AM
Chloroform	ND	1.0		µg/L	1	4/27/2013 2:58:14 AM
Chloromethane	ND	3.0		µg/L	1	4/27/2013 2:58:14 AM
2-Chlorotoluene	ND	1.0		µg/L	1	4/27/2013 2:58:14 AM
4-Chlorotoluene	ND	1.0		µg/L	1	4/27/2013 2:58:14 AM
cis-1,2-DCE	ND	1.0		µg/L	1	4/27/2013 2:58:14 AM
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	4/27/2013 2:58:14 AM
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	4/27/2013 2:58:14 AM
Dibromochloromethane	ND	1.0		µg/L	1	4/27/2013 2:58:14 AM
Dibromomethane	ND	1.0		µg/L	1	4/27/2013 2:58:14 AM
1,2-Dichlorobenzene	ND	1.0		µg/L	1	4/27/2013 2:58:14 AM
1,3-Dichlorobenzene	ND	1.0		µg/L	1	4/27/2013 2:58:14 AM
1,4-Dichlorobenzene	ND	1.0		µg/L	1	4/27/2013 2:58:14 AM
Dichlorodifluoromethane	ND	1.0		µg/L	1	4/27/2013 2:58:14 AM
1,1-Dichloroethane	6.2	1.0		µg/L	1	4/27/2013 2:58:14 AM
1,1-Dichloroethene	53	1.0		µg/L	1	4/27/2013 2:58:14 AM
1,2-Dichloropropane	ND	1.0		µg/L	1	4/27/2013 2:58:14 AM
1,3-Dichloropropane	ND	1.0		µg/L	1	4/27/2013 2:58:14 AM
2,2-Dichloropropane	ND	2.0		µg/L	1	4/27/2013 2:58:14 AM
1,1-Dichloropropene	ND	1.0		µg/L	1	4/27/2013 2:58:14 AM
Hexachlorobutadiene	ND	1.0		µg/L	1	4/27/2013 2:58:14 AM
2-Hexanone	ND	10		µg/L	1	4/27/2013 2:58:14 AM

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1304777

Date Reported: 5/3/2013

CLIENT: Cypress Engineering

Client Sample ID: MW-26

Project: Transwestern Pipeline Company Roswell

Collection Date: 4/17/2013 12:25:00 PM

Lab ID: 1304777-012

Matrix: AQUEOUS

Received Date: 4/18/2013 1:15:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: RAA
Isopropylbenzene	ND	1.0		µg/L	1	4/27/2013 2:58:14 AM
4-Isopropyltoluene	ND	1.0		µg/L	1	4/27/2013 2:58:14 AM
4-Methyl-2-pentanone	ND	10		µg/L	1	4/27/2013 2:58:14 AM
Methylene Chloride	ND	3.0		µg/L	1	4/27/2013 2:58:14 AM
n-Butylbenzene	ND	3.0		µg/L	1	4/27/2013 2:58:14 AM
n-Propylbenzene	ND	1.0		µg/L	1	4/27/2013 2:58:14 AM
sec-Butylbenzene	ND	1.0		µg/L	1	4/27/2013 2:58:14 AM
Styrene	ND	1.0		µg/L	1	4/27/2013 2:58:14 AM
tert-Butylbenzene	ND	1.0		µg/L	1	4/27/2013 2:58:14 AM
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	4/27/2013 2:58:14 AM
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	4/27/2013 2:58:14 AM
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	4/27/2013 2:58:14 AM
trans-1,2-DCE	ND	1.0		µg/L	1	4/27/2013 2:58:14 AM
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	4/27/2013 2:58:14 AM
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	4/27/2013 2:58:14 AM
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	4/27/2013 2:58:14 AM
1,1,1-Trichloroethane	ND	1.0		µg/L	1	4/27/2013 2:58:14 AM
1,1,2-Trichloroethane	ND	1.0		µg/L	1	4/27/2013 2:58:14 AM
Trichloroethene (TCE)	ND	1.0		µg/L	1	4/27/2013 2:58:14 AM
Trichlorofluoromethane	ND	1.0		µg/L	1	4/27/2013 2:58:14 AM
1,2,3-Trichloropropane	ND	2.0		µg/L	1	4/27/2013 2:58:14 AM
Vinyl chloride	ND	1.0		µg/L	1	4/27/2013 2:58:14 AM
Xylenes, Total	ND	1.5		µg/L	1	4/27/2013 2:58:14 AM
Surr: 1,2-Dichloroethane-d4	82.0	70-130		%REC	1	4/27/2013 2:58:14 AM
Surr: 4-Bromofluorobenzene	85.4	69.5-130		%REC	1	4/27/2013 2:58:14 AM
Surr: Dibromofluoromethane	83.2	70-130		%REC	1	4/27/2013 2:58:14 AM
Surr: Toluene-d8	84.4	70-130		%REC	1	4/27/2013 2:58:14 AM

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1304777

Date Reported: 5/3/2013

CLIENT: Cypress Engineering

Client Sample ID: MW-26DUP

Project: Transwestern Pipeline Company Roswell

Collection Date: 4/17/2013 12:25:00 PM

Lab ID: 1304777-013

Matrix: AQUEOUS

Received Date: 4/18/2013 1:15:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: RAA
Benzene	ND	1.0		µg/L	1	4/27/2013 3:29:46 AM
Toluene	ND	1.0		µg/L	1	4/27/2013 3:29:46 AM
Ethylbenzene	ND	1.0		µg/L	1	4/27/2013 3:29:46 AM
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	4/27/2013 3:29:46 AM
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	4/27/2013 3:29:46 AM
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	4/27/2013 3:29:46 AM
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	4/27/2013 3:29:46 AM
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	4/27/2013 3:29:46 AM
Naphthalene	ND	2.0		µg/L	1	4/27/2013 3:29:46 AM
1-Methylnaphthalene	ND	4.0		µg/L	1	4/27/2013 3:29:46 AM
2-Methylnaphthalene	ND	4.0		µg/L	1	4/27/2013 3:29:46 AM
Acetone	ND	10		µg/L	1	4/27/2013 3:29:46 AM
Bromobenzene	ND	1.0		µg/L	1	4/27/2013 3:29:46 AM
Bromodichloromethane	ND	1.0		µg/L	1	4/27/2013 3:29:46 AM
Bromoform	ND	1.0		µg/L	1	4/27/2013 3:29:46 AM
Bromomethane	ND	3.0		µg/L	1	4/27/2013 3:29:46 AM
2-Butanone	ND	10		µg/L	1	4/27/2013 3:29:46 AM
Carbon disulfide	ND	10		µg/L	1	4/27/2013 3:29:46 AM
Carbon Tetrachloride	ND	1.0		µg/L	1	4/27/2013 3:29:46 AM
Chlorobenzene	ND	1.0		µg/L	1	4/27/2013 3:29:46 AM
Chloroethane	ND	2.0		µg/L	1	4/27/2013 3:29:46 AM
Chloroform	ND	1.0		µg/L	1	4/27/2013 3:29:46 AM
Chloromethane	ND	3.0		µg/L	1	4/27/2013 3:29:46 AM
2-Chlorotoluene	ND	1.0		µg/L	1	4/27/2013 3:29:46 AM
4-Chlorotoluene	ND	1.0		µg/L	1	4/27/2013 3:29:46 AM
cis-1,2-DCE	ND	1.0		µg/L	1	4/27/2013 3:29:46 AM
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	4/27/2013 3:29:46 AM
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	4/27/2013 3:29:46 AM
Dibromochloromethane	ND	1.0		µg/L	1	4/27/2013 3:29:46 AM
Dibromomethane	ND	1.0		µg/L	1	4/27/2013 3:29:46 AM
1,2-Dichlorobenzene	ND	1.0		µg/L	1	4/27/2013 3:29:46 AM
1,3-Dichlorobenzene	ND	1.0		µg/L	1	4/27/2013 3:29:46 AM
1,4-Dichlorobenzene	ND	1.0		µg/L	1	4/27/2013 3:29:46 AM
Dichlorodifluoromethane	ND	1.0		µg/L	1	4/27/2013 3:29:46 AM
1,1-Dichloroethane	6.4	1.0		µg/L	1	4/27/2013 3:29:46 AM
1,1-Dichloroethene	56	1.0		µg/L	1	4/27/2013 3:29:46 AM
1,2-Dichloropropane	ND	1.0		µg/L	1	4/27/2013 3:29:46 AM
1,3-Dichloropropane	ND	1.0		µg/L	1	4/27/2013 3:29:46 AM
2,2-Dichloropropane	ND	2.0		µg/L	1	4/27/2013 3:29:46 AM
1,1-Dichloropropene	ND	1.0		µg/L	1	4/27/2013 3:29:46 AM
Hexachlorobutadiene	ND	1.0		µg/L	1	4/27/2013 3:29:46 AM
2-Hexanone	ND	10		µg/L	1	4/27/2013 3:29:46 AM

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1304777

Date Reported: 5/3/2013

CLIENT: Cypress Engineering

Client Sample ID: MW-26DUP

Project: Transwestern Pipeline Company Roswell

Collection Date: 4/17/2013 12:25:00 PM

Lab ID: 1304777-013

Matrix: AQUEOUS

Received Date: 4/18/2013 1:15:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: RAA
Isopropylbenzene	ND	1.0		µg/L	1	4/27/2013 3:29:46 AM
4-Isopropyltoluene	ND	1.0		µg/L	1	4/27/2013 3:29:46 AM
4-Methyl-2-pentanone	ND	10		µg/L	1	4/27/2013 3:29:46 AM
Methylene Chloride	ND	3.0		µg/L	1	4/27/2013 3:29:46 AM
n-Butylbenzene	ND	3.0		µg/L	1	4/27/2013 3:29:46 AM
n-Propylbenzene	ND	1.0		µg/L	1	4/27/2013 3:29:46 AM
sec-Butylbenzene	ND	1.0		µg/L	1	4/27/2013 3:29:46 AM
Styrene	ND	1.0		µg/L	1	4/27/2013 3:29:46 AM
tert-Butylbenzene	ND	1.0		µg/L	1	4/27/2013 3:29:46 AM
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	4/27/2013 3:29:46 AM
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	4/27/2013 3:29:46 AM
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	4/27/2013 3:29:46 AM
trans-1,2-DCE	ND	1.0		µg/L	1	4/27/2013 3:29:46 AM
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	4/27/2013 3:29:46 AM
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	4/27/2013 3:29:46 AM
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	4/27/2013 3:29:46 AM
1,1,1-Trichloroethane	ND	1.0		µg/L	1	4/27/2013 3:29:46 AM
1,1,2-Trichloroethane	ND	1.0		µg/L	1	4/27/2013 3:29:46 AM
Trichloroethene (TCE)	ND	1.0		µg/L	1	4/27/2013 3:29:46 AM
Trichlorofluoromethane	ND	1.0		µg/L	1	4/27/2013 3:29:46 AM
1,2,3-Trichloropropane	ND	2.0		µg/L	1	4/27/2013 3:29:46 AM
Vinyl chloride	ND	1.0		µg/L	1	4/27/2013 3:29:46 AM
Xylenes, Total	ND	1.5		µg/L	1	4/27/2013 3:29:46 AM
Surr: 1,2-Dichloroethane-d4	84.9	70-130		%REC	1	4/27/2013 3:29:46 AM
Surr: 4-Bromofluorobenzene	82.6	69.5-130		%REC	1	4/27/2013 3:29:46 AM
Surr: Dibromofluoromethane	85.7	70-130		%REC	1	4/27/2013 3:29:46 AM
Surr: Toluene-d8	85.6	70-130		%REC	1	4/27/2013 3:29:46 AM

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1304777

Date Reported: 5/3/2013

CLIENT: Cypress Engineering

Client Sample ID: MW-22

Project: Transwestern Pipeline Company Roswell

Collection Date: 4/17/2013 2:50:00 PM

Lab ID: 1304777-014

Matrix: AQUEOUS

Received Date: 4/18/2013 1:15:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: RAA
Benzene	ND	1.0		µg/L	1	4/27/2013 4:01:29 AM
Toluene	ND	1.0		µg/L	1	4/27/2013 4:01:29 AM
Ethylbenzene	ND	1.0		µg/L	1	4/27/2013 4:01:29 AM
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	4/27/2013 4:01:29 AM
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	4/27/2013 4:01:29 AM
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	4/27/2013 4:01:29 AM
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	4/27/2013 4:01:29 AM
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	4/27/2013 4:01:29 AM
Naphthalene	ND	2.0		µg/L	1	4/27/2013 4:01:29 AM
1-Methylnaphthalene	ND	4.0		µg/L	1	4/27/2013 4:01:29 AM
2-Methylnaphthalene	ND	4.0		µg/L	1	4/27/2013 4:01:29 AM
Acetone	ND	10		µg/L	1	4/27/2013 4:01:29 AM
Bromobenzene	ND	1.0		µg/L	1	4/27/2013 4:01:29 AM
Bromodichloromethane	ND	1.0		µg/L	1	4/27/2013 4:01:29 AM
Bromoform	ND	1.0		µg/L	1	4/27/2013 4:01:29 AM
Bromomethane	ND	3.0		µg/L	1	4/27/2013 4:01:29 AM
2-Butanone	ND	10		µg/L	1	4/27/2013 4:01:29 AM
Carbon disulfide	ND	10		µg/L	1	4/27/2013 4:01:29 AM
Carbon Tetrachloride	ND	1.0		µg/L	1	4/27/2013 4:01:29 AM
Chlorobenzene	ND	1.0		µg/L	1	4/27/2013 4:01:29 AM
Chloroethane	ND	2.0		µg/L	1	4/27/2013 4:01:29 AM
Chloroform	ND	1.0		µg/L	1	4/27/2013 4:01:29 AM
Chloromethane	ND	3.0		µg/L	1	4/27/2013 4:01:29 AM
2-Chlorotoluene	ND	1.0		µg/L	1	4/27/2013 4:01:29 AM
4-Chlorotoluene	ND	1.0		µg/L	1	4/27/2013 4:01:29 AM
cis-1,2-DCE	ND	1.0		µg/L	1	4/27/2013 4:01:29 AM
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	4/27/2013 4:01:29 AM
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	4/27/2013 4:01:29 AM
Dibromochloromethane	ND	1.0		µg/L	1	4/27/2013 4:01:29 AM
Dibromomethane	ND	1.0		µg/L	1	4/27/2013 4:01:29 AM
1,2-Dichlorobenzene	ND	1.0		µg/L	1	4/27/2013 4:01:29 AM
1,3-Dichlorobenzene	ND	1.0		µg/L	1	4/27/2013 4:01:29 AM
1,4-Dichlorobenzene	ND	1.0		µg/L	1	4/27/2013 4:01:29 AM
Dichlorodifluoromethane	ND	1.0		µg/L	1	4/27/2013 4:01:29 AM
1,1-Dichloroethane	ND	1.0		µg/L	1	4/27/2013 4:01:29 AM
1,1-Dichloroethene	2.2	1.0		µg/L	1	4/27/2013 4:01:29 AM
1,2-Dichloropropane	ND	1.0		µg/L	1	4/27/2013 4:01:29 AM
1,3-Dichloropropane	ND	1.0		µg/L	1	4/27/2013 4:01:29 AM
2,2-Dichloropropane	ND	2.0		µg/L	1	4/27/2013 4:01:29 AM
1,1-Dichloropropene	ND	1.0		µg/L	1	4/27/2013 4:01:29 AM
Hexachlorobutadiene	ND	1.0		µg/L	1	4/27/2013 4:01:29 AM
2-Hexanone	ND	10		µg/L	1	4/27/2013 4:01:29 AM

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1304777

Date Reported: 5/3/2013

CLIENT: Cypress Engineering

Client Sample ID: MW-22

Project: Transwestern Pipeline Company Roswell

Collection Date: 4/17/2013 2:50:00 PM

Lab ID: 1304777-014

Matrix: AQUEOUS

Received Date: 4/18/2013 1:15:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: RAA
Isopropylbenzene	ND	1.0		µg/L	1	4/27/2013 4:01:29 AM
4-Isopropyltoluene	ND	1.0		µg/L	1	4/27/2013 4:01:29 AM
4-Methyl-2-pentanone	ND	10		µg/L	1	4/27/2013 4:01:29 AM
Methylene Chloride	ND	3.0		µg/L	1	4/27/2013 4:01:29 AM
n-Butylbenzene	ND	3.0		µg/L	1	4/27/2013 4:01:29 AM
n-Propylbenzene	ND	1.0		µg/L	1	4/27/2013 4:01:29 AM
sec-Butylbenzene	ND	1.0		µg/L	1	4/27/2013 4:01:29 AM
Styrene	ND	1.0		µg/L	1	4/27/2013 4:01:29 AM
tert-Butylbenzene	ND	1.0		µg/L	1	4/27/2013 4:01:29 AM
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	4/27/2013 4:01:29 AM
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	4/27/2013 4:01:29 AM
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	4/27/2013 4:01:29 AM
trans-1,2-DCE	ND	1.0		µg/L	1	4/27/2013 4:01:29 AM
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	4/27/2013 4:01:29 AM
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	4/27/2013 4:01:29 AM
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	4/27/2013 4:01:29 AM
1,1,1-Trichloroethane	ND	1.0		µg/L	1	4/27/2013 4:01:29 AM
1,1,2-Trichloroethane	ND	1.0		µg/L	1	4/27/2013 4:01:29 AM
Trichloroethene (TCE)	ND	1.0		µg/L	1	4/27/2013 4:01:29 AM
Trichlorofluoromethane	ND	1.0		µg/L	1	4/27/2013 4:01:29 AM
1,2,3-Trichloropropane	ND	2.0		µg/L	1	4/27/2013 4:01:29 AM
Vinyl chloride	ND	1.0		µg/L	1	4/27/2013 4:01:29 AM
Xylenes, Total	ND	1.5		µg/L	1	4/27/2013 4:01:29 AM
Surr: 1,2-Dichloroethane-d4	85.2	70-130		%REC	1	4/27/2013 4:01:29 AM
Surr: 4-Bromofluorobenzene	83.1	69.5-130		%REC	1	4/27/2013 4:01:29 AM
Surr: Dibromofluoromethane	86.6	70-130		%REC	1	4/27/2013 4:01:29 AM
Surr: Toluene-d8	83.3	70-130		%REC	1	4/27/2013 4:01:29 AM

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1304777

Date Reported: 5/3/2013

CLIENT: Cypress Engineering

Client Sample ID: Field Blank 2

Project: Transwestern Pipeline Company Roswell

Collection Date: 4/17/2013 11:30:00 AM

Lab ID: 1304777-015

Matrix: AQUEOUS

Received Date: 4/18/2013 1:15:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	ND	1.0		µg/L	1	4/26/2013 10:53:39 PM
Toluene	ND	1.0		µg/L	1	4/26/2013 10:53:39 PM
Ethylbenzene	ND	1.0		µg/L	1	4/26/2013 10:53:39 PM
Xylenes, Total	ND	2.0		µg/L	1	4/26/2013 10:53:39 PM
Surr: 4-Bromofluorobenzene	97.1	69.4-129		%REC	1	4/26/2013 10:53:39 PM

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1304777

Date Reported: 5/3/2013

CLIENT: Cypress Engineering

Client Sample ID: Equipment Blank 2

Project: Transwestern Pipeline Company Roswell

Collection Date: 4/17/2013 1:00:00 PM

Lab ID: 1304777-016

Matrix: AQUEOUS

Received Date: 4/18/2013 1:15:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	ND	1.0		µg/L	1	4/26/2013 11:24:03 PM
Toluene	ND	1.0		µg/L	1	4/26/2013 11:24:03 PM
Ethylbenzene	ND	1.0		µg/L	1	4/26/2013 11:24:03 PM
Xylenes, Total	ND	2.0		µg/L	1	4/26/2013 11:24:03 PM
Surr: 4-Bromofluorobenzene	96.8	69.4-129		%REC	1	4/26/2013 11:24:03 PM

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1304777

Date Reported: 5/3/2013

CLIENT: Cypress Engineering

Client Sample ID: Trip Blank

Project: Transwestern Pipeline Company Roswell

Collection Date:

Lab ID: 1304777-017

Matrix: TRIP BLANK

Received Date: 4/18/2013 1:15:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Methyl tert-butyl ether (MTBE)	ND	2.5		µg/L	1	4/26/2013 11:54:16 PM
Benzene	ND	1.0		µg/L	1	4/26/2013 11:54:16 PM
Toluene	ND	1.0		µg/L	1	4/26/2013 11:54:16 PM
Ethylbenzene	ND	1.0		µg/L	1	4/26/2013 11:54:16 PM
Xylenes, Total	ND	2.0		µg/L	1	4/26/2013 11:54:16 PM
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	4/26/2013 11:54:16 PM
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	4/26/2013 11:54:16 PM
Surr: 4-Bromofluorobenzene	95.3	69.4-129		%REC	1	4/26/2013 11:54:16 PM

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1304777

Date Reported: 5/3/2013

CLIENT: Cypress Engineering

Client Sample ID: MW 24D Equipment Rinse

Project: Transwestern Pipeline Company Roswell

Collection Date: 4/16/2013 4:04:00 PM

Lab ID: 1304777-018

Matrix: AQUEOUS

Received Date: 4/18/2013 1:15:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	ND	1.0		µg/L	1	4/27/2013 12:24:35 AM
Toluene	ND	1.0		µg/L	1	4/27/2013 12:24:35 AM
Ethylbenzene	ND	1.0		µg/L	1	4/27/2013 12:24:35 AM
Xylenes, Total	ND	2.0		µg/L	1	4/27/2013 12:24:35 AM
Surr: 4-Bromofluorobenzene	94.4	69.4-129		%REC	1	4/27/2013 12:24:35 AM

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH greater than 2
RL Reporting Detection Limit

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1304777

03-May-13

Client: Cypress Engineering
Project: Transwestern Pipeline Company Roswell Sta 9

Sample ID: 5ML RB	SampType: MBLK	TestCode: EPA Method 8021B: Volatiles								
Client ID: PBW	Batch ID: R10128	RunNo: 10128								
Prep Date:	Analysis Date: 4/25/2013	SeqNo: 288679		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								
Xylenes, Total	ND	2.0								
Surr: 4-Bromofluorobenzene	20		20.00		97.6	69.4	129			

Sample ID: 100NG BTEX LCS	SampType: LCS	TestCode: EPA Method 8021B: Volatiles								
Client ID: LCSW	Batch ID: R10128	RunNo: 10128								
Prep Date:	Analysis Date: 4/25/2013	SeqNo: 288680		Units: µg/L						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	21	1.0	20.00	0	106	80	120			
Toluene	21	1.0	20.00	0	106	80	120			
Ethylbenzene	21	1.0	20.00	0	104	80	120			
Xylenes, Total	64	2.0	60.00	0	107	80	120			
Surr: 4-Bromofluorobenzene	21		20.00		105	69.4	129			

Sample ID: 1304660-001AMS	SampType: MS	TestCode: EPA Method 8021B: Volatiles								
Client ID: BatchQC	Batch ID: R10128	RunNo: 10128								
Prep Date:	Analysis Date: 4/25/2013	SeqNo: 288687		Units: µg/L						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	37	2.0	40.00	0	92.5	80	120			
Toluene	38	2.0	40.00	0.5720	93.4	80	120			
Ethylbenzene	38	2.0	40.00	0	94.4	80	120			
Xylenes, Total	120	4.0	120.0	0	101	80	120			
Surr: 4-Bromofluorobenzene	40		40.00		99.6	69.4	129			

Sample ID: 1304660-001AMSD	SampType: MSD	TestCode: EPA Method 8021B: Volatiles								
Client ID: BatchQC	Batch ID: R10128	RunNo: 10128								
Prep Date:	Analysis Date: 4/25/2013	SeqNo: 288688		Units: µg/L						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	37	2.0	40.00	0	93.3	80	120	0.883	20	
Toluene	38	2.0	40.00	0.5720	92.8	80	120	0.645	20	
Ethylbenzene	38	2.0	40.00	0	94.6	80	120	0.138	20	
Xylenes, Total	120	4.0	120.0	0	99.4	80	120	1.34	20	
Surr: 4-Bromofluorobenzene	41		40.00		102	69.4	129	0	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 |
| 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#: 1304777

03-May-13

Client: Cypress Engineering

Project: Transwestern Pipeline Company Roswell Sta 9

Sample ID: 5ML RB	SampType: MBLK	TestCode: EPA Method 8021B: Volatiles								
Client ID: PBW	Batch ID: R10148	RunNo: 10148								
Prep Date:	Analysis Date: 4/26/2013	SeqNo: 289297	Units: µg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	ND	2.5								
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Xylenes, Total	ND	2.0								
1,2,4-Trimethylbenzene	ND	1.0								
1,3,5-Trimethylbenzene	ND	1.0								
Surr: 4-Bromofluorobenzene	20		20.00		98.4	69.4	129			

Sample ID: 100NG BTEX LCS	SampType: LCS	TestCode: EPA Method 8021B: Volatiles								
Client ID: LCSW	Batch ID: R10148	RunNo: 10148								
Prep Date:	Analysis Date: 4/26/2013	SeqNo: 289298	Units: µg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	20	2.5	20.00	0	99.4	76.9	115			
Benzene	20	1.0	20.00	0	98.0	80	120			
Toluene	20	1.0	20.00	0	98.3	80	120			
Ethylbenzene	20	1.0	20.00	0	97.5	80	120			
Xylenes, Total	61	2.0	60.00	0	102	80	120			
1,2,4-Trimethylbenzene	20	1.0	20.00	0	98.8	80	120			
1,3,5-Trimethylbenzene	20	1.0	20.00	0	102	80	120			
Surr: 4-Bromofluorobenzene	20		20.00		100	69.4	129			

Sample ID: 1304777-009AMS	SampType: MS	TestCode: EPA Method 8021B: Volatiles								
Client ID: MW-16	Batch ID: R10148	RunNo: 10148								
Prep Date:	Analysis Date: 4/26/2013	SeqNo: 289305	Units: µg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	930	120	1000	0	93.0	65.6	125			
Benzene	1700	50	1000	646.2	102	80	120			
Toluene	1000	50	1000	21.00	98.7	80	120			
Ethylbenzene	1200	50	1000	214.9	102	80	120			
Xylenes, Total	5400	100	3000	2361	101	80	120			
1,2,4-Trimethylbenzene	1300	50	1000	234.5	103	74	128			
1,3,5-Trimethylbenzene	1200	50	1000	144.5	106	75.5	130			
Surr: 4-Bromofluorobenzene	1100		1000		105	69.4	129			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH greater than 2
RL Reporting Detection Limit

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1304777

03-May-13

Client: Cypress Engineering

Project: Transwestern Pipeline Company Roswell Sta 9

Sample ID: 1304777-009AMSD		SampType: MSD		TestCode: EPA Method 8021B: Volatiles						
Client ID: MW-16		Batch ID: R10148		RunNo: 10148						
Prep Date:		Analysis Date: 4/26/2013		SeqNo: 289306		Units: µg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	970	120	1000	0	97.4	65.6	125	4.58	20	
Benzene	1700	50	1000	646.2	101	80	120	1.06	20	
Toluene	1000	50	1000	21.00	100	80	120	1.53	20	
Ethylbenzene	1200	50	1000	214.9	101	80	120	1.39	20	
Xylenes, Total	5300	100	3000	2361	98.8	80	120	1.41	20	
1,2,4-Trimethylbenzene	1200	50	1000	234.5	99.9	74	128	2.28	20	
1,3,5-Trimethylbenzene	1200	50	1000	144.5	103	75.5	130	2.56	20	
Surr: 4-Bromofluorobenzene	1100		1000		107	69.4	129	0	0	

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH greater than 2
RL Reporting Detection Limit

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1304777

03-May-13

Client: Cypress Engineering

Project: Transwestern Pipeline Company Roswell Sta 9

Sample ID: 5ml-rb	SampType: MBLK	TestCode: EPA Method 8260B: VOLATILES								
Client ID: PBW	Batch ID: R10158	RunNo: 10158								
Prep Date:	Analysis Date: 4/26/2013	SeqNo: 289475	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								
1,1-Dichloropropene	ND	1.0								

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH greater than 2
RL Reporting Detection Limit

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1304777

03-May-13

Client: Cypress Engineering

Project: Transwestern Pipeline Company Roswell Sta 9

Sample ID: 5ml-rb	SampType: MBLK			TestCode: EPA Method 8260B: VOLATILES						
Client ID: PBW	Batch ID: R10158			RunNo: 10158						
Prep Date:	Analysis Date: 4/26/2013			SeqNo: 289475		Units: µg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
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	8.6		10.00		86.4	70	130			
Surr: 4-Bromofluorobenzene	8.6		10.00		85.8	69.5	130			
Surr: Dibromofluoromethane	8.6		10.00		86.0	70	130			
Surr: Toluene-d8	8.6		10.00		85.7	70	130			

Sample ID: 100ng lcs	SampType: LCS			TestCode: EPA Method 8260B: VOLATILES						
Client ID: LCSW	Batch ID: R10158			RunNo: 10158						
Prep Date:	Analysis Date: 4/26/2013			SeqNo: 289477		Units: µg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	21	1.0	20.00	0	103	70	130			
Toluene	22	1.0	20.00	0	110	80	120			
Chlorobenzene	20	1.0	20.00	0	102	70	130			
1,1-Dichloroethene	19	1.0	20.00	0	97.4	85.8	133			
Trichloroethene (TCE)	20	1.0	20.00	0	98.3	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
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#: 1304777

03-May-13

Client: Cypress Engineering

Project: Transwestern Pipeline Company Roswell Sta 9

Sample ID: 100ng lcs	SampType: LCS	TestCode: EPA Method 8260B: VOLATILES								
Client ID: LCSW	Batch ID: R10158	RunNo: 10158								
Prep Date:	Analysis Date: 4/26/2013	SeqNo: 289477	Units: µg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 1,2-Dichloroethane-d4	8.4		10.00		83.5	70	130			
Surr: 4-Bromofluorobenzene	8.7		10.00		86.9	69.5	130			
Surr: Dibromofluoromethane	8.1		10.00		81.0	70	130			
Surr: Toluene-d8	8.5		10.00		84.7	70	130			

Sample ID: b2	SampType: MBLK	TestCode: EPA Method 8260B: VOLATILES								
Client ID: PBW	Batch ID: R10158	RunNo: 10158								
Prep Date:	Analysis Date: 4/27/2013	SeqNo: 289501	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								

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH greater than 2
RL Reporting Detection Limit

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1304777

03-May-13

Client: Cypress Engineering

Project: Transwestern Pipeline Company Roswell Sta 9

Sample ID: b2	SampType: MBLK			TestCode: EPA Method 8260B: VOLATILES						
Client ID: PBW	Batch ID: R10158			RunNo: 10158						
Prep Date:	Analysis Date: 4/27/2013			SeqNo: 289501		Units: µg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2-Dichlorobenzene	ND	1.0								
1,3-Dichlorobenzene	ND	1.0								
1,4-Dichlorobenzene	ND	1.0								
Dichlorodifluoromethane	ND	1.0								
1,1-Dichloroethane	ND	1.0								
1,1-Dichloroethene	ND	1.0								
1,2-Dichloropropane	ND	1.0								
1,3-Dichloropropane	ND	1.0								
2,2-Dichloropropane	ND	2.0								
1,1-Dichloropropene	ND	1.0								
Hexachlorobutadiene	ND	1.0								
2-Hexanone	ND	10								
Isopropylbenzene	ND	1.0								
4-Isopropyltoluene	ND	1.0								
4-Methyl-2-pentanone	ND	10								
Methylene Chloride	ND	3.0								
n-Butylbenzene	ND	3.0								
n-Propylbenzene	ND	1.0								
sec-Butylbenzene	ND	1.0								
Styrene	ND	1.0								
tert-Butylbenzene	ND	1.0								
1,1,1,2-Tetrachloroethane	ND	1.0								
1,1,2,2-Tetrachloroethane	ND	2.0								
Tetrachloroethene (PCE)	ND	1.0								
trans-1,2-DCE	ND	1.0								
trans-1,3-Dichloropropene	ND	1.0								
1,2,3-Trichlorobenzene	ND	1.0								
1,2,4-Trichlorobenzene	ND	1.0								
1,1,1-Trichloroethane	ND	1.0								
1,1,2-Trichloroethane	ND	1.0								
Trichloroethene (TCE)	ND	1.0								
Trichlorofluoromethane	ND	1.0								
1,2,3-Trichloropropane	ND	2.0								
Vinyl chloride	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	8.7		10.00		86.8	70	130			
Surr: 4-Bromofluorobenzene	8.3		10.00		83.3	69.5	130			
Surr: Dibromofluoromethane	8.6		10.00		86.1	70	130			
Surr: Toluene-d8	8.7		10.00		86.6	70	130			

Qualifiers:

* Value exceeds Maximum Contaminant Level.

E Value above quantitation range

J Analyte detected below quantitation limits

P Sample pH greater than 2

RL Reporting Detection Limit

B Analyte detected in the associated Method Blank

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

R RPD outside accepted recovery limits

S Spike Recovery outside accepted recovery limits

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1304777

03-May-13

Client: Cypress Engineering

Project: Transwestern Pipeline Company Roswell Sta 9

Sample ID: 100ng lcs2	SampType: LCS		TestCode: EPA Method 8260B: VOLATILES							
Client ID: LCSW	Batch ID: R10158		RunNo: 10158							
Prep Date:	Analysis Date: 4/27/2013		SeqNo: 289503		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	108	80	120			
Chlorobenzene	21	1.0	20.00	0	104	70	130			
1,1-Dichloroethene	20	1.0	20.00	0	98.5	85.8	133			
Trichloroethene (TCE)	20	1.0	20.00	0	98.5	70	130			
Surr: 1,2-Dichloroethane-d4	8.8		10.00		87.9	70	130			
Surr: 4-Bromofluorobenzene	8.3		10.00		83.2	69.5	130			
Surr: Dibromofluoromethane	8.8		10.00		87.7	70	130			
Surr: Toluene-d8	8.4		10.00		84.0	70	130			

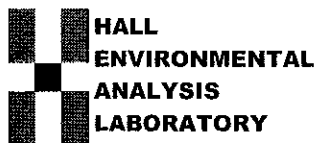
Sample ID: 1304a02-001a ms	SampType: MS		TestCode: EPA Method 8260B: VOLATILES							
Client ID: BatchQC	Batch ID: R10158		RunNo: 10158							
Prep Date:	Analysis Date: 4/27/2013		SeqNo: 289518		Units: µg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	120	5.0	100.0	13.54	110	70	130			
Toluene	110	5.0	100.0	0	108	68.5	128			
Chlorobenzene	100	5.0	100.0	0	103	70	130			
1,1-Dichloroethene	100	5.0	100.0	0	102	70	130			
Trichloroethene (TCE)	100	5.0	100.0	0	104	61.3	102			S
Surr: 1,2-Dichloroethane-d4	42		50.00		84.4	70	130			
Surr: 4-Bromofluorobenzene	41		50.00		83.0	69.5	130			
Surr: Dibromofluoromethane	44		50.00		88.1	70	130			
Surr: Toluene-d8	42		50.00		84.2	70	130			

Sample ID: 1304a02-001a msd	SampType: MSD		TestCode: EPA Method 8260B: VOLATILES							
Client ID: BatchQC	Batch ID: R10158		RunNo: 10158							
Prep Date:	Analysis Date: 4/27/2013		SeqNo: 289519		Units: µg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	130	5.0	100.0	13.54	114	70	130	3.02	20	
Toluene	110	5.0	100.0	0	108	68.5	128	0.324	20	
Chlorobenzene	100	5.0	100.0	0	103	70	130	0.292	20	
1,1-Dichloroethene	110	5.0	100.0	0	106	70	130	3.38	20	
Trichloroethene (TCE)	100	5.0	100.0	0	102	61.3	102	1.63	20	S
Surr: 1,2-Dichloroethane-d4	45		50.00		90.8	70	130	0	0	
Surr: 4-Bromofluorobenzene	42		50.00		83.9	69.5	130	0	0	
Surr: Dibromofluoromethane	48		50.00		95.7	70	130	0	0	
Surr: Toluene-d8	43		50.00		86.3	70	130	0	0	

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH greater than 2
RL Reporting Detection Limit

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits



Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87105
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: CYP

Work Order Number: 1304777

RcptNo: 1

Received by/date:

LM

04/18/13

Logged By: Michelle Garcia

4/18/2013 1:15:00 PM

Michelle Garcia

Completed By: Michelle Garcia

4/18/2013 3:59:37 PM

Michelle Garcia

Reviewed By:

LM

04/18/13

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? | UPS | | |

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?
(Note discrepancies on chain of custody) | Yes ✓ | No | # of preserved bottles checked for pH:
(<2 or >12 unless noted) |
| 13. Are matrices correctly identified on Chain of Custody? | Yes ✓ | No | Adjusted? |
| 14. Is it clear what analyses were requested? | Yes ✓ | No | |
| 15. Were all holding times able to be met?
(If no, notify customer for authorization.) | Yes ✓ | No | Checked by: |

Special Handling (if applicable)

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

Person Notified:

Date:

By Whom:

Via:

eMail

Phone

Fax

In Person

Regarding:

Client Instructions:

17. Additional remarks:

18. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.0	Good	Yes			

Chain-of-Custody Record

Client: CYPRESS ENGINEERING SERVICES

7771 Hwy 6 North, Ste 102

Mailing Address: Houston TX 77095

Phone #: 281.797.3420

email or Fax#:

QA/QC Package:

☒ Standard ☐ Level 4 (Full Validation)

Accreditation

☐ NELAP ☐ Other

☐ EDD (Type)

Date	Time	Matrix	Sample Request ID
4/16/13	1530	W	MW-35
4/16/13	1615		MW-34
4/16/13	1620		FIELD BLANK 1
4/16/13	1645		MW-32
4/16/13	1720		MW-29
4/16/13	1540		MW-24 D
4/16/13	1700		MW-23 D
4/17/13	0850		MW-25 D
4/17/13	1450		MW-16
4/17/13	1450		MW-16 DUP
4/17/13	1140		MW-20
4/17/13	1225		MW-26
4/17/13	1630		
Date:	Time:	Relinquished by:	
Date:	Time:	Relinquished by:	

Turn-Around Time:

☒ Standard ☐ Rush

Project Name:

TPMS - Low Piping Company

Project #:

TWP Roswell SFA-9

Project Manager:

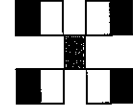
George Robinson

Sampler: Sammy Sharp / Mary Barahille

On Ice: ☒ Yes ☐ No

Sample Temperature: 1304777

Container Type and #	Preservative Type	HEAL No.
3/4000 HAL		-601
		-002
		-003
		-004
		-005
		-006
		-007
		-008
		-009
		-010
		-011
		012
Received by:	Date	Time
Received by:	Date	Time



HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Analysis Request

BTEX + MTBE + TMBs (8021)	
BTEX + MTBE + TPH (Gas only)	
TPH Method 8015B (Gas/Diesel)	
TPH (Method 418.1)	
EDB (Method 504.1)	
8310 (PNA or PAH)	
RORA 8 Metals	
Anions (F, Cl, NO ₃ , NO ₂ , PO ₄ , SO ₄)	
8081 Pesticides / 8082 PCB's	
8260B (VOA)	
8270 (Semi-VOA)	
Air Bubbles (Y or N)	

Remarks:

per George Robins
04/22/13

...
www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Analysis Request

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



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

November 26, 2013

George Robinson
Cypress Engineering
7171 Highway 6 North
Suite 102
Houston, TX 770952422
TEL: (281) 797-3420
FAX (281) 859-1881

RE: TWP Roswell Station 9

OrderNo.: 1311912

Dear George Robinson:

Hall Environmental Analysis Laboratory received 22 sample(s) on 11/20/2013 for the analyses presented in the following report.

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

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

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #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 1311912

Date Reported: 11/26/2013

CLIENT: Cypress Engineering

Client Sample ID: MW-13

Project: TWP Roswell Station 9

Collection Date: 11/18/2013 2:06:00 PM

Lab ID: 1311912-001

Matrix: AQUEOUS

Received Date: 11/20/2013 1:00:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260: VOLATILES SHORT LIST							Analyst: cadg
Benzene	ND	1.0		µg/L	1	11/22/2013 2:10:45 PM	R15006
Toluene	ND	1.0		µg/L	1	11/22/2013 2:10:45 PM	R15006
Ethylbenzene	ND	1.0		µg/L	1	11/22/2013 2:10:45 PM	R15006
Xylenes, Total	ND	2.0		µg/L	1	11/22/2013 2:10:45 PM	R15006
Surr: 1,2-Dichloroethane-d4	98.1	70-130		%REC	1	11/22/2013 2:10:45 PM	R15006
Surr: 4-Bromofluorobenzene	106	70-130		%REC	1	11/22/2013 2:10:45 PM	R15006
Surr: Dibromofluoromethane	100	70-130		%REC	1	11/22/2013 2:10:45 PM	R15006
Surr: Toluene-d8	95.0	70-130		%REC	1	11/22/2013 2:10:45 PM	R15006

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	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 for VOA and TOC only.
	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 1311912

Date Reported: 11/26/2013

CLIENT: Cypress Engineering

Client Sample ID: MW-14

Project: TWP Roswell Station 9

Collection Date: 11/18/2013 11:55:00 AM

Lab ID: 1311912-002

Matrix: AQUEOUS

Received Date: 11/20/2013 1:00:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260: VOLATILES SHORT LIST							Analyst: cadg
Benzene	ND	1.0		µg/L	1	11/22/2013 3:36:49 PM	R15006
Toluene	ND	1.0		µg/L	1	11/22/2013 3:36:49 PM	R15006
Ethylbenzene	ND	1.0		µg/L	1	11/22/2013 3:36:49 PM	R15006
Xylenes, Total	ND	2.0		µg/L	1	11/22/2013 3:36:49 PM	R15006
Surr: 1,2-Dichloroethane-d4	97.6	70-130		%REC	1	11/22/2013 3:36:49 PM	R15006
Surr: 4-Bromofluorobenzene	101	70-130		%REC	1	11/22/2013 3:36:49 PM	R15006
Surr: Dibromofluoromethane	99.6	70-130		%REC	1	11/22/2013 3:36:49 PM	R15006
Surr: Toluene-d8	94.9	70-130		%REC	1	11/22/2013 3:36:49 PM	R15006

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	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 for VOA and TOC only.
	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 1311912

Date Reported: 11/26/2013

CLIENT: Cypress Engineering

Client Sample ID: MW-16

Project: TWP Roswell Station 9

Collection Date: 11/18/2013 2:55:00 PM

Lab ID: 1311912-003

Matrix: AQUEOUS

Received Date: 11/20/2013 1:00:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260: VOLATILES SHORT LIST					Analyst: cadg		
Benzene	320	10		µg/L	10	11/23/2013 12:57:35 PM	R15020
Toluene	50	10		µg/L	10	11/23/2013 12:57:35 PM	R15020
Ethylbenzene	210	10		µg/L	10	11/23/2013 12:57:35 PM	R15020
Xylenes, Total	1900	20		µg/L	10	11/23/2013 12:57:35 PM	R15020
Surr: 1,2-Dichloroethane-d4	94.2	70-130		%REC	10	11/23/2013 12:57:35 PM	R15020
Surr: 4-Bromofluorobenzene	98.0	70-130		%REC	10	11/23/2013 12:57:35 PM	R15020
Surr: Dibromofluoromethane	93.6	70-130		%REC	10	11/23/2013 12:57:35 PM	R15020
Surr: Toluene-d8	94.7	70-130		%REC	10	11/23/2013 12:57:35 PM	R15020

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	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 for VOA and TOC only.
	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 1311912

Date Reported: 11/26/2013

CLIENT: Cypress Engineering

Client Sample ID: MW-20

Project: TWP Roswell Station 9

Collection Date: 11/18/2013 10:34:00 AM

Lab ID: 1311912-004

Matrix: AQUEOUS

Received Date: 11/20/2013 1:00:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES							Analyst: cadg
Benzene	ND	1.0		µg/L	1	11/22/2013 4:34:04 PM	R15006
Toluene	ND	1.0		µg/L	1	11/22/2013 4:34:04 PM	R15006
Ethylbenzene	ND	1.0		µg/L	1	11/22/2013 4:34:04 PM	R15006
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	11/22/2013 4:34:04 PM	R15006
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	11/22/2013 4:34:04 PM	R15006
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	11/22/2013 4:34:04 PM	R15006
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	11/22/2013 4:34:04 PM	R15006
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	11/22/2013 4:34:04 PM	R15006
Naphthalene	ND	2.0		µg/L	1	11/22/2013 4:34:04 PM	R15006
1-Methylnaphthalene	ND	4.0		µg/L	1	11/22/2013 4:34:04 PM	R15006
2-Methylnaphthalene	ND	4.0		µg/L	1	11/22/2013 4:34:04 PM	R15006
Acetone	ND	10		µg/L	1	11/22/2013 4:34:04 PM	R15006
Bromobenzene	ND	1.0		µg/L	1	11/22/2013 4:34:04 PM	R15006
Bromodichloromethane	ND	1.0		µg/L	1	11/22/2013 4:34:04 PM	R15006
Bromoform	ND	1.0		µg/L	1	11/22/2013 4:34:04 PM	R15006
Bromomethane	ND	3.0		µg/L	1	11/22/2013 4:34:04 PM	R15006
2-Butanone	ND	10		µg/L	1	11/22/2013 4:34:04 PM	R15006
Carbon disulfide	ND	10		µg/L	1	11/22/2013 4:34:04 PM	R15006
Carbon Tetrachloride	ND	1.0		µg/L	1	11/22/2013 4:34:04 PM	R15006
Chlorobenzene	ND	1.0		µg/L	1	11/22/2013 4:34:04 PM	R15006
Chloroethane	ND	2.0		µg/L	1	11/22/2013 4:34:04 PM	R15006
Chloroform	ND	1.0		µg/L	1	11/22/2013 4:34:04 PM	R15006
Chloromethane	ND	3.0		µg/L	1	11/22/2013 4:34:04 PM	R15006
2-Chlorotoluene	ND	1.0		µg/L	1	11/22/2013 4:34:04 PM	R15006
4-Chlorotoluene	ND	1.0		µg/L	1	11/22/2013 4:34:04 PM	R15006
cis-1,2-DCE	ND	1.0		µg/L	1	11/22/2013 4:34:04 PM	R15006
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	11/22/2013 4:34:04 PM	R15006
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	11/22/2013 4:34:04 PM	R15006
Dibromochloromethane	ND	1.0		µg/L	1	11/22/2013 4:34:04 PM	R15006
Dibromomethane	ND	1.0		µg/L	1	11/22/2013 4:34:04 PM	R15006
1,2-Dichlorobenzene	ND	1.0		µg/L	1	11/22/2013 4:34:04 PM	R15006
1,3-Dichlorobenzene	ND	1.0		µg/L	1	11/22/2013 4:34:04 PM	R15006
1,4-Dichlorobenzene	ND	1.0		µg/L	1	11/22/2013 4:34:04 PM	R15006
Dichlorodifluoromethane	ND	1.0		µg/L	1	11/22/2013 4:34:04 PM	R15006
1,1-Dichloroethane	1.8	1.0		µg/L	1	11/22/2013 4:34:04 PM	R15006
1,1-Dichloroethene	1.6	1.0		µg/L	1	11/22/2013 4:34:04 PM	R15006
1,2-Dichloropropane	ND	1.0		µg/L	1	11/22/2013 4:34:04 PM	R15006
1,3-Dichloropropane	ND	1.0		µg/L	1	11/22/2013 4:34:04 PM	R15006
2,2-Dichloropropane	ND	2.0		µg/L	1	11/22/2013 4:34:04 PM	R15006

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

Qualifiers:	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	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 for VOA and TOC only.
	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 1311912

Date Reported: 11/26/2013

CLIENT: Cypress Engineering

Client Sample ID: MW-20

Project: TWP Roswell Station 9

Collection Date: 11/18/2013 10:34:00 AM

Lab ID: 1311912-004

Matrix: AQUEOUS

Received Date: 11/20/2013 1:00:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES							Analyst: cadg
1,1-Dichloropropene	ND	1.0		µg/L	1	11/22/2013 4:34:04 PM	R15006
Hexachlorobutadiene	ND	1.0		µg/L	1	11/22/2013 4:34:04 PM	R15006
2-Hexanone	ND	10		µg/L	1	11/22/2013 4:34:04 PM	R15006
Isopropylbenzene	ND	1.0		µg/L	1	11/22/2013 4:34:04 PM	R15006
4-Isopropyltoluene	ND	1.0		µg/L	1	11/22/2013 4:34:04 PM	R15006
4-Methyl-2-pentanone	ND	10		µg/L	1	11/22/2013 4:34:04 PM	R15006
Methylene Chloride	ND	3.0		µg/L	1	11/22/2013 4:34:04 PM	R15006
n-Butylbenzene	ND	3.0		µg/L	1	11/22/2013 4:34:04 PM	R15006
n-Propylbenzene	ND	1.0		µg/L	1	11/22/2013 4:34:04 PM	R15006
sec-Butylbenzene	ND	1.0		µg/L	1	11/22/2013 4:34:04 PM	R15006
Styrene	ND	1.0		µg/L	1	11/22/2013 4:34:04 PM	R15006
tert-Butylbenzene	ND	1.0		µg/L	1	11/22/2013 4:34:04 PM	R15006
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	11/22/2013 4:34:04 PM	R15006
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	11/22/2013 4:34:04 PM	R15006
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	11/22/2013 4:34:04 PM	R15006
trans-1,2-DCE	ND	1.0		µg/L	1	11/22/2013 4:34:04 PM	R15006
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	11/22/2013 4:34:04 PM	R15006
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	11/22/2013 4:34:04 PM	R15006
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	11/22/2013 4:34:04 PM	R15006
1,1,1-Trichloroethane	ND	1.0		µg/L	1	11/22/2013 4:34:04 PM	R15006
1,1,2-Trichloroethane	ND	1.0		µg/L	1	11/22/2013 4:34:04 PM	R15006
Trichloroethene (TCE)	ND	1.0		µg/L	1	11/22/2013 4:34:04 PM	R15006
Trichlorofluoromethane	ND	1.0		µg/L	1	11/22/2013 4:34:04 PM	R15006
1,2,3-Trichloropropane	ND	2.0		µg/L	1	11/22/2013 4:34:04 PM	R15006
Vinyl chloride	ND	1.0		µg/L	1	11/22/2013 4:34:04 PM	R15006
Xylenes, Total	ND	1.5		µg/L	1	11/22/2013 4:34:04 PM	R15006
Surr: 1,2-Dichloroethane-d4	91.6	70-130		%REC	1	11/22/2013 4:34:04 PM	R15006
Surr: 4-Bromofluorobenzene	107	70-130		%REC	1	11/22/2013 4:34:04 PM	R15006
Surr: Dibromofluoromethane	97.0	70-130		%REC	1	11/22/2013 4:34:04 PM	R15006
Surr: Toluene-d8	102	70-130		%REC	1	11/22/2013 4:34:04 PM	R15006

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

Qualifiers:	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	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 for VOA and TOC only.
	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 1311912

Date Reported: 11/26/2013

CLIENT: Cypress Engineering

Client Sample ID: MW-21

Project: TWP Roswell Station 9

Collection Date: 11/18/2013 12:33:00 PM

Lab ID: 1311912-005

Matrix: AQUEOUS

Received Date: 11/20/2013 1:00:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260: VOLATILES SHORT LIST							Analyst: cadg
Benzene	ND	1.0		µg/L	1	11/22/2013 5:02:39 PM	R15006
Toluene	ND	1.0		µg/L	1	11/22/2013 5:02:39 PM	R15006
Ethylbenzene	ND	1.0		µg/L	1	11/22/2013 5:02:39 PM	R15006
Xylenes, Total	ND	2.0		µg/L	1	11/22/2013 5:02:39 PM	R15006
Surr: 1,2-Dichloroethane-d4	100	70-130		%REC	1	11/22/2013 5:02:39 PM	R15006
Surr: 4-Bromofluorobenzene	103	70-130		%REC	1	11/22/2013 5:02:39 PM	R15006
Surr: Dibromofluoromethane	99.5	70-130		%REC	1	11/22/2013 5:02:39 PM	R15006
Surr: Toluene-d8	98.3	70-130		%REC	1	11/22/2013 5:02:39 PM	R15006

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	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 for VOA and TOC only.
	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 1311912

Date Reported: 11/26/2013

CLIENT: Cypress Engineering

Client Sample ID: MW-22

Project: TWP Roswell Station 9

Collection Date: 11/18/2013 11:08:00 AM

Lab ID: 1311912-006

Matrix: AQUEOUS

Received Date: 11/20/2013 1:00:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES							Analyst: cadg
Benzene	ND	2.0	P	µg/L	2	11/22/2013 5:31:13 PM	R15006
Toluene	ND	2.0	P	µg/L	2	11/22/2013 5:31:13 PM	R15006
Ethylbenzene	ND	2.0	P	µg/L	2	11/22/2013 5:31:13 PM	R15006
Methyl tert-butyl ether (MTBE)	ND	2.0	P	µg/L	2	11/22/2013 5:31:13 PM	R15006
1,2,4-Trimethylbenzene	ND	2.0	P	µg/L	2	11/22/2013 5:31:13 PM	R15006
1,3,5-Trimethylbenzene	ND	2.0	P	µg/L	2	11/22/2013 5:31:13 PM	R15006
1,2-Dichloroethane (EDC)	ND	2.0	P	µg/L	2	11/22/2013 5:31:13 PM	R15006
1,2-Dibromoethane (EDB)	ND	2.0	P	µg/L	2	11/22/2013 5:31:13 PM	R15006
Naphthalene	ND	4.0	P	µg/L	2	11/22/2013 5:31:13 PM	R15006
1-Methylnaphthalene	ND	8.0	P	µg/L	2	11/22/2013 5:31:13 PM	R15006
2-Methylnaphthalene	ND	8.0	P	µg/L	2	11/22/2013 5:31:13 PM	R15006
Acetone	ND	20	P	µg/L	2	11/22/2013 5:31:13 PM	R15006
Bromobenzene	ND	2.0	P	µg/L	2	11/22/2013 5:31:13 PM	R15006
Bromodichloromethane	ND	2.0	P	µg/L	2	11/22/2013 5:31:13 PM	R15006
Bromoform	ND	2.0	P	µg/L	2	11/22/2013 5:31:13 PM	R15006
Bromomethane	ND	6.0	P	µg/L	2	11/22/2013 5:31:13 PM	R15006
2-Butanone	ND	20	P	µg/L	2	11/22/2013 5:31:13 PM	R15006
Carbon disulfide	ND	20	P	µg/L	2	11/22/2013 5:31:13 PM	R15006
Carbon Tetrachloride	ND	2.0	P	µg/L	2	11/22/2013 5:31:13 PM	R15006
Chlorobenzene	ND	2.0	P	µg/L	2	11/22/2013 5:31:13 PM	R15006
Chloroethane	ND	4.0	P	µg/L	2	11/22/2013 5:31:13 PM	R15006
Chloroform	ND	2.0	P	µg/L	2	11/22/2013 5:31:13 PM	R15006
Chloromethane	ND	6.0	P	µg/L	2	11/22/2013 5:31:13 PM	R15006
2-Chlorotoluene	ND	2.0	P	µg/L	2	11/22/2013 5:31:13 PM	R15006
4-Chlorotoluene	ND	2.0	P	µg/L	2	11/22/2013 5:31:13 PM	R15006
cis-1,2-DCE	ND	2.0	P	µg/L	2	11/22/2013 5:31:13 PM	R15006
cis-1,3-Dichloropropene	ND	2.0	P	µg/L	2	11/22/2013 5:31:13 PM	R15006
1,2-Dibromo-3-chloropropane	ND	4.0	P	µg/L	2	11/22/2013 5:31:13 PM	R15006
Dibromochloromethane	ND	2.0	P	µg/L	2	11/22/2013 5:31:13 PM	R15006
Dibromomethane	ND	2.0	P	µg/L	2	11/22/2013 5:31:13 PM	R15006
1,2-Dichlorobenzene	ND	2.0	P	µg/L	2	11/22/2013 5:31:13 PM	R15006
1,3-Dichlorobenzene	ND	2.0	P	µg/L	2	11/22/2013 5:31:13 PM	R15006
1,4-Dichlorobenzene	ND	2.0	P	µg/L	2	11/22/2013 5:31:13 PM	R15006
Dichlorodifluoromethane	ND	2.0	P	µg/L	2	11/22/2013 5:31:13 PM	R15006
1,1-Dichloroethane	ND	2.0	P	µg/L	2	11/22/2013 5:31:13 PM	R15006
1,1-Dichloroethene	ND	2.0	P	µg/L	2	11/22/2013 5:31:13 PM	R15006
1,2-Dichloropropane	ND	2.0	P	µg/L	2	11/22/2013 5:31:13 PM	R15006
1,3-Dichloropropane	ND	2.0	P	µg/L	2	11/22/2013 5:31:13 PM	R15006
2,2-Dichloropropane	ND	4.0	P	µg/L	2	11/22/2013 5:31:13 PM	R15006

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

Qualifiers:	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	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 for VOA and TOC only.
	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 1311912

Date Reported: 11/26/2013

CLIENT: Cypress Engineering

Client Sample ID: MW-22

Project: TWP Roswell Station 9

Collection Date: 11/18/2013 11:08:00 AM

Lab ID: 1311912-006

Matrix: AQUEOUS

Received Date: 11/20/2013 1:00:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES							Analyst: cadg
1,1-Dichloropropene	ND	2.0	P	µg/L	2	11/22/2013 5:31:13 PM	R15006
Hexachlorobutadiene	ND	2.0	P	µg/L	2	11/22/2013 5:31:13 PM	R15006
2-Hexanone	ND	20	P	µg/L	2	11/22/2013 5:31:13 PM	R15006
Isopropylbenzene	ND	2.0	P	µg/L	2	11/22/2013 5:31:13 PM	R15006
4-Isopropyltoluene	ND	2.0	P	µg/L	2	11/22/2013 5:31:13 PM	R15006
4-Methyl-2-pentanone	ND	20	P	µg/L	2	11/22/2013 5:31:13 PM	R15006
Methylene Chloride	ND	6.0	P	µg/L	2	11/22/2013 5:31:13 PM	R15006
n-Butylbenzene	ND	6.0	P	µg/L	2	11/22/2013 5:31:13 PM	R15006
n-Propylbenzene	ND	2.0	P	µg/L	2	11/22/2013 5:31:13 PM	R15006
sec-Butylbenzene	ND	2.0	P	µg/L	2	11/22/2013 5:31:13 PM	R15006
Styrene	ND	2.0	P	µg/L	2	11/22/2013 5:31:13 PM	R15006
tert-Butylbenzene	ND	2.0	P	µg/L	2	11/22/2013 5:31:13 PM	R15006
1,1,1,2-Tetrachloroethane	ND	2.0	P	µg/L	2	11/22/2013 5:31:13 PM	R15006
1,1,2,2-Tetrachloroethane	ND	4.0	P	µg/L	2	11/22/2013 5:31:13 PM	R15006
Tetrachloroethene (PCE)	ND	2.0	P	µg/L	2	11/22/2013 5:31:13 PM	R15006
trans-1,2-DCE	ND	2.0	P	µg/L	2	11/22/2013 5:31:13 PM	R15006
trans-1,3-Dichloropropene	ND	2.0	P	µg/L	2	11/22/2013 5:31:13 PM	R15006
1,2,3-Trichlorobenzene	ND	2.0	P	µg/L	2	11/22/2013 5:31:13 PM	R15006
1,2,4-Trichlorobenzene	ND	2.0	P	µg/L	2	11/22/2013 5:31:13 PM	R15006
1,1,1-Trichloroethane	ND	2.0	P	µg/L	2	11/22/2013 5:31:13 PM	R15006
1,1,2-Trichloroethane	ND	2.0	P	µg/L	2	11/22/2013 5:31:13 PM	R15006
Trichloroethene (TCE)	ND	2.0	P	µg/L	2	11/22/2013 5:31:13 PM	R15006
Trichlorofluoromethane	ND	2.0	P	µg/L	2	11/22/2013 5:31:13 PM	R15006
1,2,3-Trichloropropane	ND	4.0	P	µg/L	2	11/22/2013 5:31:13 PM	R15006
Vinyl chloride	ND	2.0	P	µg/L	2	11/22/2013 5:31:13 PM	R15006
Xylenes, Total	ND	3.0	P	µg/L	2	11/22/2013 5:31:13 PM	R15006
Surr: 1,2-Dichloroethane-d4	98.9	70-130	P	%REC	2	11/22/2013 5:31:13 PM	R15006
Surr: 4-Bromofluorobenzene	109	70-130	P	%REC	2	11/22/2013 5:31:13 PM	R15006
Surr: Dibromofluoromethane	102	70-130	P	%REC	2	11/22/2013 5:31:13 PM	R15006
Surr: Toluene-d8	94.8	70-130	P	%REC	2	11/22/2013 5:31:13 PM	R15006

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

Qualifiers:	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	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 for VOA and TOC only.
	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 1311912

Date Reported: 11/26/2013

CLIENT: Cypress Engineering

Client Sample ID: MW-21 Duplicate

Project: TWP Roswell Station 9

Collection Date: 11/18/2013 12:33:00 PM

Lab ID: 1311912-007

Matrix: AQUEOUS

Received Date: 11/20/2013 1:00:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260: VOLATILES SHORT LIST							Analyst: cadg
Benzene	ND	1.0		µg/L	1	11/22/2013 5:59:47 PM	R15006
Toluene	ND	1.0		µg/L	1	11/22/2013 5:59:47 PM	R15006
Ethylbenzene	ND	1.0		µg/L	1	11/22/2013 5:59:47 PM	R15006
Xylenes, Total	ND	2.0		µg/L	1	11/22/2013 5:59:47 PM	R15006
Surr: 1,2-Dichloroethane-d4	99.8	70-130		%REC	1	11/22/2013 5:59:47 PM	R15006
Surr: 4-Bromofluorobenzene	105	70-130		%REC	1	11/22/2013 5:59:47 PM	R15006
Surr: Dibromofluoromethane	103	70-130		%REC	1	11/22/2013 5:59:47 PM	R15006
Surr: Toluene-d8	96.3	70-130		%REC	1	11/22/2013 5:59:47 PM	R15006

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	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 for VOA and TOC only.
	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 1311912

Date Reported: 11/26/2013

CLIENT: Cypress Engineering

Client Sample ID: MW-24D

Project: TWP Roswell Station 9

Collection Date: 11/18/2013 3:35:00 PM

Lab ID: 1311912-008

Matrix: AQUEOUS

Received Date: 11/20/2013 1:00:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260: VOLATILES SHORT LIST							Analyst: cadg
Benzene	ND	1.0		µg/L	1	11/22/2013 6:28:20 PM	R15006
Toluene	ND	1.0		µg/L	1	11/22/2013 6:28:20 PM	R15006
Ethylbenzene	ND	1.0		µg/L	1	11/22/2013 6:28:20 PM	R15006
Xylenes, Total	ND	2.0		µg/L	1	11/22/2013 6:28:20 PM	R15006
Surr: 1,2-Dichloroethane-d4	106	70-130		%REC	1	11/22/2013 6:28:20 PM	R15006
Surr: 4-Bromofluorobenzene	105	70-130		%REC	1	11/22/2013 6:28:20 PM	R15006
Surr: Dibromofluoromethane	102	70-130		%REC	1	11/22/2013 6:28:20 PM	R15006
Surr: Toluene-d8	96.7	70-130		%REC	1	11/22/2013 6:28:20 PM	R15006

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	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 for VOA and TOC only.
	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 1311912

Date Reported: 11/26/2013

CLIENT: Cypress Engineering

Client Sample ID: MW-26

Project: TWP Roswell Station 9

Collection Date: 11/15/2013 4:29:00 PM

Lab ID: 1311912-009

Matrix: AQUEOUS

Received Date: 11/20/2013 1:00:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES							Analyst: cadg
Benzene	ND	1.0		µg/L	1	11/22/2013 6:56:54 PM	R15006
Toluene	ND	1.0		µg/L	1	11/22/2013 6:56:54 PM	R15006
Ethylbenzene	ND	1.0		µg/L	1	11/22/2013 6:56:54 PM	R15006
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	11/22/2013 6:56:54 PM	R15006
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	11/22/2013 6:56:54 PM	R15006
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	11/22/2013 6:56:54 PM	R15006
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	11/22/2013 6:56:54 PM	R15006
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	11/22/2013 6:56:54 PM	R15006
Naphthalene	ND	2.0		µg/L	1	11/22/2013 6:56:54 PM	R15006
1-Methylnaphthalene	ND	4.0		µg/L	1	11/22/2013 6:56:54 PM	R15006
2-Methylnaphthalene	ND	4.0		µg/L	1	11/22/2013 6:56:54 PM	R15006
Acetone	ND	10		µg/L	1	11/22/2013 6:56:54 PM	R15006
Bromobenzene	ND	1.0		µg/L	1	11/22/2013 6:56:54 PM	R15006
Bromodichloromethane	ND	1.0		µg/L	1	11/22/2013 6:56:54 PM	R15006
Bromoform	ND	1.0		µg/L	1	11/22/2013 6:56:54 PM	R15006
Bromomethane	ND	3.0		µg/L	1	11/22/2013 6:56:54 PM	R15006
2-Butanone	ND	10		µg/L	1	11/22/2013 6:56:54 PM	R15006
Carbon disulfide	ND	10		µg/L	1	11/22/2013 6:56:54 PM	R15006
Carbon Tetrachloride	ND	1.0		µg/L	1	11/22/2013 6:56:54 PM	R15006
Chlorobenzene	ND	1.0		µg/L	1	11/22/2013 6:56:54 PM	R15006
Chloroethane	ND	2.0		µg/L	1	11/22/2013 6:56:54 PM	R15006
Chloroform	ND	1.0		µg/L	1	11/22/2013 6:56:54 PM	R15006
Chloromethane	ND	3.0		µg/L	1	11/22/2013 6:56:54 PM	R15006
2-Chlorotoluene	ND	1.0		µg/L	1	11/22/2013 6:56:54 PM	R15006
4-Chlorotoluene	ND	1.0		µg/L	1	11/22/2013 6:56:54 PM	R15006
cis-1,2-DCE	ND	1.0		µg/L	1	11/22/2013 6:56:54 PM	R15006
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	11/22/2013 6:56:54 PM	R15006
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	11/22/2013 6:56:54 PM	R15006
Dibromochloromethane	ND	1.0		µg/L	1	11/22/2013 6:56:54 PM	R15006
Dibromomethane	ND	1.0		µg/L	1	11/22/2013 6:56:54 PM	R15006
1,2-Dichlorobenzene	ND	1.0		µg/L	1	11/22/2013 6:56:54 PM	R15006
1,3-Dichlorobenzene	ND	1.0		µg/L	1	11/22/2013 6:56:54 PM	R15006
1,4-Dichlorobenzene	ND	1.0		µg/L	1	11/22/2013 6:56:54 PM	R15006
Dichlorodifluoromethane	ND	1.0		µg/L	1	11/22/2013 6:56:54 PM	R15006
1,1-Dichloroethane	6.0	1.0		µg/L	1	11/22/2013 6:56:54 PM	R15006
1,1-Dichloroethene	45	1.0		µg/L	1	11/22/2013 6:56:54 PM	R15006
1,2-Dichloropropane	ND	1.0		µg/L	1	11/22/2013 6:56:54 PM	R15006
1,3-Dichloropropane	ND	1.0		µg/L	1	11/22/2013 6:56:54 PM	R15006
2,2-Dichloropropane	ND	2.0		µg/L	1	11/22/2013 6:56:54 PM	R15006

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

Qualifiers:	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	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 for VOA and TOC only.
	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 1311912

Date Reported: 11/26/2013

CLIENT: Cypress Engineering

Client Sample ID: MW-26

Project: TWP Roswell Station 9

Collection Date: 11/15/2013 4:29:00 PM

Lab ID: 1311912-009

Matrix: AQUEOUS

Received Date: 11/20/2013 1:00:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES							Analyst: cadg
1,1-Dichloropropene	ND	1.0		µg/L	1	11/22/2013 6:56:54 PM	R15006
Hexachlorobutadiene	ND	1.0		µg/L	1	11/22/2013 6:56:54 PM	R15006
2-Hexanone	ND	10		µg/L	1	11/22/2013 6:56:54 PM	R15006
Isopropylbenzene	ND	1.0		µg/L	1	11/22/2013 6:56:54 PM	R15006
4-Isopropyltoluene	ND	1.0		µg/L	1	11/22/2013 6:56:54 PM	R15006
4-Methyl-2-pentanone	ND	10		µg/L	1	11/22/2013 6:56:54 PM	R15006
Methylene Chloride	ND	3.0		µg/L	1	11/22/2013 6:56:54 PM	R15006
n-Butylbenzene	ND	3.0		µg/L	1	11/22/2013 6:56:54 PM	R15006
n-Propylbenzene	ND	1.0		µg/L	1	11/22/2013 6:56:54 PM	R15006
sec-Butylbenzene	ND	1.0		µg/L	1	11/22/2013 6:56:54 PM	R15006
Styrene	ND	1.0		µg/L	1	11/22/2013 6:56:54 PM	R15006
tert-Butylbenzene	ND	1.0		µg/L	1	11/22/2013 6:56:54 PM	R15006
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	11/22/2013 6:56:54 PM	R15006
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	11/22/2013 6:56:54 PM	R15006
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	11/22/2013 6:56:54 PM	R15006
trans-1,2-DCE	ND	1.0		µg/L	1	11/22/2013 6:56:54 PM	R15006
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	11/22/2013 6:56:54 PM	R15006
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	11/22/2013 6:56:54 PM	R15006
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	11/22/2013 6:56:54 PM	R15006
1,1,1-Trichloroethane	ND	1.0		µg/L	1	11/22/2013 6:56:54 PM	R15006
1,1,2-Trichloroethane	ND	1.0		µg/L	1	11/22/2013 6:56:54 PM	R15006
Trichloroethene (TCE)	ND	1.0		µg/L	1	11/22/2013 6:56:54 PM	R15006
Trichlorofluoromethane	ND	1.0		µg/L	1	11/22/2013 6:56:54 PM	R15006
1,2,3-Trichloropropane	ND	2.0		µg/L	1	11/22/2013 6:56:54 PM	R15006
Vinyl chloride	ND	1.0		µg/L	1	11/22/2013 6:56:54 PM	R15006
Xylenes, Total	ND	1.5		µg/L	1	11/22/2013 6:56:54 PM	R15006
Surr: 1,2-Dichloroethane-d4	103	70-130		%REC	1	11/22/2013 6:56:54 PM	R15006
Surr: 4-Bromofluorobenzene	105	70-130		%REC	1	11/22/2013 6:56:54 PM	R15006
Surr: Dibromofluoromethane	104	70-130		%REC	1	11/22/2013 6:56:54 PM	R15006
Surr: Toluene-d8	99.9	70-130		%REC	1	11/22/2013 6:56:54 PM	R15006

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	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 for VOA and TOC only.
	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 1311912

Date Reported: 11/26/2013

CLIENT: Cypress Engineering

Client Sample ID: MW-26 Duplicate

Project: TWP Roswell Station 9

Collection Date: 11/15/2013 4:29:00 PM

Lab ID: 1311912-010

Matrix: AQUEOUS

Received Date: 11/20/2013 1:00:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES							Analyst: cadg
Benzene	ND	1.0		µg/L	1	11/22/2013 7:25:28 PM	R15006
Toluene	ND	1.0		µg/L	1	11/22/2013 7:25:28 PM	R15006
Ethylbenzene	ND	1.0		µg/L	1	11/22/2013 7:25:28 PM	R15006
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	11/22/2013 7:25:28 PM	R15006
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	11/22/2013 7:25:28 PM	R15006
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	11/22/2013 7:25:28 PM	R15006
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	11/22/2013 7:25:28 PM	R15006
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	11/22/2013 7:25:28 PM	R15006
Naphthalene	ND	2.0		µg/L	1	11/22/2013 7:25:28 PM	R15006
1-Methylnaphthalene	ND	4.0		µg/L	1	11/22/2013 7:25:28 PM	R15006
2-Methylnaphthalene	ND	4.0		µg/L	1	11/22/2013 7:25:28 PM	R15006
Acetone	ND	10		µg/L	1	11/22/2013 7:25:28 PM	R15006
Bromobenzene	ND	1.0		µg/L	1	11/22/2013 7:25:28 PM	R15006
Bromodichloromethane	ND	1.0		µg/L	1	11/22/2013 7:25:28 PM	R15006
Bromoform	ND	1.0		µg/L	1	11/22/2013 7:25:28 PM	R15006
Bromomethane	ND	3.0		µg/L	1	11/22/2013 7:25:28 PM	R15006
2-Butanone	ND	10		µg/L	1	11/22/2013 7:25:28 PM	R15006
Carbon disulfide	ND	10		µg/L	1	11/22/2013 7:25:28 PM	R15006
Carbon Tetrachloride	ND	1.0		µg/L	1	11/22/2013 7:25:28 PM	R15006
Chlorobenzene	ND	1.0		µg/L	1	11/22/2013 7:25:28 PM	R15006
Chloroethane	ND	2.0		µg/L	1	11/22/2013 7:25:28 PM	R15006
Chloroform	ND	1.0		µg/L	1	11/22/2013 7:25:28 PM	R15006
Chloromethane	ND	3.0		µg/L	1	11/22/2013 7:25:28 PM	R15006
2-Chlorotoluene	ND	1.0		µg/L	1	11/22/2013 7:25:28 PM	R15006
4-Chlorotoluene	ND	1.0		µg/L	1	11/22/2013 7:25:28 PM	R15006
cis-1,2-DCE	ND	1.0		µg/L	1	11/22/2013 7:25:28 PM	R15006
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	11/22/2013 7:25:28 PM	R15006
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	11/22/2013 7:25:28 PM	R15006
Dibromochloromethane	ND	1.0		µg/L	1	11/22/2013 7:25:28 PM	R15006
Dibromomethane	ND	1.0		µg/L	1	11/22/2013 7:25:28 PM	R15006
1,2-Dichlorobenzene	ND	1.0		µg/L	1	11/22/2013 7:25:28 PM	R15006
1,3-Dichlorobenzene	ND	1.0		µg/L	1	11/22/2013 7:25:28 PM	R15006
1,4-Dichlorobenzene	ND	1.0		µg/L	1	11/22/2013 7:25:28 PM	R15006
Dichlorodifluoromethane	ND	1.0		µg/L	1	11/22/2013 7:25:28 PM	R15006
1,1-Dichloroethane	5.9	1.0		µg/L	1	11/22/2013 7:25:28 PM	R15006
1,1-Dichloroethene	46	1.0		µg/L	1	11/22/2013 7:25:28 PM	R15006
1,2-Dichloropropane	ND	1.0		µg/L	1	11/22/2013 7:25:28 PM	R15006
1,3-Dichloropropane	ND	1.0		µg/L	1	11/22/2013 7:25:28 PM	R15006
2,2-Dichloropropane	ND	2.0		µg/L	1	11/22/2013 7:25:28 PM	R15006

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

Qualifiers:	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	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 for VOA and TOC only.
	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 1311912

Date Reported: 11/26/2013

CLIENT: Cypress Engineering

Client Sample ID: MW-26 Duplicate

Project: TWP Roswell Station 9

Collection Date: 11/15/2013 4:29:00 PM

Lab ID: 1311912-010

Matrix: AQUEOUS

Received Date: 11/20/2013 1:00:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES							Analyst: cadg
1,1-Dichloropropene	ND	1.0		µg/L	1	11/22/2013 7:25:28 PM	R15006
Hexachlorobutadiene	ND	1.0		µg/L	1	11/22/2013 7:25:28 PM	R15006
2-Hexanone	ND	10		µg/L	1	11/22/2013 7:25:28 PM	R15006
Isopropylbenzene	ND	1.0		µg/L	1	11/22/2013 7:25:28 PM	R15006
4-Isopropyltoluene	ND	1.0		µg/L	1	11/22/2013 7:25:28 PM	R15006
4-Methyl-2-pentanone	ND	10		µg/L	1	11/22/2013 7:25:28 PM	R15006
Methylene Chloride	ND	3.0		µg/L	1	11/22/2013 7:25:28 PM	R15006
n-Butylbenzene	ND	3.0		µg/L	1	11/22/2013 7:25:28 PM	R15006
n-Propylbenzene	ND	1.0		µg/L	1	11/22/2013 7:25:28 PM	R15006
sec-Butylbenzene	ND	1.0		µg/L	1	11/22/2013 7:25:28 PM	R15006
Styrene	ND	1.0		µg/L	1	11/22/2013 7:25:28 PM	R15006
tert-Butylbenzene	ND	1.0		µg/L	1	11/22/2013 7:25:28 PM	R15006
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	11/22/2013 7:25:28 PM	R15006
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	11/22/2013 7:25:28 PM	R15006
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	11/22/2013 7:25:28 PM	R15006
trans-1,2-DCE	ND	1.0		µg/L	1	11/22/2013 7:25:28 PM	R15006
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	11/22/2013 7:25:28 PM	R15006
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	11/22/2013 7:25:28 PM	R15006
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	11/22/2013 7:25:28 PM	R15006
1,1,1-Trichloroethane	ND	1.0		µg/L	1	11/22/2013 7:25:28 PM	R15006
1,1,2-Trichloroethane	ND	1.0		µg/L	1	11/22/2013 7:25:28 PM	R15006
Trichloroethene (TCE)	ND	1.0		µg/L	1	11/22/2013 7:25:28 PM	R15006
Trichlorofluoromethane	ND	1.0		µg/L	1	11/22/2013 7:25:28 PM	R15006
1,2,3-Trichloropropane	ND	2.0		µg/L	1	11/22/2013 7:25:28 PM	R15006
Vinyl chloride	ND	1.0		µg/L	1	11/22/2013 7:25:28 PM	R15006
Xylenes, Total	ND	1.5		µg/L	1	11/22/2013 7:25:28 PM	R15006
Surr: 1,2-Dichloroethane-d4	104	70-130		%REC	1	11/22/2013 7:25:28 PM	R15006
Surr: 4-Bromofluorobenzene	108	70-130		%REC	1	11/22/2013 7:25:28 PM	R15006
Surr: Dibromofluoromethane	102	70-130		%REC	1	11/22/2013 7:25:28 PM	R15006
Surr: Toluene-d8	94.7	70-130		%REC	1	11/22/2013 7:25:28 PM	R15006

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

Qualifiers:	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	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 for VOA and TOC only.
	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 1311912

Date Reported: 11/26/2013

CLIENT: Cypress Engineering

Client Sample ID: MW-29

Project: TWP Roswell Station 9

Collection Date: 11/14/2013 4:51:00 PM

Lab ID: 1311912-011

Matrix: AQUEOUS

Received Date: 11/20/2013 1:00:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260: VOLATILES SHORT LIST							Analyst: cadg
Benzene	ND	1.0		µg/L	1	11/22/2013 7:54:02 PM	R15006
Toluene	ND	1.0		µg/L	1	11/22/2013 7:54:02 PM	R15006
Ethylbenzene	ND	1.0		µg/L	1	11/22/2013 7:54:02 PM	R15006
Xylenes, Total	ND	2.0		µg/L	1	11/22/2013 7:54:02 PM	R15006
Surr: 1,2-Dichloroethane-d4	104	70-130		%REC	1	11/22/2013 7:54:02 PM	R15006
Surr: 4-Bromofluorobenzene	105	70-130		%REC	1	11/22/2013 7:54:02 PM	R15006
Surr: Dibromofluoromethane	104	70-130		%REC	1	11/22/2013 7:54:02 PM	R15006
Surr: Toluene-d8	102	70-130		%REC	1	11/22/2013 7:54:02 PM	R15006

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	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 for VOA and TOC only.
	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 1311912

Date Reported: 11/26/2013

CLIENT: Cypress Engineering

Client Sample ID: MW-32

Project: TWP Roswell Station 9

Collection Date: 11/14/2013 3:58:00 PM

Lab ID: 1311912-012

Matrix: AQUEOUS

Received Date: 11/20/2013 1:00:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260: VOLATILES SHORT LIST							Analyst: cadg
Benzene	ND	1.0		µg/L	1	11/22/2013 8:22:35 PM	R15006
Toluene	ND	1.0		µg/L	1	11/22/2013 8:22:35 PM	R15006
Ethylbenzene	ND	1.0		µg/L	1	11/22/2013 8:22:35 PM	R15006
Xylenes, Total	ND	2.0		µg/L	1	11/22/2013 8:22:35 PM	R15006
Surr: 1,2-Dichloroethane-d4	103	70-130		%REC	1	11/22/2013 8:22:35 PM	R15006
Surr: 4-Bromofluorobenzene	113	70-130		%REC	1	11/22/2013 8:22:35 PM	R15006
Surr: Dibromofluoromethane	101	70-130		%REC	1	11/22/2013 8:22:35 PM	R15006
Surr: Toluene-d8	97.9	70-130		%REC	1	11/22/2013 8:22:35 PM	R15006

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	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 for VOA and TOC only.
	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 1311912

Date Reported: 11/26/2013

CLIENT: Cypress Engineering

Client Sample ID: MW-34

Project: TWP Roswell Station 9

Collection Date: 11/14/2013 11:08:00 AM

Lab ID: 1311912-013

Matrix: AQUEOUS

Received Date: 11/20/2013 1:00:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: cadg	
Benzene	7.2	1.0		µg/L	1	11/23/2013 1:55:03 PM	R15020
Toluene	ND	1.0		µg/L	1	11/23/2013 1:55:03 PM	R15020
Ethylbenzene	ND	1.0		µg/L	1	11/23/2013 1:55:03 PM	R15020
Xylenes, Total	ND	2.0		µg/L	1	11/23/2013 1:55:03 PM	R15020
Surr: 1,2-Dichloroethane-d4	95.8	70-130		%REC	1	11/23/2013 1:55:03 PM	R15020
Surr: 4-Bromofluorobenzene	109	70-130		%REC	1	11/23/2013 1:55:03 PM	R15020
Surr: Dibromofluoromethane	97.0	70-130		%REC	1	11/23/2013 1:55:03 PM	R15020
Surr: Toluene-d8	98.6	70-130		%REC	1	11/23/2013 1:55:03 PM	R15020

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	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 for VOA and TOC only.
	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 1311912

Date Reported: 11/26/2013

CLIENT: Cypress Engineering

Client Sample ID: MW-34 Duplicate

Project: TWP Roswell Station 9

Collection Date: 11/14/2013 11:08:00 AM

Lab ID: 1311912-014

Matrix: AQUEOUS

Received Date: 11/20/2013 1:00:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260: VOLATILES SHORT LIST							Analyst: cadg
Benzene	7.2	1.0		µg/L	1	11/23/2013 2:23:45 PM	R15020
Toluene	ND	1.0		µg/L	1	11/23/2013 2:23:45 PM	R15020
Ethylbenzene	ND	1.0		µg/L	1	11/23/2013 2:23:45 PM	R15020
Xylenes, Total	ND	2.0		µg/L	1	11/23/2013 2:23:45 PM	R15020
Surr: 1,2-Dichloroethane-d4	103	70-130		%REC	1	11/23/2013 2:23:45 PM	R15020
Surr: 4-Bromofluorobenzene	111	70-130		%REC	1	11/23/2013 2:23:45 PM	R15020
Surr: Dibromofluoromethane	99.3	70-130		%REC	1	11/23/2013 2:23:45 PM	R15020
Surr: Toluene-d8	100	70-130		%REC	1	11/23/2013 2:23:45 PM	R15020

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	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 for VOA and TOC only.
	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 1311912

Date Reported: 11/26/2013

CLIENT: Cypress Engineering

Client Sample ID: MW-35

Project: TWP Roswell Station 9

Collection Date: 11/14/2013 2:40:00 PM

Lab ID: 1311912-015

Matrix: AQUEOUS

Received Date: 11/20/2013 1:00:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260: VOLATILES SHORT LIST							Analyst: cadg
Benzene	ND	1.0		µg/L	1	11/22/2013 9:48:20 PM	R15006
Toluene	ND	1.0		µg/L	1	11/22/2013 9:48:20 PM	R15006
Ethylbenzene	ND	1.0		µg/L	1	11/22/2013 9:48:20 PM	R15006
Xylenes, Total	ND	2.0		µg/L	1	11/22/2013 9:48:20 PM	R15006
Surr: 1,2-Dichloroethane-d4	97.7	70-130		%REC	1	11/22/2013 9:48:20 PM	R15006
Surr: 4-Bromofluorobenzene	111	70-130		%REC	1	11/22/2013 9:48:20 PM	R15006
Surr: Dibromofluoromethane	101	70-130		%REC	1	11/22/2013 9:48:20 PM	R15006
Surr: Toluene-d8	98.0	70-130		%REC	1	11/22/2013 9:48:20 PM	R15006

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	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 for VOA and TOC only.
	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 1311912

Date Reported: 11/26/2013

CLIENT: Cypress Engineering

Client Sample ID: MW-37

Project: TWP Roswell Station 9

Collection Date: 11/14/2013 9:49:00 AM

Lab ID: 1311912-016

Matrix: AQUEOUS

Received Date: 11/20/2013 1:00:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260: VOLATILES SHORT LIST							Analyst: cadg
Benzene	ND	1.0		µg/L	1	11/23/2013 12:11:10 AM	R15006
Toluene	ND	1.0		µg/L	1	11/23/2013 12:11:10 AM	R15006
Ethylbenzene	ND	1.0		µg/L	1	11/23/2013 12:11:10 AM	R15006
Xylenes, Total	ND	2.0		µg/L	1	11/23/2013 12:11:10 AM	R15006
Surr: 1,2-Dichloroethane-d4	93.7	70-130		%REC	1	11/23/2013 12:11:10 AM	R15006
Surr: 4-Bromofluorobenzene	106	70-130		%REC	1	11/23/2013 12:11:10 AM	R15006
Surr: Dibromofluoromethane	96.0	70-130		%REC	1	11/23/2013 12:11:10 AM	R15006
Surr: Toluene-d8	102	70-130		%REC	1	11/23/2013 12:11:10 AM	R15006

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	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 for VOA and TOC only.
	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 1311912

Date Reported: 11/26/2013

CLIENT: Cypress Engineering

Client Sample ID: MW-39

Project: TWP Roswell Station 9

Collection Date: 11/15/2013 2:25:00 PM

Lab ID: 1311912-017

Matrix: AQUEOUS

Received Date: 11/20/2013 1:00:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES							Analyst: cadg
Benzene	ND	1.0		µg/L	1	11/23/2013 12:39:43 AM	R15006
Toluene	ND	1.0		µg/L	1	11/23/2013 12:39:43 AM	R15006
Ethylbenzene	ND	1.0		µg/L	1	11/23/2013 12:39:43 AM	R15006
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	11/23/2013 12:39:43 AM	R15006
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	11/23/2013 12:39:43 AM	R15006
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	11/23/2013 12:39:43 AM	R15006
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	11/23/2013 12:39:43 AM	R15006
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	11/23/2013 12:39:43 AM	R15006
Naphthalene	ND	2.0		µg/L	1	11/23/2013 12:39:43 AM	R15006
1-Methylnaphthalene	ND	4.0		µg/L	1	11/23/2013 12:39:43 AM	R15006
2-Methylnaphthalene	ND	4.0		µg/L	1	11/23/2013 12:39:43 AM	R15006
Acetone	ND	10		µg/L	1	11/23/2013 12:39:43 AM	R15006
Bromobenzene	ND	1.0		µg/L	1	11/23/2013 12:39:43 AM	R15006
Bromodichloromethane	ND	1.0		µg/L	1	11/23/2013 12:39:43 AM	R15006
Bromoform	ND	1.0		µg/L	1	11/23/2013 12:39:43 AM	R15006
Bromomethane	ND	3.0		µg/L	1	11/23/2013 12:39:43 AM	R15006
2-Butanone	ND	10		µg/L	1	11/23/2013 12:39:43 AM	R15006
Carbon disulfide	ND	10		µg/L	1	11/23/2013 12:39:43 AM	R15006
Carbon Tetrachloride	ND	1.0		µg/L	1	11/23/2013 12:39:43 AM	R15006
Chlorobenzene	ND	1.0		µg/L	1	11/23/2013 12:39:43 AM	R15006
Chloroethane	ND	2.0		µg/L	1	11/23/2013 12:39:43 AM	R15006
Chloroform	ND	1.0		µg/L	1	11/23/2013 12:39:43 AM	R15006
Chloromethane	ND	3.0		µg/L	1	11/23/2013 12:39:43 AM	R15006
2-Chlorotoluene	ND	1.0		µg/L	1	11/23/2013 12:39:43 AM	R15006
4-Chlorotoluene	ND	1.0		µg/L	1	11/23/2013 12:39:43 AM	R15006
cis-1,2-DCE	ND	1.0		µg/L	1	11/23/2013 12:39:43 AM	R15006
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	11/23/2013 12:39:43 AM	R15006
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	11/23/2013 12:39:43 AM	R15006
Dibromochloromethane	ND	1.0		µg/L	1	11/23/2013 12:39:43 AM	R15006
Dibromomethane	ND	1.0		µg/L	1	11/23/2013 12:39:43 AM	R15006
1,2-Dichlorobenzene	ND	1.0		µg/L	1	11/23/2013 12:39:43 AM	R15006
1,3-Dichlorobenzene	ND	1.0		µg/L	1	11/23/2013 12:39:43 AM	R15006
1,4-Dichlorobenzene	ND	1.0		µg/L	1	11/23/2013 12:39:43 AM	R15006
Dichlorodifluoromethane	ND	1.0		µg/L	1	11/23/2013 12:39:43 AM	R15006
1,1-Dichloroethane	1.6	1.0		µg/L	1	11/23/2013 12:39:43 AM	R15006
1,1-Dichloroethene	15	1.0		µg/L	1	11/23/2013 12:39:43 AM	R15006
1,2-Dichloropropane	ND	1.0		µg/L	1	11/23/2013 12:39:43 AM	R15006
1,3-Dichloropropane	ND	1.0		µg/L	1	11/23/2013 12:39:43 AM	R15006
2,2-Dichloropropane	ND	2.0		µg/L	1	11/23/2013 12:39:43 AM	R15006

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

Qualifiers:	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	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 for VOA and TOC only.
	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 1311912

Date Reported: 11/26/2013

CLIENT: Cypress Engineering

Client Sample ID: MW-39

Project: TWP Roswell Station 9

Collection Date: 11/15/2013 2:25:00 PM

Lab ID: 1311912-017

Matrix: AQUEOUS

Received Date: 11/20/2013 1:00:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES							Analyst: cadg
1,1-Dichloropropene	ND	1.0		µg/L	1	11/23/2013 12:39:43 AM	R15006
Hexachlorobutadiene	ND	1.0		µg/L	1	11/23/2013 12:39:43 AM	R15006
2-Hexanone	ND	10		µg/L	1	11/23/2013 12:39:43 AM	R15006
Isopropylbenzene	ND	1.0		µg/L	1	11/23/2013 12:39:43 AM	R15006
4-Isopropyltoluene	ND	1.0		µg/L	1	11/23/2013 12:39:43 AM	R15006
4-Methyl-2-pentanone	ND	10		µg/L	1	11/23/2013 12:39:43 AM	R15006
Methylene Chloride	ND	3.0		µg/L	1	11/23/2013 12:39:43 AM	R15006
n-Butylbenzene	ND	3.0		µg/L	1	11/23/2013 12:39:43 AM	R15006
n-Propylbenzene	ND	1.0		µg/L	1	11/23/2013 12:39:43 AM	R15006
sec-Butylbenzene	ND	1.0		µg/L	1	11/23/2013 12:39:43 AM	R15006
Styrene	ND	1.0		µg/L	1	11/23/2013 12:39:43 AM	R15006
tert-Butylbenzene	ND	1.0		µg/L	1	11/23/2013 12:39:43 AM	R15006
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	11/23/2013 12:39:43 AM	R15006
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	11/23/2013 12:39:43 AM	R15006
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	11/23/2013 12:39:43 AM	R15006
trans-1,2-DCE	ND	1.0		µg/L	1	11/23/2013 12:39:43 AM	R15006
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	11/23/2013 12:39:43 AM	R15006
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	11/23/2013 12:39:43 AM	R15006
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	11/23/2013 12:39:43 AM	R15006
1,1,1-Trichloroethane	ND	1.0		µg/L	1	11/23/2013 12:39:43 AM	R15006
1,1,2-Trichloroethane	ND	1.0		µg/L	1	11/23/2013 12:39:43 AM	R15006
Trichloroethene (TCE)	ND	1.0		µg/L	1	11/23/2013 12:39:43 AM	R15006
Trichlorofluoromethane	ND	1.0		µg/L	1	11/23/2013 12:39:43 AM	R15006
1,2,3-Trichloropropane	ND	2.0		µg/L	1	11/23/2013 12:39:43 AM	R15006
Vinyl chloride	ND	1.0		µg/L	1	11/23/2013 12:39:43 AM	R15006
Xylenes, Total	ND	1.5		µg/L	1	11/23/2013 12:39:43 AM	R15006
Surr: 1,2-Dichloroethane-d4	96.2	70-130		%REC	1	11/23/2013 12:39:43 AM	R15006
Surr: 4-Bromofluorobenzene	108	70-130		%REC	1	11/23/2013 12:39:43 AM	R15006
Surr: Dibromofluoromethane	99.8	70-130		%REC	1	11/23/2013 12:39:43 AM	R15006
Surr: Toluene-d8	103	70-130		%REC	1	11/23/2013 12:39:43 AM	R15006

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

Qualifiers:	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	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 for VOA and TOC only.
	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 1311912

Date Reported: 11/26/2013

CLIENT: Cypress Engineering

Client Sample ID: MW-39 Duplicate

Project: TWP Roswell Station 9

Collection Date: 11/15/2013 2:25:00 PM

Lab ID: 1311912-018

Matrix: AQUEOUS

Received Date: 11/20/2013 1:00:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES							Analyst: cadg
Benzene	ND	1.0		µg/L	1	11/23/2013 1:08:15 AM	R15006
Toluene	ND	1.0		µg/L	1	11/23/2013 1:08:15 AM	R15006
Ethylbenzene	ND	1.0		µg/L	1	11/23/2013 1:08:15 AM	R15006
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	11/23/2013 1:08:15 AM	R15006
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	11/23/2013 1:08:15 AM	R15006
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	11/23/2013 1:08:15 AM	R15006
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	11/23/2013 1:08:15 AM	R15006
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	11/23/2013 1:08:15 AM	R15006
Naphthalene	ND	2.0		µg/L	1	11/23/2013 1:08:15 AM	R15006
1-Methylnaphthalene	ND	4.0		µg/L	1	11/23/2013 1:08:15 AM	R15006
2-Methylnaphthalene	ND	4.0		µg/L	1	11/23/2013 1:08:15 AM	R15006
Acetone	ND	10		µg/L	1	11/23/2013 1:08:15 AM	R15006
Bromobenzene	ND	1.0		µg/L	1	11/23/2013 1:08:15 AM	R15006
Bromodichloromethane	ND	1.0		µg/L	1	11/23/2013 1:08:15 AM	R15006
Bromoform	ND	1.0		µg/L	1	11/23/2013 1:08:15 AM	R15006
Bromomethane	ND	3.0		µg/L	1	11/23/2013 1:08:15 AM	R15006
2-Butanone	ND	10		µg/L	1	11/23/2013 1:08:15 AM	R15006
Carbon disulfide	ND	10		µg/L	1	11/23/2013 1:08:15 AM	R15006
Carbon Tetrachloride	ND	1.0		µg/L	1	11/23/2013 1:08:15 AM	R15006
Chlorobenzene	ND	1.0		µg/L	1	11/23/2013 1:08:15 AM	R15006
Chloroethane	ND	2.0		µg/L	1	11/23/2013 1:08:15 AM	R15006
Chloroform	ND	1.0		µg/L	1	11/23/2013 1:08:15 AM	R15006
Chloromethane	ND	3.0		µg/L	1	11/23/2013 1:08:15 AM	R15006
2-Chlorotoluene	ND	1.0		µg/L	1	11/23/2013 1:08:15 AM	R15006
4-Chlorotoluene	ND	1.0		µg/L	1	11/23/2013 1:08:15 AM	R15006
cis-1,2-DCE	ND	1.0		µg/L	1	11/23/2013 1:08:15 AM	R15006
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	11/23/2013 1:08:15 AM	R15006
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	11/23/2013 1:08:15 AM	R15006
Dibromochloromethane	ND	1.0		µg/L	1	11/23/2013 1:08:15 AM	R15006
Dibromomethane	ND	1.0		µg/L	1	11/23/2013 1:08:15 AM	R15006
1,2-Dichlorobenzene	ND	1.0		µg/L	1	11/23/2013 1:08:15 AM	R15006
1,3-Dichlorobenzene	ND	1.0		µg/L	1	11/23/2013 1:08:15 AM	R15006
1,4-Dichlorobenzene	ND	1.0		µg/L	1	11/23/2013 1:08:15 AM	R15006
Dichlorodifluoromethane	ND	1.0		µg/L	1	11/23/2013 1:08:15 AM	R15006
1,1-Dichloroethane	1.5	1.0		µg/L	1	11/23/2013 1:08:15 AM	R15006
1,1-Dichloroethene	16	1.0		µg/L	1	11/23/2013 1:08:15 AM	R15006
1,2-Dichloropropane	ND	1.0		µg/L	1	11/23/2013 1:08:15 AM	R15006
1,3-Dichloropropane	ND	1.0		µg/L	1	11/23/2013 1:08:15 AM	R15006
2,2-Dichloropropane	ND	2.0		µg/L	1	11/23/2013 1:08:15 AM	R15006

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

Qualifiers:	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	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 for VOA and TOC only.
	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 1311912

Date Reported: 11/26/2013

CLIENT: Cypress Engineering

Client Sample ID: MW-39 Duplicate

Project: TWP Roswell Station 9

Collection Date: 11/15/2013 2:25:00 PM

Lab ID: 1311912-018

Matrix: AQUEOUS

Received Date: 11/20/2013 1:00:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES							Analyst: cadg
1,1-Dichloropropene	ND	1.0		µg/L	1	11/23/2013 1:08:15 AM	R15006
Hexachlorobutadiene	ND	1.0		µg/L	1	11/23/2013 1:08:15 AM	R15006
2-Hexanone	ND	10		µg/L	1	11/23/2013 1:08:15 AM	R15006
Isopropylbenzene	ND	1.0		µg/L	1	11/23/2013 1:08:15 AM	R15006
4-Isopropyltoluene	ND	1.0		µg/L	1	11/23/2013 1:08:15 AM	R15006
4-Methyl-2-pentanone	ND	10		µg/L	1	11/23/2013 1:08:15 AM	R15006
Methylene Chloride	ND	3.0		µg/L	1	11/23/2013 1:08:15 AM	R15006
n-Butylbenzene	ND	3.0		µg/L	1	11/23/2013 1:08:15 AM	R15006
n-Propylbenzene	ND	1.0		µg/L	1	11/23/2013 1:08:15 AM	R15006
sec-Butylbenzene	ND	1.0		µg/L	1	11/23/2013 1:08:15 AM	R15006
Styrene	ND	1.0		µg/L	1	11/23/2013 1:08:15 AM	R15006
tert-Butylbenzene	ND	1.0		µg/L	1	11/23/2013 1:08:15 AM	R15006
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	11/23/2013 1:08:15 AM	R15006
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	11/23/2013 1:08:15 AM	R15006
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	11/23/2013 1:08:15 AM	R15006
trans-1,2-DCE	ND	1.0		µg/L	1	11/23/2013 1:08:15 AM	R15006
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	11/23/2013 1:08:15 AM	R15006
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	11/23/2013 1:08:15 AM	R15006
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	11/23/2013 1:08:15 AM	R15006
1,1,1-Trichloroethane	ND	1.0		µg/L	1	11/23/2013 1:08:15 AM	R15006
1,1,2-Trichloroethane	ND	1.0		µg/L	1	11/23/2013 1:08:15 AM	R15006
Trichloroethene (TCE)	ND	1.0		µg/L	1	11/23/2013 1:08:15 AM	R15006
Trichlorofluoromethane	ND	1.0		µg/L	1	11/23/2013 1:08:15 AM	R15006
1,2,3-Trichloropropane	ND	2.0		µg/L	1	11/23/2013 1:08:15 AM	R15006
Vinyl chloride	ND	1.0		µg/L	1	11/23/2013 1:08:15 AM	R15006
Xylenes, Total	ND	1.5		µg/L	1	11/23/2013 1:08:15 AM	R15006
Surr: 1,2-Dichloroethane-d4	95.9	70-130		%REC	1	11/23/2013 1:08:15 AM	R15006
Surr: 4-Bromofluorobenzene	109	70-130		%REC	1	11/23/2013 1:08:15 AM	R15006
Surr: Dibromofluoromethane	99.6	70-130		%REC	1	11/23/2013 1:08:15 AM	R15006
Surr: Toluene-d8	99.8	70-130		%REC	1	11/23/2013 1:08:15 AM	R15006

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

Qualifiers:	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	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 for VOA and TOC only.
	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 1311912

Date Reported: 11/26/2013

CLIENT: Cypress Engineering

Client Sample ID: MW-40

Project: TWP Roswell Station 9

Collection Date: 11/15/2013 10:17:00 AM

Lab ID: 1311912-019

Matrix: AQUEOUS

Received Date: 11/20/2013 1:00:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES							Analyst: cadg
Benzene	ND	1.0		µg/L	1	11/23/2013 1:36:48 AM	R15006
Toluene	ND	1.0		µg/L	1	11/23/2013 1:36:48 AM	R15006
Ethylbenzene	ND	1.0		µg/L	1	11/23/2013 1:36:48 AM	R15006
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	11/23/2013 1:36:48 AM	R15006
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	11/23/2013 1:36:48 AM	R15006
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	11/23/2013 1:36:48 AM	R15006
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	11/23/2013 1:36:48 AM	R15006
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	11/23/2013 1:36:48 AM	R15006
Naphthalene	ND	2.0		µg/L	1	11/23/2013 1:36:48 AM	R15006
1-Methylnaphthalene	ND	4.0		µg/L	1	11/23/2013 1:36:48 AM	R15006
2-Methylnaphthalene	ND	4.0		µg/L	1	11/23/2013 1:36:48 AM	R15006
Acetone	ND	10		µg/L	1	11/23/2013 1:36:48 AM	R15006
Bromobenzene	ND	1.0		µg/L	1	11/23/2013 1:36:48 AM	R15006
Bromodichloromethane	ND	1.0		µg/L	1	11/23/2013 1:36:48 AM	R15006
Bromoform	ND	1.0		µg/L	1	11/23/2013 1:36:48 AM	R15006
Bromomethane	ND	3.0		µg/L	1	11/23/2013 1:36:48 AM	R15006
2-Butanone	ND	10		µg/L	1	11/23/2013 1:36:48 AM	R15006
Carbon disulfide	ND	10		µg/L	1	11/23/2013 1:36:48 AM	R15006
Carbon Tetrachloride	ND	1.0		µg/L	1	11/23/2013 1:36:48 AM	R15006
Chlorobenzene	ND	1.0		µg/L	1	11/23/2013 1:36:48 AM	R15006
Chloroethane	ND	2.0		µg/L	1	11/23/2013 1:36:48 AM	R15006
Chloroform	ND	1.0		µg/L	1	11/23/2013 1:36:48 AM	R15006
Chloromethane	ND	3.0		µg/L	1	11/23/2013 1:36:48 AM	R15006
2-Chlorotoluene	ND	1.0		µg/L	1	11/23/2013 1:36:48 AM	R15006
4-Chlorotoluene	ND	1.0		µg/L	1	11/23/2013 1:36:48 AM	R15006
cis-1,2-DCE	ND	1.0		µg/L	1	11/23/2013 1:36:48 AM	R15006
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	11/23/2013 1:36:48 AM	R15006
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	11/23/2013 1:36:48 AM	R15006
Dibromochloromethane	ND	1.0		µg/L	1	11/23/2013 1:36:48 AM	R15006
Dibromomethane	ND	1.0		µg/L	1	11/23/2013 1:36:48 AM	R15006
1,2-Dichlorobenzene	ND	1.0		µg/L	1	11/23/2013 1:36:48 AM	R15006
1,3-Dichlorobenzene	ND	1.0		µg/L	1	11/23/2013 1:36:48 AM	R15006
1,4-Dichlorobenzene	ND	1.0		µg/L	1	11/23/2013 1:36:48 AM	R15006
Dichlorodifluoromethane	ND	1.0		µg/L	1	11/23/2013 1:36:48 AM	R15006
1,1-Dichloroethane	ND	1.0		µg/L	1	11/23/2013 1:36:48 AM	R15006
1,1-Dichloroethene	ND	1.0		µg/L	1	11/23/2013 1:36:48 AM	R15006
1,2-Dichloropropane	ND	1.0		µg/L	1	11/23/2013 1:36:48 AM	R15006
1,3-Dichloropropane	ND	1.0		µg/L	1	11/23/2013 1:36:48 AM	R15006
2,2-Dichloropropane	ND	2.0		µg/L	1	11/23/2013 1:36:48 AM	R15006

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

Qualifiers:	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	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 for VOA and TOC only.
	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 1311912

Date Reported: 11/26/2013

CLIENT: Cypress Engineering

Client Sample ID: MW-40

Project: TWP Roswell Station 9

Collection Date: 11/15/2013 10:17:00 AM

Lab ID: 1311912-019

Matrix: AQUEOUS

Received Date: 11/20/2013 1:00:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES							Analyst: cadg
1,1-Dichloropropene	ND	1.0		µg/L	1	11/23/2013 1:36:48 AM	R15006
Hexachlorobutadiene	ND	1.0		µg/L	1	11/23/2013 1:36:48 AM	R15006
2-Hexanone	ND	10		µg/L	1	11/23/2013 1:36:48 AM	R15006
Isopropylbenzene	ND	1.0		µg/L	1	11/23/2013 1:36:48 AM	R15006
4-Isopropyltoluene	ND	1.0		µg/L	1	11/23/2013 1:36:48 AM	R15006
4-Methyl-2-pentanone	ND	10		µg/L	1	11/23/2013 1:36:48 AM	R15006
Methylene Chloride	ND	3.0		µg/L	1	11/23/2013 1:36:48 AM	R15006
n-Butylbenzene	ND	3.0		µg/L	1	11/23/2013 1:36:48 AM	R15006
n-Propylbenzene	ND	1.0		µg/L	1	11/23/2013 1:36:48 AM	R15006
sec-Butylbenzene	ND	1.0		µg/L	1	11/23/2013 1:36:48 AM	R15006
Styrene	ND	1.0		µg/L	1	11/23/2013 1:36:48 AM	R15006
tert-Butylbenzene	ND	1.0		µg/L	1	11/23/2013 1:36:48 AM	R15006
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	11/23/2013 1:36:48 AM	R15006
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	11/23/2013 1:36:48 AM	R15006
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	11/23/2013 1:36:48 AM	R15006
trans-1,2-DCE	ND	1.0		µg/L	1	11/23/2013 1:36:48 AM	R15006
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	11/23/2013 1:36:48 AM	R15006
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	11/23/2013 1:36:48 AM	R15006
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	11/23/2013 1:36:48 AM	R15006
1,1,1-Trichloroethane	ND	1.0		µg/L	1	11/23/2013 1:36:48 AM	R15006
1,1,2-Trichloroethane	ND	1.0		µg/L	1	11/23/2013 1:36:48 AM	R15006
Trichloroethene (TCE)	ND	1.0		µg/L	1	11/23/2013 1:36:48 AM	R15006
Trichlorofluoromethane	ND	1.0		µg/L	1	11/23/2013 1:36:48 AM	R15006
1,2,3-Trichloropropane	ND	2.0		µg/L	1	11/23/2013 1:36:48 AM	R15006
Vinyl chloride	ND	1.0		µg/L	1	11/23/2013 1:36:48 AM	R15006
Xylenes, Total	ND	1.5		µg/L	1	11/23/2013 1:36:48 AM	R15006
Surr: 1,2-Dichloroethane-d4	95.9	70-130		%REC	1	11/23/2013 1:36:48 AM	R15006
Surr: 4-Bromofluorobenzene	105	70-130		%REC	1	11/23/2013 1:36:48 AM	R15006
Surr: Dibromofluoromethane	100	70-130		%REC	1	11/23/2013 1:36:48 AM	R15006
Surr: Toluene-d8	98.3	70-130		%REC	1	11/23/2013 1:36:48 AM	R15006

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	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 for VOA and TOC only.
	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 1311912

Date Reported: 11/26/2013

CLIENT: Cypress Engineering

Client Sample ID: MW-41

Project: TWP Roswell Station 9

Collection Date: 11/15/2013 11:19:00 AM

Lab ID: 1311912-020

Matrix: AQUEOUS

Received Date: 11/20/2013 1:00:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES							Analyst: cadg
Benzene	ND	1.0		µg/L	1	11/23/2013 2:05:20 AM	R15006
Toluene	ND	1.0		µg/L	1	11/23/2013 2:05:20 AM	R15006
Ethylbenzene	ND	1.0		µg/L	1	11/23/2013 2:05:20 AM	R15006
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	11/23/2013 2:05:20 AM	R15006
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	11/23/2013 2:05:20 AM	R15006
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	11/23/2013 2:05:20 AM	R15006
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	11/23/2013 2:05:20 AM	R15006
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	11/23/2013 2:05:20 AM	R15006
Naphthalene	ND	2.0		µg/L	1	11/23/2013 2:05:20 AM	R15006
1-Methylnaphthalene	ND	4.0		µg/L	1	11/23/2013 2:05:20 AM	R15006
2-Methylnaphthalene	ND	4.0		µg/L	1	11/23/2013 2:05:20 AM	R15006
Acetone	ND	10		µg/L	1	11/23/2013 2:05:20 AM	R15006
Bromobenzene	ND	1.0		µg/L	1	11/23/2013 2:05:20 AM	R15006
Bromodichloromethane	ND	1.0		µg/L	1	11/23/2013 2:05:20 AM	R15006
Bromoform	ND	1.0		µg/L	1	11/23/2013 2:05:20 AM	R15006
Bromomethane	ND	3.0		µg/L	1	11/23/2013 2:05:20 AM	R15006
2-Butanone	ND	10		µg/L	1	11/23/2013 2:05:20 AM	R15006
Carbon disulfide	ND	10		µg/L	1	11/23/2013 2:05:20 AM	R15006
Carbon Tetrachloride	ND	1.0		µg/L	1	11/23/2013 2:05:20 AM	R15006
Chlorobenzene	ND	1.0		µg/L	1	11/23/2013 2:05:20 AM	R15006
Chloroethane	ND	2.0		µg/L	1	11/23/2013 2:05:20 AM	R15006
Chloroform	ND	1.0		µg/L	1	11/23/2013 2:05:20 AM	R15006
Chloromethane	ND	3.0		µg/L	1	11/23/2013 2:05:20 AM	R15006
2-Chlorotoluene	ND	1.0		µg/L	1	11/23/2013 2:05:20 AM	R15006
4-Chlorotoluene	ND	1.0		µg/L	1	11/23/2013 2:05:20 AM	R15006
cis-1,2-DCE	ND	1.0		µg/L	1	11/23/2013 2:05:20 AM	R15006
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	11/23/2013 2:05:20 AM	R15006
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	11/23/2013 2:05:20 AM	R15006
Dibromochloromethane	ND	1.0		µg/L	1	11/23/2013 2:05:20 AM	R15006
Dibromomethane	ND	1.0		µg/L	1	11/23/2013 2:05:20 AM	R15006
1,2-Dichlorobenzene	ND	1.0		µg/L	1	11/23/2013 2:05:20 AM	R15006
1,3-Dichlorobenzene	ND	1.0		µg/L	1	11/23/2013 2:05:20 AM	R15006
1,4-Dichlorobenzene	ND	1.0		µg/L	1	11/23/2013 2:05:20 AM	R15006
Dichlorodifluoromethane	ND	1.0		µg/L	1	11/23/2013 2:05:20 AM	R15006
1,1-Dichloroethane	ND	1.0		µg/L	1	11/23/2013 2:05:20 AM	R15006
1,1-Dichloroethene	ND	1.0		µg/L	1	11/23/2013 2:05:20 AM	R15006
1,2-Dichloropropane	ND	1.0		µg/L	1	11/23/2013 2:05:20 AM	R15006
1,3-Dichloropropane	ND	1.0		µg/L	1	11/23/2013 2:05:20 AM	R15006
2,2-Dichloropropane	ND	2.0		µg/L	1	11/23/2013 2:05:20 AM	R15006

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

Qualifiers:	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	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 for VOA and TOC only.
	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 1311912

Date Reported: 11/26/2013

CLIENT: Cypress Engineering

Client Sample ID: MW-41

Project: TWP Roswell Station 9

Collection Date: 11/15/2013 11:19:00 AM

Lab ID: 1311912-020

Matrix: AQUEOUS

Received Date: 11/20/2013 1:00:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES							Analyst: cadg
1,1-Dichloropropene	ND	1.0		µg/L	1	11/23/2013 2:05:20 AM	R15006
Hexachlorobutadiene	ND	1.0		µg/L	1	11/23/2013 2:05:20 AM	R15006
2-Hexanone	ND	10		µg/L	1	11/23/2013 2:05:20 AM	R15006
Isopropylbenzene	ND	1.0		µg/L	1	11/23/2013 2:05:20 AM	R15006
4-Isopropyltoluene	ND	1.0		µg/L	1	11/23/2013 2:05:20 AM	R15006
4-Methyl-2-pentanone	ND	10		µg/L	1	11/23/2013 2:05:20 AM	R15006
Methylene Chloride	ND	3.0		µg/L	1	11/23/2013 2:05:20 AM	R15006
n-Butylbenzene	ND	3.0		µg/L	1	11/23/2013 2:05:20 AM	R15006
n-Propylbenzene	ND	1.0		µg/L	1	11/23/2013 2:05:20 AM	R15006
sec-Butylbenzene	ND	1.0		µg/L	1	11/23/2013 2:05:20 AM	R15006
Styrene	ND	1.0		µg/L	1	11/23/2013 2:05:20 AM	R15006
tert-Butylbenzene	ND	1.0		µg/L	1	11/23/2013 2:05:20 AM	R15006
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	11/23/2013 2:05:20 AM	R15006
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	11/23/2013 2:05:20 AM	R15006
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	11/23/2013 2:05:20 AM	R15006
trans-1,2-DCE	ND	1.0		µg/L	1	11/23/2013 2:05:20 AM	R15006
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	11/23/2013 2:05:20 AM	R15006
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	11/23/2013 2:05:20 AM	R15006
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	11/23/2013 2:05:20 AM	R15006
1,1,1-Trichloroethane	ND	1.0		µg/L	1	11/23/2013 2:05:20 AM	R15006
1,1,2-Trichloroethane	ND	1.0		µg/L	1	11/23/2013 2:05:20 AM	R15006
Trichloroethene (TCE)	ND	1.0		µg/L	1	11/23/2013 2:05:20 AM	R15006
Trichlorofluoromethane	ND	1.0		µg/L	1	11/23/2013 2:05:20 AM	R15006
1,2,3-Trichloropropane	ND	2.0		µg/L	1	11/23/2013 2:05:20 AM	R15006
Vinyl chloride	ND	1.0		µg/L	1	11/23/2013 2:05:20 AM	R15006
Xylenes, Total	ND	1.5		µg/L	1	11/23/2013 2:05:20 AM	R15006
Surr: 1,2-Dichloroethane-d4	98.2	70-130		%REC	1	11/23/2013 2:05:20 AM	R15006
Surr: 4-Bromofluorobenzene	99.8	70-130		%REC	1	11/23/2013 2:05:20 AM	R15006
Surr: Dibromofluoromethane	100	70-130		%REC	1	11/23/2013 2:05:20 AM	R15006
Surr: Toluene-d8	102	70-130		%REC	1	11/23/2013 2:05:20 AM	R15006

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

Qualifiers:	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	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 for VOA and TOC only.
	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 1311912

Date Reported: 11/26/2013

CLIENT: Cypress Engineering

Client Sample ID: MW-42

Project: TWP Roswell Station 9

Collection Date: 11/15/2013 9:16:00 AM

Lab ID: 1311912-021

Matrix: AQUEOUS

Received Date: 11/20/2013 1:00:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES							Analyst: cadg
Benzene	ND	1.0		µg/L	1	11/23/2013 2:33:52 AM	R15006
Toluene	ND	1.0		µg/L	1	11/23/2013 2:33:52 AM	R15006
Ethylbenzene	ND	1.0		µg/L	1	11/23/2013 2:33:52 AM	R15006
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	11/23/2013 2:33:52 AM	R15006
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	11/23/2013 2:33:52 AM	R15006
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	11/23/2013 2:33:52 AM	R15006
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	11/23/2013 2:33:52 AM	R15006
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	11/23/2013 2:33:52 AM	R15006
Naphthalene	ND	2.0		µg/L	1	11/23/2013 2:33:52 AM	R15006
1-Methylnaphthalene	ND	4.0		µg/L	1	11/23/2013 2:33:52 AM	R15006
2-Methylnaphthalene	ND	4.0		µg/L	1	11/23/2013 2:33:52 AM	R15006
Acetone	ND	10		µg/L	1	11/23/2013 2:33:52 AM	R15006
Bromobenzene	ND	1.0		µg/L	1	11/23/2013 2:33:52 AM	R15006
Bromodichloromethane	ND	1.0		µg/L	1	11/23/2013 2:33:52 AM	R15006
Bromoform	ND	1.0		µg/L	1	11/23/2013 2:33:52 AM	R15006
Bromomethane	ND	3.0		µg/L	1	11/23/2013 2:33:52 AM	R15006
2-Butanone	ND	10		µg/L	1	11/23/2013 2:33:52 AM	R15006
Carbon disulfide	ND	10		µg/L	1	11/23/2013 2:33:52 AM	R15006
Carbon Tetrachloride	ND	1.0		µg/L	1	11/23/2013 2:33:52 AM	R15006
Chlorobenzene	ND	1.0		µg/L	1	11/23/2013 2:33:52 AM	R15006
Chloroethane	ND	2.0		µg/L	1	11/23/2013 2:33:52 AM	R15006
Chloroform	ND	1.0		µg/L	1	11/23/2013 2:33:52 AM	R15006
Chloromethane	ND	3.0		µg/L	1	11/23/2013 2:33:52 AM	R15006
2-Chlorotoluene	ND	1.0		µg/L	1	11/23/2013 2:33:52 AM	R15006
4-Chlorotoluene	ND	1.0		µg/L	1	11/23/2013 2:33:52 AM	R15006
cis-1,2-DCE	ND	1.0		µg/L	1	11/23/2013 2:33:52 AM	R15006
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	11/23/2013 2:33:52 AM	R15006
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	11/23/2013 2:33:52 AM	R15006
Dibromochloromethane	ND	1.0		µg/L	1	11/23/2013 2:33:52 AM	R15006
Dibromomethane	ND	1.0		µg/L	1	11/23/2013 2:33:52 AM	R15006
1,2-Dichlorobenzene	ND	1.0		µg/L	1	11/23/2013 2:33:52 AM	R15006
1,3-Dichlorobenzene	ND	1.0		µg/L	1	11/23/2013 2:33:52 AM	R15006
1,4-Dichlorobenzene	ND	1.0		µg/L	1	11/23/2013 2:33:52 AM	R15006
Dichlorodifluoromethane	ND	1.0		µg/L	1	11/23/2013 2:33:52 AM	R15006
1,1-Dichloroethane	ND	1.0		µg/L	1	11/23/2013 2:33:52 AM	R15006
1,1-Dichloroethene	ND	1.0		µg/L	1	11/23/2013 2:33:52 AM	R15006
1,2-Dichloropropane	ND	1.0		µg/L	1	11/23/2013 2:33:52 AM	R15006
1,3-Dichloropropane	ND	1.0		µg/L	1	11/23/2013 2:33:52 AM	R15006
2,2-Dichloropropane	ND	2.0		µg/L	1	11/23/2013 2:33:52 AM	R15006

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	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 for VOA and TOC only.
	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 1311912

Date Reported: 11/26/2013

CLIENT: Cypress Engineering

Client Sample ID: MW-42

Project: TWP Roswell Station 9

Collection Date: 11/15/2013 9:16:00 AM

Lab ID: 1311912-021

Matrix: AQUEOUS

Received Date: 11/20/2013 1:00:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES							Analyst: cadg
1,1-Dichloropropene	ND	1.0		µg/L	1	11/23/2013 2:33:52 AM	R15006
Hexachlorobutadiene	ND	1.0		µg/L	1	11/23/2013 2:33:52 AM	R15006
2-Hexanone	ND	10		µg/L	1	11/23/2013 2:33:52 AM	R15006
Isopropylbenzene	ND	1.0		µg/L	1	11/23/2013 2:33:52 AM	R15006
4-Isopropyltoluene	ND	1.0		µg/L	1	11/23/2013 2:33:52 AM	R15006
4-Methyl-2-pentanone	ND	10		µg/L	1	11/23/2013 2:33:52 AM	R15006
Methylene Chloride	ND	3.0		µg/L	1	11/23/2013 2:33:52 AM	R15006
n-Butylbenzene	ND	3.0		µg/L	1	11/23/2013 2:33:52 AM	R15006
n-Propylbenzene	ND	1.0		µg/L	1	11/23/2013 2:33:52 AM	R15006
sec-Butylbenzene	ND	1.0		µg/L	1	11/23/2013 2:33:52 AM	R15006
Styrene	ND	1.0		µg/L	1	11/23/2013 2:33:52 AM	R15006
tert-Butylbenzene	ND	1.0		µg/L	1	11/23/2013 2:33:52 AM	R15006
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	11/23/2013 2:33:52 AM	R15006
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	11/23/2013 2:33:52 AM	R15006
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	11/23/2013 2:33:52 AM	R15006
trans-1,2-DCE	ND	1.0		µg/L	1	11/23/2013 2:33:52 AM	R15006
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	11/23/2013 2:33:52 AM	R15006
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	11/23/2013 2:33:52 AM	R15006
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	11/23/2013 2:33:52 AM	R15006
1,1,1-Trichloroethane	ND	1.0		µg/L	1	11/23/2013 2:33:52 AM	R15006
1,1,2-Trichloroethane	ND	1.0		µg/L	1	11/23/2013 2:33:52 AM	R15006
Trichloroethene (TCE)	ND	1.0		µg/L	1	11/23/2013 2:33:52 AM	R15006
Trichlorofluoromethane	ND	1.0		µg/L	1	11/23/2013 2:33:52 AM	R15006
1,2,3-Trichloropropane	ND	2.0		µg/L	1	11/23/2013 2:33:52 AM	R15006
Vinyl chloride	ND	1.0		µg/L	1	11/23/2013 2:33:52 AM	R15006
Xylenes, Total	ND	1.5		µg/L	1	11/23/2013 2:33:52 AM	R15006
Surr: 1,2-Dichloroethane-d4	98.9	70-130		%REC	1	11/23/2013 2:33:52 AM	R15006
Surr: 4-Bromofluorobenzene	101	70-130		%REC	1	11/23/2013 2:33:52 AM	R15006
Surr: Dibromofluoromethane	100	70-130		%REC	1	11/23/2013 2:33:52 AM	R15006
Surr: Toluene-d8	95.4	70-130		%REC	1	11/23/2013 2:33:52 AM	R15006

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 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 for VOA and TOC only.
RL	Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1311912

Date Reported: 11/26/2013

CLIENT: Cypress Engineering

Client Sample ID: Trip Blank

Project: TWP Roswell Station 9

Collection Date:

Lab ID: 1311912-022

Matrix: TRIP BLANK

Received Date: 11/20/2013 1:00:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES							Analyst: cadg
Benzene	ND	1.0		µg/L	1	11/23/2013 3:59:26 AM	R15006
Toluene	ND	1.0		µg/L	1	11/23/2013 3:59:26 AM	R15006
Ethylbenzene	ND	1.0		µg/L	1	11/23/2013 3:59:26 AM	R15006
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	11/23/2013 3:59:26 AM	R15006
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	11/23/2013 3:59:26 AM	R15006
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	11/23/2013 3:59:26 AM	R15006
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	11/23/2013 3:59:26 AM	R15006
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	11/23/2013 3:59:26 AM	R15006
Naphthalene	ND	2.0		µg/L	1	11/23/2013 3:59:26 AM	R15006
1-Methylnaphthalene	ND	4.0		µg/L	1	11/23/2013 3:59:26 AM	R15006
2-Methylnaphthalene	ND	4.0		µg/L	1	11/23/2013 3:59:26 AM	R15006
Acetone	ND	10		µg/L	1	11/23/2013 3:59:26 AM	R15006
Bromobenzene	ND	1.0		µg/L	1	11/23/2013 3:59:26 AM	R15006
Bromodichloromethane	ND	1.0		µg/L	1	11/23/2013 3:59:26 AM	R15006
Bromoform	ND	1.0		µg/L	1	11/23/2013 3:59:26 AM	R15006
Bromomethane	ND	3.0		µg/L	1	11/23/2013 3:59:26 AM	R15006
2-Butanone	ND	10		µg/L	1	11/23/2013 3:59:26 AM	R15006
Carbon disulfide	ND	10		µg/L	1	11/23/2013 3:59:26 AM	R15006
Carbon Tetrachloride	ND	1.0		µg/L	1	11/23/2013 3:59:26 AM	R15006
Chlorobenzene	ND	1.0		µg/L	1	11/23/2013 3:59:26 AM	R15006
Chloroethane	ND	2.0		µg/L	1	11/23/2013 3:59:26 AM	R15006
Chloroform	ND	1.0		µg/L	1	11/23/2013 3:59:26 AM	R15006
Chloromethane	ND	3.0		µg/L	1	11/23/2013 3:59:26 AM	R15006
2-Chlorotoluene	ND	1.0		µg/L	1	11/23/2013 3:59:26 AM	R15006
4-Chlorotoluene	ND	1.0		µg/L	1	11/23/2013 3:59:26 AM	R15006
cis-1,2-DCE	ND	1.0		µg/L	1	11/23/2013 3:59:26 AM	R15006
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	11/23/2013 3:59:26 AM	R15006
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	11/23/2013 3:59:26 AM	R15006
Dibromochloromethane	ND	1.0		µg/L	1	11/23/2013 3:59:26 AM	R15006
Dibromomethane	ND	1.0		µg/L	1	11/23/2013 3:59:26 AM	R15006
1,2-Dichlorobenzene	ND	1.0		µg/L	1	11/23/2013 3:59:26 AM	R15006
1,3-Dichlorobenzene	ND	1.0		µg/L	1	11/23/2013 3:59:26 AM	R15006
1,4-Dichlorobenzene	ND	1.0		µg/L	1	11/23/2013 3:59:26 AM	R15006
Dichlorodifluoromethane	ND	1.0		µg/L	1	11/23/2013 3:59:26 AM	R15006
1,1-Dichloroethane	ND	1.0		µg/L	1	11/23/2013 3:59:26 AM	R15006
1,1-Dichloroethene	ND	1.0		µg/L	1	11/23/2013 3:59:26 AM	R15006
1,2-Dichloropropane	ND	1.0		µg/L	1	11/23/2013 3:59:26 AM	R15006
1,3-Dichloropropane	ND	1.0		µg/L	1	11/23/2013 3:59:26 AM	R15006
2,2-Dichloropropane	ND	2.0		µg/L	1	11/23/2013 3:59:26 AM	R15006

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

Qualifiers:	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	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 for VOA and TOC only.
	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 1311912

Date Reported: 11/26/2013

CLIENT: Cypress Engineering

Client Sample ID: Trip Blank

Project: TWP Roswell Station 9

Collection Date:

Lab ID: 1311912-022

Matrix: TRIP BLANK

Received Date: 11/20/2013 1:00:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES							Analyst: cadg
1,1-Dichloropropene	ND	1.0		µg/L	1	11/23/2013 3:59:26 AM	R15006
Hexachlorobutadiene	ND	1.0		µg/L	1	11/23/2013 3:59:26 AM	R15006
2-Hexanone	ND	10		µg/L	1	11/23/2013 3:59:26 AM	R15006
Isopropylbenzene	ND	1.0		µg/L	1	11/23/2013 3:59:26 AM	R15006
4-Isopropyltoluene	ND	1.0		µg/L	1	11/23/2013 3:59:26 AM	R15006
4-Methyl-2-pentanone	ND	10		µg/L	1	11/23/2013 3:59:26 AM	R15006
Methylene Chloride	ND	3.0		µg/L	1	11/23/2013 3:59:26 AM	R15006
n-Butylbenzene	ND	3.0		µg/L	1	11/23/2013 3:59:26 AM	R15006
n-Propylbenzene	ND	1.0		µg/L	1	11/23/2013 3:59:26 AM	R15006
sec-Butylbenzene	ND	1.0		µg/L	1	11/23/2013 3:59:26 AM	R15006
Styrene	ND	1.0		µg/L	1	11/23/2013 3:59:26 AM	R15006
tert-Butylbenzene	ND	1.0		µg/L	1	11/23/2013 3:59:26 AM	R15006
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	11/23/2013 3:59:26 AM	R15006
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	11/23/2013 3:59:26 AM	R15006
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	11/23/2013 3:59:26 AM	R15006
trans-1,2-DCE	ND	1.0		µg/L	1	11/23/2013 3:59:26 AM	R15006
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	11/23/2013 3:59:26 AM	R15006
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	11/23/2013 3:59:26 AM	R15006
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	11/23/2013 3:59:26 AM	R15006
1,1,1-Trichloroethane	ND	1.0		µg/L	1	11/23/2013 3:59:26 AM	R15006
1,1,2-Trichloroethane	ND	1.0		µg/L	1	11/23/2013 3:59:26 AM	R15006
Trichloroethene (TCE)	ND	1.0		µg/L	1	11/23/2013 3:59:26 AM	R15006
Trichlorofluoromethane	ND	1.0		µg/L	1	11/23/2013 3:59:26 AM	R15006
1,2,3-Trichloropropane	ND	2.0		µg/L	1	11/23/2013 3:59:26 AM	R15006
Vinyl chloride	ND	1.0		µg/L	1	11/23/2013 3:59:26 AM	R15006
Xylenes, Total	ND	1.5		µg/L	1	11/23/2013 3:59:26 AM	R15006
Surr: 1,2-Dichloroethane-d4	93.9	70-130		%REC	1	11/23/2013 3:59:26 AM	R15006
Surr: 4-Bromofluorobenzene	109	70-130		%REC	1	11/23/2013 3:59:26 AM	R15006
Surr: Dibromofluoromethane	101	70-130		%REC	1	11/23/2013 3:59:26 AM	R15006
Surr: Toluene-d8	99.3	70-130		%REC	1	11/23/2013 3:59:26 AM	R15006

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

Qualifiers:	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	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 for VOA and TOC only.
	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#: 1311912

26-Nov-13

Client: Cypress Engineering
Project: TWP Roswell Station 9

Sample ID	5mL rb	SampType:	MBLK	TestCode:	EPA Method 8260: Volatiles Short List					
Client ID:	PBW	Batch ID:	R15006	RunNo:	15006					
Prep Date:		Analysis Date:	11/22/2013	SeqNo:	433191	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								
Xylenes, Total	ND	2.0								
Surr: 1,2-Dichloroethane-d4	10		10.00		103	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		98.7	70	130			

Sample ID	100ng lcs	SampType:	LCS	TestCode:	EPA Method 8260: Volatiles Short List					
Client ID:	LCSW	Batch ID:	R15006	RunNo:	15006					
Prep Date:		Analysis Date:	11/22/2013	SeqNo:	433207	Units:	µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	20	1.0	20.00	0	101	70	130			
Toluene	19	1.0	20.00	0	97.1	82.2	124			
Surr: 1,2-Dichloroethane-d4	9.8		10.00		97.5	70	130			
Surr: 4-Bromofluorobenzene	11		10.00		107	70	130			
Surr: Dibromofluoromethane	10		10.00		102	70	130			
Surr: Toluene-d8	10		10.00		103	70	130			

Sample ID	1311912-001a ms	SampType:	MS	TestCode:	EPA Method 8260: Volatiles Short List					
Client ID:	MW-13	Batch ID:	R15006	RunNo:	15006					
Prep Date:		Analysis Date:	11/22/2013	SeqNo:	433209	Units:	µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	20	1.0	20.00	0	100	67.9	137			
Toluene	19	1.0	20.00	0	94.9	77	127			
Surr: 1,2-Dichloroethane-d4	9.8		10.00		97.9	70	130			
Surr: 4-Bromofluorobenzene	11		10.00		111	70	130			
Surr: Dibromofluoromethane	10		10.00		104	70	130			
Surr: Toluene-d8	10		10.00		101	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 for VOA and TOC only. |
| 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#: 1311912

26-Nov-13

Client: Cypress Engineering
Project: TWP Roswell Station 9

Sample ID	1311912-001a msd		SampType:	MSD		TestCode:	EPA Method 8260: Volatiles Short List				
Client ID:	MW-13		Batch ID:	R15006		RunNo:	15006				
Prep Date:			Analysis Date:	11/22/2013		SeqNo:	433210		Units:	µg/L	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Benzene	19	1.0	20.00	0	95.8	67.9	137	4.58	20		
Toluene	18	1.0	20.00	0	89.6	77	127	5.75	20		
Surr: 1,2-Dichloroethane-d4	10		10.00		100	70	130	0	0		
Surr: 4-Bromofluorobenzene	11		10.00		112	70	130	0	0		
Surr: Dibromofluoromethane	10		10.00		102	70	130	0	0		
Surr: Toluene-d8	10		10.00		100	70	130	0	0		

Sample ID	5mL rb	SampType: MBLK			TestCode: EPA Method 8260: Volatiles Short List					
Client ID:	PBW	Batch ID: R15020			RunNo: 15020					
Prep Date:		Analysis Date: 11/23/2013			SeqNo: 433713		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								
Xylenes, Total	ND	2.0								
Surr: 1,2-Dichloroethane-d4	9.9		10.00		99.1	70	130			
Surr: 4-Bromofluorobenzene	9.6		10.00		95.8	70	130			
Surr: Dibromofluoromethane	9.9		10.00		99.4	70	130			
Surr: Toluene-d8	9.3		10.00		92.8	70	130			

Sample ID	100ng lcs		SampType: LCS		TestCode: EPA Method 8260: Volatiles Short List					
Client ID:	LCSW		Batch ID: R15020		RunNo: 15020					
Prep Date:			Analysis Date: 11/23/2013		SeqNo: 433714		Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	20	1.0	20.00	0	100	70	130			
Toluene	19	1.0	20.00	0	96.4	82.2	124			
Surr: 1,2-Dichloroethane-d4	9.6		10.00		96.3	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		105	70	130			
Surr: Dibromofluoromethane	10		10.00		103	70	130			
Surr: Toluene-d8	9.8		10.00		97.9	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 for VOA and TOC only. |
| 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#: 1311912

26-Nov-13

Client: Cypress Engineering
Project: TWP Roswell Station 9

Sample ID	5mL rb	SampType:	MBLK	TestCode:	EPA Method 8260B: VOLATILES					
Client ID:	PBW	Batch ID:	R15006	RunNo:	15006					
Prep Date:		Analysis Date:	11/22/2013	SeqNo:	433141	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 greater than 2 for VOA and TOC only.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1311912

26-Nov-13

Client: Cypress Engineering
Project: TWP Roswell Station 9

Sample ID	5mL rb	SampType:	MBLK	TestCode:	EPA Method 8260B: VOLATILES					
Client ID:	PBW	Batch ID:	R15006	RunNo:	15006					
Prep Date:		Analysis Date:	11/22/2013	SeqNo:	433141	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	11		10.00		106	70	130			
Surr: Dibromofluoromethane	10		10.00		104	70	130			
Surr: Toluene-d8	9.9		10.00		98.7	70	130			

Sample ID	100ng lcs	SampType:	LCS	TestCode:	EPA Method 8260B: VOLATILES					
Client ID:	LCSW	Batch ID:	R15006	RunNo:	15006					
Prep Date:		Analysis Date:	11/22/2013	SeqNo:	433144	Units:	µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	20	1.0	20.00	0	101	70	130			
Toluene	19	1.0	20.00	0	97.1	82.2	124			
Chlorobenzene	18	1.0	20.00	0	90.5	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 for VOA and TOC only.
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#: 1311912

26-Nov-13

Client: Cypress Engineering
Project: TWP Roswell Station 9

Sample ID 100ng lcs	SampType: LCS			TestCode: EPA Method 8260B: VOLATILES						
Client ID: LCSW	Batch ID: R15006			RunNo: 15006						
Prep Date:	Analysis Date: 11/22/2013			SeqNo: 433144		Units: µg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1-Dichloroethene	22	1.0	20.00	0	111	83.5	155			
Trichloroethene (TCE)	17	1.0	20.00	0	84.9	70	130			
Surr: 1,2-Dichloroethane-d4	9.8		10.00		97.5	70	130			
Surr: 4-Bromofluorobenzene	11		10.00		107	70	130			
Surr: Dibromofluoromethane	10		10.00		102	70	130			
Surr: Toluene-d8	10		10.00		103	70	130			

Sample ID b5	SampType: MBLK			TestCode: EPA Method 8260B: VOLATILES						
Client ID: PBW	Batch ID: R15006			RunNo: 15006						
Prep Date:	Analysis Date: 11/22/2013			SeqNo: 433169		Units: µg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Methyl tert-butyl ether (MTBE)	ND	1.0								
1,2,4-Trimethylbenzene	ND	1.0								
1,3,5-Trimethylbenzene	ND	1.0								
1,2-Dichloroethane (EDC)	ND	1.0								
1,2-Dibromoethane (EDB)	ND	1.0								
Naphthalene	ND	2.0								
1-Methylnaphthalene	ND	4.0								
2-Methylnaphthalene	ND	4.0								
Acetone	ND	10								
Bromobenzene	ND	1.0								
Bromodichloromethane	ND	1.0								
Bromoform	ND	1.0								
Bromomethane	ND	3.0								
2-Butanone	ND	10								
Carbon disulfide	ND	10								
Carbon Tetrachloride	ND	1.0								
Chlorobenzene	ND	1.0								
Chloroethane	ND	2.0								
Chloroform	ND	1.0								
Chloromethane	ND	3.0								
2-Chlorotoluene	ND	1.0								
4-Chlorotoluene	ND	1.0								
cis-1,2-DCE	ND	1.0								
cis-1,3-Dichloropropene	ND	1.0								

Qualifiers:

* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
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 for VOA and TOC only.
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#: 1311912

26-Nov-13

Client: Cypress Engineering
Project: TWP Roswell Station 9

Sample ID b5	SampType: MBLK			TestCode: EPA Method 8260B: VOLATILES						
Client ID: PBW	Batch ID: R15006			RunNo: 15006						
Prep Date:	Analysis Date: 11/22/2013			SeqNo: 433169		Units: µg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2-Dibromo-3-chloropropane	ND	2.0								
Dibromochloromethane	ND	1.0								
Dibromomethane	ND	1.0								
1,2-Dichlorobenzene	ND	1.0								
1,3-Dichlorobenzene	ND	1.0								
1,4-Dichlorobenzene	ND	1.0								
Dichlorodifluoromethane	ND	1.0								
1,1-Dichloroethane	ND	1.0								
1,1-Dichloroethene	ND	1.0								
1,2-Dichloropropane	ND	1.0								
1,3-Dichloropropane	ND	1.0								
2,2-Dichloropropane	ND	2.0								
1,1-Dichloropropene	ND	1.0								
Hexachlorobutadiene	ND	1.0								
2-Hexanone	ND	10								
Isopropylbenzene	ND	1.0								
4-Isopropyltoluene	ND	1.0								
4-Methyl-2-pentanone	ND	10								
Methylene Chloride	ND	3.0								
n-Butylbenzene	ND	3.0								
n-Propylbenzene	ND	1.0								
sec-Butylbenzene	ND	1.0								
Styrene	ND	1.0								
tert-Butylbenzene	ND	1.0								
1,1,1,2-Tetrachloroethane	ND	1.0								
1,1,2,2-Tetrachloroethane	ND	2.0								
Tetrachloroethene (PCE)	ND	1.0								
trans-1,2-DCE	ND	1.0								
trans-1,3-Dichloropropene	ND	1.0								
1,2,3-Trichlorobenzene	ND	1.0								
1,2,4-Trichlorobenzene	ND	1.0								
1,1,1-Trichloroethane	ND	1.0								
1,1,2-Trichloroethane	ND	1.0								
Trichloroethene (TCE)	ND	1.0								
Trichlorofluoromethane	ND	1.0								
1,2,3-Trichloropropane	ND	2.0								
Vinyl chloride	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	10		10.00		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 for VOA and TOC only.
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#: 1311912

26-Nov-13

Client: Cypress Engineering
Project: TWP Roswell Station 9

Sample ID b5	SampType: MBLK			TestCode: EPA Method 8260B: VOLATILES						
Client ID: PBW	Batch ID: R15006			RunNo: 15006						
Prep Date:	Analysis Date: 11/22/2013			SeqNo: 433169		Units: µg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	10		10.00		103	70	130			
Surr: Dibromofluoromethane	10		10.00		103	70	130			
Surr: Toluene-d8	9.7		10.00		97.2	70	130			

Sample ID 100ng lcs 2	SampType: LCS			TestCode: EPA Method 8260B: VOLATILES						
Client ID: LCSW	Batch ID: R15006			RunNo: 15006						
Prep Date:	Analysis Date: 11/22/2013			SeqNo: 433173		Units: µg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	20	1.0	20.00	0	99.4	70	130			
Toluene	19	1.0	20.00	0	94.3	82.2	124			
Chlorobenzene	18	1.0	20.00	0	89.2	70	130			
1,1-Dichloroethene	22	1.0	20.00	0	112	83.5	155			
Trichloroethene (TCE)	17	1.0	20.00	0	85.4	70	130			
Surr: 1,2-Dichloroethane-d4	9.7		10.00		96.8	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		105	70	130			
Surr: Dibromofluoromethane	10		10.00		102	70	130			
Surr: Toluene-d8	9.6		10.00		96.1	70	130			

Sample ID 1311912-021a ms	SampType: MS			TestCode: EPA Method 8260B: VOLATILES						
Client ID: MW-42	Batch ID: R15006			RunNo: 15006						
Prep Date:	Analysis Date: 11/23/2013			SeqNo: 433176		Units: µg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	20	1.0	20.00	0	98.3	67.9	137			
Toluene	19	1.0	20.00	0	95.8	77	127			
Chlorobenzene	18	1.0	20.00	0	90.4	70	130			
1,1-Dichloroethene	22	1.0	20.00	0	110	66.5	131			
Trichloroethene (TCE)	17	1.0	20.00	0	85.4	66.3	134			
Surr: 1,2-Dichloroethane-d4	9.5		10.00		95.5	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		102	70	130			
Surr: Dibromofluoromethane	9.9		10.00		99.3	70	130			
Surr: Toluene-d8	10		10.00		102	70	130			

Sample ID 1311912-021a msd	SampType: MSD			TestCode: EPA Method 8260B: VOLATILES						
Client ID: MW-42	Batch ID: R15006			RunNo: 15006						
Prep Date:	Analysis Date: 11/23/2013			SeqNo: 433177		Units: µg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	19	1.0	20.00	0	97.0	67.9	137	1.30	20	

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 for VOA and TOC only. |
| 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#: 1311912

26-Nov-13

Client: Cypress Engineering
Project: TWP Roswell Station 9

Sample ID	1311912-021a msd			SampType:	MSD		TestCode:	EPA Method 8260B: VOLATILES			
Client ID:	MW-42		Batch ID:	R15006		RunNo:	15006				
Prep Date:			Analysis Date:	11/23/2013		SeqNo:	433177		Units:	µg/L	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Toluene	18	1.0	20.00	0	91.1	77	127	5.01	20		
Chlorobenzene	18	1.0	20.00	0	88.6	70	130	2.00	20		
1,1-Dichloroethene	21	1.0	20.00	0	107	66.5	131	2.51	20		
Trichloroethene (TCE)	16	1.0	20.00	0	82.3	66.3	134	3.70	20		
Surr: 1,2-Dichloroethane-d4	9.5		10.00		95.4	70	130	0	0		
Surr: 4-Bromofluorobenzene	10		10.00		102	70	130	0	0		
Surr: Dibromofluoromethane	9.7		10.00		97.0	70	130	0	0		
Surr: Toluene-d8	9.8		10.00		97.9	70	130	0	0		

Sample ID	5mL rb	SampType: MBLK			TestCode: EPA Method 8260B: VOLATILES					
Client ID:	PBW	Batch ID: R15020			RunNo: 15020					
Prep Date:		Analysis Date: 11/23/2013			SeqNo: 433673		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								
Tetrachloroethene (PCE)	ND	1.0								
Trichloroethene (TCE)	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	9.9		10.00		99.1	70	130			
Surr: 4-Bromofluorobenzene	9.6		10.00		95.8	70	130			
Surr: Dibromofluoromethane	9.9		10.00		99.4	70	130			
Surr: Toluene-d8	9.3		10.00		92.8	70	130			

Sample ID	100ng lcs	SampType: LCS			TestCode: EPA Method 8260B: VOLATILES					
Client ID:	LCSW	Batch ID: R15020			RunNo: 15020					
Prep Date:	Analysis Date: 11/23/2013			SeqNo: 433675		Units: µg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	20	1.0	20.00	0	100	70	130			
Toluene	19	1.0	20.00	0	96.4	82.2	124			
Trichloroethene (TCE)	18	1.0	20.00	0	90.4	70	130			
Surr: 1,2-Dichloroethane-d4	9.6		10.00		96.3	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		105	70	130			
Surr: Dibromofluoromethane	10		10.00		103	70	130			
Surr: Toluene-d8	9.8		10.00		97.9	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 for VOA and TOC only. |
| 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#: 1311912

26-Nov-13

Client: Cypress Engineering
Project: TWP Roswell Station 9

Sample ID b5	SampType: MBLK		TestCode: EPA Method 8260B: VOLATILES							
Client ID: PBW	Batch ID: R15020		RunNo: 15020							
Prep Date:	Analysis Date: 11/23/2013		SeqNo: 433703		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								
Tetrachloroethene (PCE)	ND	1.0								
Trichloroethene (TCE)	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	9.6		10.00		95.6	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		104	70	130			
Surr: Dibromofluoromethane	9.9		10.00		99.3	70	130			
Surr: Toluene-d8	10		10.00		99.7	70	130			

Sample ID 100ng lcs 2	SampType: LCS		TestCode: EPA Method 8260B: VOLATILES							
Client ID: LCSW	Batch ID: R15020		RunNo: 15020							
Prep Date:	Analysis Date: 11/24/2013		SeqNo: 433705		Units: µg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	20	1.0	20.00	0	98.4	70	130			
Toluene	19	1.0	20.00	0	95.6	82.2	124			
Trichloroethene (TCE)	17	1.0	20.00	0	87.3	70	130			
Surr: 1,2-Dichloroethane-d4	9.6		10.00		96.4	70	130			
Surr: 4-Bromofluorobenzene	11		10.00		105	70	130			
Surr: Dibromofluoromethane	9.5		10.00		94.5	70	130			
Surr: Toluene-d8	9.7		10.00		97.3	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 for VOA and TOC only.
R RPD outside accepted recovery limits	RL Reporting Detection Limit
S Spike Recovery outside accepted recovery limits	

Sample Log-In Check List

Client Name: CYP

Work Order Number: 1311912

RcptNo: 1

Received by/date:

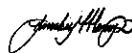
AG

11/20/13

Logged By:

Lindsay Mangin

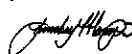
11/20/2013 1:00:00 PM



Completed By:

Lindsay Mangin

11/21/2013 6:39:50 AM



Reviewed By:

IO

11/21/2013

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? UPS

Log In

4. Was an attempt made to cool the samples? Yes ☒ No ☐ NA ☐
5. Were all samples received at a temperature of $>0^{\circ}\text{C}$ 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?
(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: _____
(<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 $^{\circ}\text{C}$	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.4	Good	Yes			

Chain-of-Custody Record

Client: Cypress Engineering Services, Inc.
 Mailing Address: ATTN: George Robinson, PE
111 Highway 6 North Suite 102
Houston, Texas 77045
 Phone #: 281.797.3420
 email or Fax: 281.859.1861

QA/QC Package:
☒ Standard ☐ Level 4 (Full Validation)
 Accreditation
☐ NELAP ☐ Other _____
☐ EDD (Type) _____

Date	Time	Matrix	Sample Request ID
1/18/13	14:06	H ₂ O	MW-13
1/18/13	11:35		MW-14
1/18/13	14:55		MW-16
1/18/13	10:34		MW-20
1/18/13	12:33		MW-21
1/18/13	11:08		MW-22
1/18/13	12:33		MW-21 Duplicate
1/18/13	15:35		MW-24D
1/15/13	1629		MW-26
1/15/13	1629		MW-26 Duplicate
1/14/13	1651		MW-29
1/14/13	1558		MW-32

Date: 1/19/13 Time: 1500
 Relinquished by: [Signature]
 Date: 1/19/13 Time: 1500
 Relinquished by: [Signature]

Turn-Around Time:

Standard ☐ Rush ☐

Project Name: TWP Roswell Station 9
 Project #: 2013 GW Monitoring
TWP Roswell Station 9

Project Manager: George Robinson, PE

Sampler: CM Barnhill, PE

On Ice: ☒ Yes ☐ No

Sample Temperature: 1.4

Container Type and # 3x40m Van's
 Preservative Type Hel
 HEAL No. B11912

-001
-002
-003
-004
-005
-006
-007
-008
-009
-010
-011
-012

Received by: [Signature] Date: 1/20/13 Time: 1300
 Received by: [Signature] Date: 1/20/13 Time: 1300



HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Analysis Request

BTEX + MTBE + TMB's (8021)	
BTEX + MTBE + TPH (Gas only)	
TPH 8015B (GRO / DRO / MRO)	
TPH (Method 418.1)	
EDB (Method 504.1)	
PAH's (8310 or 8270 SIMS)	
RCRA 8 Metals	
Anions (F ₂ , Cl ₂ , NO ₃ , NO ₂ , PO ₄ , SO ₄)	
8081 Pesticides / 8082 PCB's	
8260B (VOA)	
8270 (Semi-VOA)	
8260 BTEX ONLY	
Air Bubbles (Y or N)	

Remarks: X VOC's by 8260 including
1,2-Dichloroethene (cis & trans) and
Dichlorobenzene (o, m, p)

Appendix D
Analytical Data Packages – SVE and Groundwater Treatment System Sampling

TABLE 4
SYSTEM MONITORING REQUIREMENTS
ROSWELL COMPRESSOR STATION, ROSWELL, NEW MEXICO

SYSTEM STARTUP TESTING			
Monitoring Parameter	Frequency	Monitoring Point	Method of Measurement
Vapor and Water Flow Rates	Daily	SVE Manifolds (Individual Wells)	Pitot tube and Capsuhelic Gauge
		Upstream of SVE Blowers	Pitot tube and Capsuhelic Gauge
		Downstream of SVE Blowers	Pitot tube and Capsuhelic Gauge
		Pneumatic Pump Manifolds (Individual Wells)	Bucket fill time
		Downstream of Oil/Water Separator	Totalizing Flow Meter
Well Vacuum	Daily	Monitor Well Heads	Magnehelic Gauge and Expansion Cap
		Manifolds (Individual Wells)	Vacuum Gauge
Vapor Concentrations	Daily	Manifolds (Individual Wells)	Peristaltic pump / FID
		Upstream of SVE Blowers	Peristaltic pump / FID
		Downstream of SVE Blowers	FID
Groundwater Discharge Concentrations	Daily	Upstream of Air Stripper	Sample collection/analysis by EPA method 8015 for TPH
		Downstream of Air Stripper	Sample collection/analysis by EPA method 8015 for TPH
Oxygen Content	Daily	Manifolds (Individual Wells)	Peristaltic Pump / LEL / O ₂ Meter
		Upstream of SVE Blowers	Peristaltic Pump / LEL / O ₂ Meter
		Downstream of SVE Blowers	LEL / O ₂ Meter
LONG-TERM OPERATION TESTING			
Monitoring Parameter	Frequency	Monitoring Point	Method of Measurement
Vapor and Water Flow Rates	Monthly	SVE Manifolds (Individual Wells)	Pitot tube and Capsuhelic Gauge
		Upstream of SVE Blowers	Pitot tube and Capsuhelic Gauge
		Downstream of SVE Blowers	Pitot tube and Capsuhelic Gauge
		Pneumatic Pump Manifolds (Individual Wells)	Bucket fill time
		Downstream of Oil/Water Separator	Totalizing Flow Meter
Well Vacuum	Monthly	Monitor Well Heads	Magnehelic Gauge and Expansion Cap
		Manifolds (Individual Wells)	Vacuum Gauge
Field Vapor Concentrations	Monthly	Manifold (Individual Wells)	Peristaltic pump / FID
		Upstream of SVE Blowers	Peristaltic pump / FID
		Downstream of SVE Blowers	FID
Lab Vapor Concentrations	Monthly	Downstream of SVE Blowers	Peristaltic pump and Tedlar bags; VOCs & TPH by EPA 8260 and EPA 8015
Groundwater Discharge Concentrations	Monthly	Upstream of Air Stripper	Sample collection/analysis by EPA method 8015 for TPH
		Downstream of Air Stripper	Sample collection/analysis by EPA method 8015 for TPH
Oxygen Content	Monthly	Manifold (Individual Wells)	Peristaltic Pump / LEL / O ₂ Meter
		Upstream of SVE Blowers	Peristaltic Pump / LEL / O ₂ Meter
		Downstream of SVE Blowers	LEL / O ₂ Meter
Fixed Gases	Monthly	Downstream of SVE Blowers	Peristaltic pump and Tedlar bags; Analyze by ASTM D 1946

Notes:

ASTM = American Society for Testing and Materials

FID = Flame ionization detector

PID = Photoionization detector

LEL = Lower explosive limit

O₂ = Oxygen

EPA = U.S. Environmental Protection Agency

VOCs = Volatile organic compounds

TPH = Total petroleum hydrocarbons



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

February 01, 2013

George Robinson
Cypress Engineering
7171 Highway 6 North
Suite 102
Houston, TX 770952422
TEL: (281) 797-3420
FAX (281) 859-1881

RE: TWP Roswell Station 9

OrderNo.: 1301962

Dear George Robinson:

Hall Environmental Analysis Laboratory received 2 sample(s) on 1/30/2013 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. 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. 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.

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 1301962

Date Reported: 2/1/2013

CLIENT: Cypress Engineering

Client Sample ID: West Baker Furnace

Project: TWP Roswell Station 9

Collection Date: 1/29/2013 11:40:00 AM

Lab ID: 1301962-001

Matrix: AIR

Received Date: 1/30/2013 10:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	1130	125		µg/L	25	1/31/2013 1:00:18 PM
% GRO Hydrocarbons: C05-C6	20.3	0		%	25	1/31/2013 1:00:18 PM
% GRO Hydrocarbons: C06-C7	44.9	0		%	25	1/31/2013 1:00:18 PM
% GRO Hydrocarbons: C07-C8	25.9	0		%	25	1/31/2013 1:00:18 PM
% GRO Hydrocarbons: C08-C9	3.90	0		%	25	1/31/2013 1:00:18 PM
% GRO Hydrocarbons: C09-C10	4.60	0		%	25	1/31/2013 1:00:18 PM
% GRO Hydrocarbons: C10-C11	0.300	0		%	25	1/31/2013 1:00:18 PM
% GRO Hydrocarbons: C11-C12	ND	0		%	25	1/31/2013 1:00:18 PM
% GRO Hydrocarbons: C12-C14	0.100	0		%	25	1/31/2013 1:00:18 PM
% GRO Hydrocarbons: C14+	ND	0		%	25	1/31/2013 1:00:18 PM
Surr: BFB	92.7	56.4-168		%REC	25	1/31/2013 1:00:18 PM

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1301962

Date Reported: 2/1/2013

CLIENT: Cypress Engineering

Client Sample ID: East Baker Furnace

Project: TWP Roswell Station 9

Collection Date: 1/29/2013 11:50:00 AM

Lab ID: 1301962-002

Matrix: AIR

Received Date: 1/30/2013 10:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	928	125		µg/L	25	1/31/2013 1:27:55 PM
% GRO Hydrocarbons: C05-C6	16.4	0		%	25	1/31/2013 1:27:55 PM
% GRO Hydrocarbons: C06-C7	46.9	0		%	25	1/31/2013 1:27:55 PM
% GRO Hydrocarbons: C07-C8	24.9	0		%	25	1/31/2013 1:27:55 PM
% GRO Hydrocarbons: C08-C9	6.20	0		%	25	1/31/2013 1:27:55 PM
% GRO Hydrocarbons: C09-C10	5.40	0		%	25	1/31/2013 1:27:55 PM
% GRO Hydrocarbons: C10-C11	0.200	0		%	25	1/31/2013 1:27:55 PM
% GRO Hydrocarbons: C11-C12	ND	0		%	25	1/31/2013 1:27:55 PM
% GRO Hydrocarbons: C12-C14	ND	0		%	25	1/31/2013 1:27:55 PM
% GRO Hydrocarbons: C14+	ND	0		%	25	1/31/2013 1:27:55 PM
Surr: BFB	94.7	56.4-168		%REC	25	1/31/2013 1:27:55 PM

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1301962

01-Feb-13

Client: Cypress Engineering
Project: TWP Roswell Station 9

Sample ID	1301935-001ADUP	SampType:	DUP	TestCode:	EPA Method 8015B: Gasoline Range					
Client ID:	BatchQC	Batch ID:	R8394	RunNo:	8394					
Prep Date:		Analysis Date:	1/31/2013	SeqNo:	242016	Units:	µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	82	5.0						3.16	21	
Surr: BFB	2000		2000		97.9	56.4	168	0	0	

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH greater than 2

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
R RPD outside accepted recovery limits

Sample Log-In Check List

Client Name: CYP		Work Order Number: 1301962
Received by/date: <u>[Signature]</u> 01/30/13		
Logged By: Ashley Gallegos	1/30/2013 10:55:00 AM	<u>[Signature]</u>
Completed By: Ashley Gallegos	1/30/2013 12:34:51 PM	<u>[Signature]</u>
Reviewed By: <u>[Signature]</u> 01/30/13		

Chain of Custody

1. Were seals intact? Yes ☐ No ☐ Not Present ☒
2. Is Chain of Custody complete? Yes ☒ No ☐ Not Present ☐
3. How was the sample delivered? UPS

Log In

4. Coolers are present? (see 19. for cooler specific information) Yes ☒ No ☐ NA ☐
5. Was an attempt made to cool the samples? Yes ☒ No ☐ NA ☐
6. Were all samples received at a temperature of >0° C to 6.0°C Yes ☒ No ☐ NA ☐
7. Sample(s) in proper container(s)? Yes ☒ No ☐
8. Sufficient sample volume for indicated test(s)? Yes ☒ No ☐
9. Are samples (except VOA and ONG) properly preserved? Yes ☒ No ☐
10. Was preservative added to bottles? Yes ☐ No ☒ NA ☐
11. VOA vials have zero headspace? Yes ☐ No ☐ No VOA Vials ☒
12. Were any sample containers received broken? Yes ☐ No ☒
13. Does paperwork match bottle labels?
(Note discrepancies on chain of custody) Yes ☒ No ☐
14. Are matrices correctly identified on Chain of Custody? Yes ☒ No ☐
15. Is it clear what analyses were requested? Yes ☒ No ☐
16. Were all holding times able to be met?
(If no, notify customer for authorization.) Yes ☒ No ☐

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

Adjusted? _____

Checked by: _____

Special Handling (if applicable)

17. 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:	_____		

18. Additional remarks:

19. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1		Good	Yes			

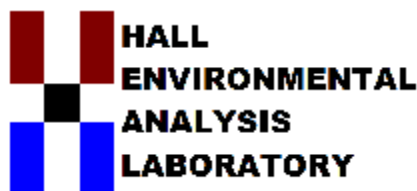
www.hallenvironmental.com

4901 Hawkins NE - Albuquerque. NM 87109

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

Analysis Request

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



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

May 22, 2013

George Robinson
Cypress Engineering
7171 Highway 6 North
Suite 102
Houston, TX 770952422
TEL: (281) 797-3420
FAX (281) 859-1881

RE: TWP Roswell Station 9

OrderNo.: 1302913

Dear George Robinson:

Hall Environmental Analysis Laboratory received 2 sample(s) on 2/28/2013 for the analyses presented in the following report.

This report is a revised report and it replaces the original report issued March 04, 2013.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. 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. All samples are reported as received unless otherwise indicated.

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

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 1302913

Date Reported: 5/22/2013

CLIENT: Cypress Engineering

Client Sample ID: West Baker Furnace

Project: TWP Roswell Station 9

Collection Date: 2/27/2013 1:10:00 PM

Lab ID: 1302913-001

Matrix: AIR

Received Date: 2/28/2013 9:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: GASOLINE RANGE				Analyst: NSB			
Gasoline Range Organics (GRO)	1120	250		µg/L	50	3/1/2013 2:14:11 PM	R8930
% GRO Hydrocarbons: C05-C6	14.2	0		%	50	3/1/2013 2:14:11 PM	R8930
% GRO Hydrocarbons: C06-C7	40.2	0		%	50	3/1/2013 2:14:11 PM	R8930
% GRO Hydrocarbons: C07-C8	30.2	0		%	50	3/1/2013 2:14:11 PM	R8930
% GRO Hydrocarbons: C08-C9	6.10	0		%	50	3/1/2013 2:14:11 PM	R8930
% GRO Hydrocarbons: C09-C10	8.30	0		%	50	3/1/2013 2:14:11 PM	R8930
% GRO Hydrocarbons: C10-C11	0.600	0		%	50	3/1/2013 2:14:11 PM	R8930
% GRO Hydrocarbons: C11-C12	0.400	0		%	50	3/1/2013 2:14:11 PM	R8930
% GRO Hydrocarbons: C12-C14	ND	0		%	50	3/1/2013 2:14:11 PM	R8930
% GRO Hydrocarbons: C14+	ND	0		%	50	3/1/2013 2:14:11 PM	R8930
Surr: BFB	91.5	56.4-168		%REC	50	3/1/2013 2:14:11 PM	R8930

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank	Page 1 of 3
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded	
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit	
	P	Sample pH greater than 2 for VOA and TOC only.	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 1302913

Date Reported: 5/22/2013

CLIENT: Cypress Engineering

Client Sample ID: East Baker Furnace

Project: TWP Roswell Station 9

Collection Date: 2/27/2013 1:20:00 PM

Lab ID: 1302913-002

Matrix: AIR

Received Date: 2/28/2013 9:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: GASOLINE RANGE				Analyst: NSB			
Gasoline Range Organics (GRO)	860	100		µg/L	20	3/1/2013 2:41:41 PM	R8930
% GRO Hydrocarbons: C05-C6	15.2	0		%	20	3/1/2013 2:41:41 PM	R8930
% GRO Hydrocarbons: C06-C7	43.2	0		%	20	3/1/2013 2:41:41 PM	R8930
% GRO Hydrocarbons: C07-C8	30.0	0		%	20	3/1/2013 2:41:41 PM	R8930
% GRO Hydrocarbons: C08-C9	6.20	0		%	20	3/1/2013 2:41:41 PM	R8930
% GRO Hydrocarbons: C09-C10	5.20	0		%	20	3/1/2013 2:41:41 PM	R8930
% GRO Hydrocarbons: C10-C11	0.200	0		%	20	3/1/2013 2:41:41 PM	R8930
% GRO Hydrocarbons: C11-C12	ND	0		%	20	3/1/2013 2:41:41 PM	R8930
% GRO Hydrocarbons: C12-C14	ND	0		%	20	3/1/2013 2:41:41 PM	R8930
% GRO Hydrocarbons: C14+	ND	0		%	20	3/1/2013 2:41:41 PM	R8930
Surr: BFB	90.5	56.4-168		%REC	20	3/1/2013 2:41:41 PM	R8930

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	P	Sample pH greater than 2 for VOA and TOC only.	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#: 1302913

22-May-13

Client: Cypress Engineering
Project: TWP Roswell Station 9

Sample ID	1302881-001ADUP	SampType:	DUP	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	BatchQC	Batch ID:	R8930	RunNo:	8930					
Prep Date:		Analysis Date:	3/1/2013	SeqNo:	255155	Units:	µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	1400	100						9.77	20	
Surr: BFB	43000		40000		108	56.4	168	0	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
P	Sample pH greater than 2 for VOA and TOC only.	R	RPD outside accepted recovery limits
RL	Reporting Detection Limit	S	Spike Recovery outside accepted recovery limits

Sample Log-In Check List

Client Name: CYP Work Order Number: 1302913

Received by/date: _____

Logged By: Anne Thorne 2/28/2013 9:50:00 AM

Anne Thorne

Completed By: Anne Thorne 2/28/2013

Anne Thorne

Reviewed By: *TO* 02/28/2013

Chain of Custody

1. Were seals intact? Yes ☐ No ☐ Not Present ☒
2. Is Chain of Custody complete? Yes ☒ No ☐ Not Present ☐
3. How was the sample delivered? UPS

Log In

4. Coolers are present? (see 19. for cooler specific information) Yes ☒ No ☐ NA ☐
5. Was an attempt made to cool the samples? Yes ☐ No ☐ NA ☒
6. Were all samples received at a temperature of >0° C to 6.0°C Yes ☐ No ☐ NA ☒
7. Sample(s) in proper container(s)? Yes ☒ No ☐
8. Sufficient sample volume for indicated test(s)? Yes ☒ No ☐
9. Are samples (except VOA and ONG) properly preserved? Yes ☒ No ☐
10. Was preservative added to bottles? Yes ☐ No ☒ NA ☐
11. VOA vials have zero headspace? Yes ☐ No ☐ No VOA Vials ☒
12. Were any sample containers received broken? Yes ☐ No ☒
13. Does paperwork match bottle labels?
(Note discrepancies on chain of custody) Yes ☒ No ☐
14. Are matrices correctly identified on Chain of Custody? Yes ☒ No ☐
15. Is it clear what analyses were requested? Yes ☒ No ☐
16. Were all holding times able to be met?
(If no, notify customer for authorization.) Yes ☒ No ☐

of preserved
bottles checked
for pH:

(<2 or >12 unless noted)

Adjusted? _____

Checked by: _____

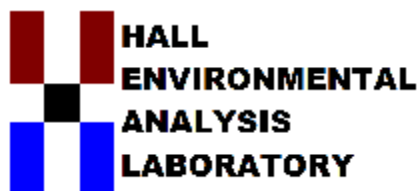
Special Handling (if applicable)

17. 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: _____

18. Additional remarks:

19. Cooler Information



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

May 22, 2013

George Robinson
Cypress Engineering
7171 Highway 6 North
Suite 102
Houston, TX 770952422
TEL: (281) 797-3420
FAX (281) 859-1881

RE: TWP Roswell Station 9

OrderNo.: 1304013

Dear George Robinson:

Hall Environmental Analysis Laboratory received 2 sample(s) on 4/1/2013 for the analyses presented in the following report.

This report is a revised report and it replaces the original report issued April 08, 2013.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. 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. All samples are reported as received unless otherwise indicated.

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

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 1304013

Date Reported: 5/22/2013

CLIENT: Cypress Engineering

Client Sample ID: West Baker Furnace

Project: TWP Roswell Station 9

Collection Date: 3/29/2013 8:15:00 AM

Lab ID: 1304013-001

Matrix: AIR

Received Date: 4/1/2013 12:00:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: GASOLINE RANGE					Analyst: NSB		
Gasoline Range Organics (GRO)	694	100		µg/L	20	4/3/2013 2:10:02 PM	R9628
% GRO Hydrocarbons: C05-C6	14.8	0		%	20	4/3/2013 2:10:02 PM	R9628
% GRO Hydrocarbons: C06-C7	42.0	0		%	20	4/3/2013 2:10:02 PM	R9628
% GRO Hydrocarbons: C07-C8	29.5	0		%	20	4/3/2013 2:10:02 PM	R9628
% GRO Hydrocarbons: C08-C9	8.10	0		%	20	4/3/2013 2:10:02 PM	R9628
% GRO Hydrocarbons: C09-C10	5.10	0		%	20	4/3/2013 2:10:02 PM	R9628
% GRO Hydrocarbons: C10-C11	0.200	0		%	20	4/3/2013 2:10:02 PM	R9628
% GRO Hydrocarbons: C11-C12	0.100	0		%	20	4/3/2013 2:10:02 PM	R9628
% GRO Hydrocarbons: C12-C14	0.200	0		%	20	4/3/2013 2:10:02 PM	R9628
% GRO Hydrocarbons: C14+	ND	0		%	20	4/3/2013 2:10:02 PM	R9628
Surr: BFB	86.5	56.4-168		%REC	20	4/3/2013 2:10:02 PM	R9628

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	P	Sample pH greater than 2 for VOA and TOC only.	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 1304013

Date Reported: 5/22/2013

CLIENT: Cypress Engineering

Client Sample ID: East Baker Furnace

Project: TWP Roswell Station 9

Collection Date: 3/29/2013 8:20:00 AM

Lab ID: 1304013-002

Matrix: AIR

Received Date: 4/1/2013 12:00:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: GASOLINE RANGE					Analyst: NSB		
Gasoline Range Organics (GRO)	555	50.0		µg/L	10	4/3/2013 2:37:32 PM	R9628
% GRO Hydrocarbons: C05-C6	16.6	0		%	10	4/3/2013 2:37:32 PM	R9628
% GRO Hydrocarbons: C06-C7	47.6	0		%	10	4/3/2013 2:37:32 PM	R9628
% GRO Hydrocarbons: C07-C8	24.4	0		%	10	4/3/2013 2:37:32 PM	R9628
% GRO Hydrocarbons: C08-C9	6.10	0		%	10	4/3/2013 2:37:32 PM	R9628
% GRO Hydrocarbons: C09-C10	4.50	0		%	10	4/3/2013 2:37:32 PM	R9628
% GRO Hydrocarbons: C10-C11	0.500	0		%	10	4/3/2013 2:37:32 PM	R9628
% GRO Hydrocarbons: C11-C12	0.200	0		%	10	4/3/2013 2:37:32 PM	R9628
% GRO Hydrocarbons: C12-C14	0.100	0		%	10	4/3/2013 2:37:32 PM	R9628
% GRO Hydrocarbons: C14+	ND	0		%	10	4/3/2013 2:37:32 PM	R9628
Surr: BFB	88.0	56.4-168		%REC	10	4/3/2013 2:37:32 PM	R9628

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	P	Sample pH greater than 2 for VOA and TOC only.	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#: 1304013

22-May-13

Client: Cypress Engineering
Project: TWP Roswell Station 9

Sample ID	1303B92-002ADUP	SampType:	DUP	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	BatchQC	Batch ID:	R9628	RunNo:	9628					
Prep Date:		Analysis Date:	4/3/2013	SeqNo:	274628	Units:	µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	580	25						9.73	20	
Surr: BFB	34000		10000		337	56.4	168	0	0	S

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
P	Sample pH greater than 2 for VOA and TOC only.	R	RPD outside accepted recovery limits
RL	Reporting Detection Limit	S	Spike Recovery outside accepted recovery limits

Sample Log-In Check List

Client Name: CYP

Work Order Number: 1304013

RcptNo: 1

Received by/date:

LM

04/01/13

Logged By: Ashley Gallegos

4/1/2013 12:00:00 PM

Completed By: Ashley Gallegos

4/1/2013 12:25:47 PM

Reviewed By:

[Signature]

04/01/13

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? UPS

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?
(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:

(<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		Good	Not Present			

www.hallenvironmental.com

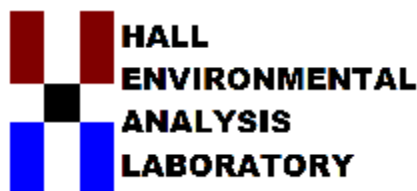
Tel. 505-345-3975 Fax 505-345-4107

BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions (F, Cl, NO ₃ , NO ₂ , PO ₄ , SO ₄)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)					Air Bubbles (Y or N)
----------------------------	------------------------------	-----------------------------	--------------------	--------------------	---------------------------	---------------	--	------------------------------	-------------	-----------------	--	--	--	--	----------------------

Received by: _____ Date _____ Time _____

Remarks: Analysis: TPA MAD 8015-600
Any Questions Please Call
George Robinson C 281.794 3430

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



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

May 22, 2013

George Robinson
Cypress Engineering
7171 Highway 6 North
Suite 102
Houston, TX 770952422
TEL: (281) 797-3420
FAX (281) 859-1881

RE: TWP Roswell Station 9

OrderNo.: 1305013

Dear George Robinson:

Hall Environmental Analysis Laboratory received 2 sample(s) on 5/1/2013 for the analyses presented in the following report.

This report is a revised report and it replaces the original report issued May 06, 2013.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. 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. All samples are reported as received unless otherwise indicated.

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

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 1305013

Date Reported: 5/22/2013

CLIENT: Cypress Engineering

Client Sample ID: West Baker Furnace

Project: TWP Roswell Station 9

Collection Date: 4/30/2013 8:00:00 AM

Lab ID: 1305013-001

Matrix: AIR

Received Date: 5/1/2013 10:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: GASOLINE RANGE					Analyst: NSB		
Gasoline Range Organics (GRO)	850	50.0		µg/L	10	5/2/2013 11:26:54 AM	R10280
% GRO Hydrocarbons: C05-C6	31.1	0		%	10	5/2/2013 11:26:54 AM	R10280
% GRO Hydrocarbons: C06-C7	32.1	0		%	10	5/2/2013 11:26:54 AM	R10280
% GRO Hydrocarbons: C07-C8	23.6	0		%	10	5/2/2013 11:26:54 AM	R10280
% GRO Hydrocarbons: C08-C9	8.00	0		%	10	5/2/2013 11:26:54 AM	R10280
% GRO Hydrocarbons: C09-C10	4.30	0		%	10	5/2/2013 11:26:54 AM	R10280
% GRO Hydrocarbons: C10-C11	0.700	0		%	10	5/2/2013 11:26:54 AM	R10280
% GRO Hydrocarbons: C11-C12	0.100	0		%	10	5/2/2013 11:26:54 AM	R10280
% GRO Hydrocarbons: C12-C14	0.100	0		%	10	5/2/2013 11:26:54 AM	R10280
% GRO Hydrocarbons: C14+	ND	0		%	10	5/2/2013 11:26:54 AM	R10280
Surr: BFB	101	56.4-168		%REC	10	5/2/2013 11:26:54 AM	R10280

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank	Page 1 of 3
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded	
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit	
	P	Sample pH greater than 2 for VOA and TOC only.	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 1305013

Date Reported: 5/22/2013

CLIENT: Cypress Engineering

Client Sample ID: East Baker Furnace

Project: TWP Roswell Station 9

Collection Date:

Lab ID: 1305013-002

Matrix: AIR

Received Date: 5/1/2013 10:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: GASOLINE RANGE				Analyst: NSB			
Gasoline Range Organics (GRO)	772	50.0		µg/L	10	5/2/2013 11:54:19 AM	R10280
% GRO Hydrocarbons: C05-C6	27.7	0		%	10	5/2/2013 11:54:19 AM	R10280
% GRO Hydrocarbons: C06-C7	28.9	0		%	10	5/2/2013 11:54:19 AM	R10280
% GRO Hydrocarbons: C07-C8	29.6	0		%	10	5/2/2013 11:54:19 AM	R10280
% GRO Hydrocarbons: C08-C9	8.00	0		%	10	5/2/2013 11:54:19 AM	R10280
% GRO Hydrocarbons: C09-C10	4.60	0		%	10	5/2/2013 11:54:19 AM	R10280
% GRO Hydrocarbons: C10-C11	0.900	0		%	10	5/2/2013 11:54:19 AM	R10280
% GRO Hydrocarbons: C11-C12	0.200	0		%	10	5/2/2013 11:54:19 AM	R10280
% GRO Hydrocarbons: C12-C14	0.100	0		%	10	5/2/2013 11:54:19 AM	R10280
% GRO Hydrocarbons: C14+	ND	0		%	10	5/2/2013 11:54:19 AM	R10280
Surr: BFB	104	56.4-168		%REC	10	5/2/2013 11:54:19 AM	R10280

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	P	Sample pH greater than 2 for VOA and TOC only.	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#: 1305013

22-May-13

Client: Cypress Engineering
Project: TWP Roswell Station 9

Sample ID	1305013-001ADUP	SampType:	DUP	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	West Baker Furnace	Batch ID:	R10280	RunNo:	10280					
Prep Date:		Analysis Date:	5/2/2013	SeqNo:	293167	Units:	µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	820	50						3.20	20	
Surr: BFB	20000		20000		99.7	56.4	168	0	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
P	Sample pH greater than 2 for VOA and TOC only.	R	RPD outside accepted recovery limits
RL	Reporting Detection Limit	S	Spike Recovery outside accepted recovery limits



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

Sample Log-In Check List

Client Name: CYP

Work Order Number: 1305013

RcptNo: 1

Received by/date:

Logged By: Ashley Gallegos

05/01/2013 10:10:00 AM

Completed By: Ashley Gallegos

5/1/2013 11:04:08 AM

Reviewed By:

05/01/13

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? UPS

Log In

4. Was an attempt made to cool the samples? Yes ☒ No ☐ NA ☐
5. Were all samples received at a temperature of $>0^{\circ}\text{C}$ 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?
(Note discrepancies on chain of custody) Yes ☒ No ☐ # of preserved bottles checked for pH: (<2 or >12 unless noted)
13. Are matrices correctly identified on Chain of Custody? Yes ☒ No ☐ Adjusted? ☐
14. Is it clear what analyses were requested? Yes ☒ No ☐
15. Were all holding times able to be met?
(If no, notify customer for authorization.) Yes ☒ No ☐ Checked by: ☐

Special Handling (if applicable)

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

Person Notified:

Date:

By Whom:

Via:

eMail

Phone

Fax

In Person

Regarding:

Client Instructions:

17. Additional remarks:

18. Cooler Information

Cooler No	Temp $^{\circ}\text{C}$	Condition	Seal Intact	Seal No	Seal Date	Signed By
1		Good	Yes			

[illegible]

HALL ENVIRONMENTAL ANALYSIS LABORATORY		www.hallenvironmental.com	
4901 Hawkins NE - Albuquerque, NM 87109			
Tel. 505-345-3975	Fax 505-345-4107		
Analysis Request			
BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)
		EDB (Method 504.1)	PAH's (8310 or 8270 SIMS)
		RCRA 8 Metals	Anions (F ⁻ , Cl ⁻ , NO ₃ ⁻ , NO ₂ ⁻ , PO ₄ ⁻ , SO ₄ ⁻)
		8081 Pesticides / 8082 PCB's	8260B (VOA)
		8270 (Semi-VOA)	Air Bubbles (V or N)

Remarks: Any questions? Please Call George Robinson at 281.797.3420

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



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

May 23, 2013

George Robinson
Cypress Engineering
7171 Highway 6 North
Suite 102
Houston, TX 770952422
TEL: (281) 797-3420
FAX (281) 859-1881

RE: TWP Roswell Station 9

OrderNo.: 1305745

Dear George Robinson:

Hall Environmental Analysis Laboratory received 2 sample(s) on 5/17/2013 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. 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. 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.

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 1305745

Date Reported: 5/23/2013

CLIENT: Cypress Engineering

Client Sample ID: West Baker Furnace

Project: TWP Roswell Station 9

Collection Date: 5/16/2013 7:00:00 AM

Lab ID: 1305745-001

Matrix: AIR

Received Date: 5/17/2013 9:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: GASOLINE RANGE				Analyst: NSB			
Gasoline Range Organics (GRO)	5610	50.0		µg/L	10	5/20/2013 4:13:51 PM	R10751
% GRO Hydrocarbons: C05-C6	33.5	0		%	10	5/20/2013 4:13:51 PM	R10751
% GRO Hydrocarbons: C06-C7	31.4	0		%	10	5/20/2013 4:13:51 PM	R10751
% GRO Hydrocarbons: C07-C8	26.8	0		%	10	5/20/2013 4:13:51 PM	R10751
% GRO Hydrocarbons: C08-C9	5.80	0		%	10	5/20/2013 4:13:51 PM	R10751
% GRO Hydrocarbons: C09-C10	2.00	0		%	10	5/20/2013 4:13:51 PM	R10751
% GRO Hydrocarbons: C10-C11	0.400	0		%	10	5/20/2013 4:13:51 PM	R10751
% GRO Hydrocarbons: C11-C12	0.100	0		%	10	5/20/2013 4:13:51 PM	R10751
% GRO Hydrocarbons: C12-C14	ND	0		%	10	5/20/2013 4:13:51 PM	R10751
% GRO Hydrocarbons: C14+	ND	0		%	10	5/20/2013 4:13:51 PM	R10751
Surr: BFB	129	56.4-168		%REC	10	5/20/2013 4:13:51 PM	R10751

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank	Page 1 of 3
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded	
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit	
	P	Sample pH greater than 2 for VOA and TOC only.	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 1305745

Date Reported: 5/23/2013

CLIENT: Cypress Engineering

Client Sample ID: East Baker Furnace

Project: TWP Roswell Station 9

Collection Date: 5/16/2013 7:05:00 AM

Lab ID: 1305745-002

Matrix: AIR

Received Date: 5/17/2013 9:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: GASOLINE RANGE				Analyst: NSB			
Gasoline Range Organics (GRO)	5350	50.0		µg/L	10	5/20/2013 4:41:03 PM	R10751
% GRO Hydrocarbons: C05-C6	31.4	0		%	10	5/20/2013 4:41:03 PM	R10751
% GRO Hydrocarbons: C06-C7	30.2	0		%	10	5/20/2013 4:41:03 PM	R10751
% GRO Hydrocarbons: C07-C8	27.7	0		%	10	5/20/2013 4:41:03 PM	R10751
% GRO Hydrocarbons: C08-C9	6.90	0		%	10	5/20/2013 4:41:03 PM	R10751
% GRO Hydrocarbons: C09-C10	2.70	0		%	10	5/20/2013 4:41:03 PM	R10751
% GRO Hydrocarbons: C10-C11	0.800	0		%	10	5/20/2013 4:41:03 PM	R10751
% GRO Hydrocarbons: C11-C12	0.200	0		%	10	5/20/2013 4:41:03 PM	R10751
% GRO Hydrocarbons: C12-C14	0.100	0		%	10	5/20/2013 4:41:03 PM	R10751
% GRO Hydrocarbons: C14+	ND	0		%	10	5/20/2013 4:41:03 PM	R10751
Surr: BFB	145	56.4-168		%REC	10	5/20/2013 4:41:03 PM	R10751

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank	Page 2 of 3
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded	
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit	
	P	Sample pH greater than 2 for VOA and TOC only.	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#: 1305745

23-May-13

Client: Cypress Engineering
Project: TWP Roswell Station 9

Sample ID	1305726-001ADUP	SampType:	DUP	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	BatchQC	Batch ID:	R10751	RunNo:	10751					
Prep Date:		Analysis Date:	5/20/2013	SeqNo:	303926	Units:	µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	63	5.0						1.67	20	
Surr: BFB	2000		2000		101	56.4	168	0	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
P	Sample pH greater than 2 for VOA and TOC only.	R	RPD outside accepted recovery limits
RL	Reporting Detection Limit	S	Spike Recovery outside accepted recovery limits

Sample Log-In Check List

Client Name: CYP

Work Order Number: 1305745

RcptNo: 1

Received by/date:

AG 05/17/13

Logged By: Anne Thorne

5/17/2013 9:50:00 AM

Anne Thorne

Completed By: Anne Thorne

5/17/2013

Anne Thorne

Reviewed By:

AG 05/17/13

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? UPS

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?
(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:

(≤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



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

June 25, 2013

George Robinson
Cypress Engineering
7171 Highway 6 North
Suite 102
Houston, TX 770952422
TEL: (281) 797-3420
FAX (281) 859-1881

RE: TWP Roswell Station 9

OrderNo.: 1306767

Dear George Robinson:

Hall Environmental Analysis Laboratory received 2 sample(s) on 6/18/2013 for the analyses presented in the following report.

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

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

Sincerely,

A handwritten signature in black ink, appearing to read 'Andy Freeman', with a stylized flourish at the end.

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order **1306767**

Date Reported: **6/25/2013**

CLIENT: Cypress Engineering

Client Sample ID: West Baker Furnace

Project: TWP Roswell Station 9

Collection Date: 6/17/2013 9:55:00 AM

Lab ID: 1306767-001

Matrix: AIR

Received Date: 6/18/2013 9:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: GASOLINE RANGE				Analyst: NSB			
Gasoline Range Organics (GRO)	4600	250		µg/L	50	6/20/2013 2:21:38 PM	R11460
Surr: BFB	99.4	26.3-265		%REC	50	6/20/2013 2:21:38 PM	R11460

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	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 for VOA and TOC only.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order **1306767**

Date Reported: **6/25/2013**

CLIENT: Cypress Engineering

Client Sample ID: East Baker Furnace

Project: TWP Roswell Station 9

Collection Date: 6/17/2013 10:00:00 AM

Lab ID: 1306767-002

Matrix: AIR

Received Date: 6/18/2013 9:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: GASOLINE RANGE				Analyst: NSB			
Gasoline Range Organics (GRO)	4700	250		µg/L	50	6/20/2013 2:49:11 PM	R11460
Surr: BFB	101	26.3-265		%REC	50	6/20/2013 2:49:11 PM	R11460

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	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 for VOA and TOC only.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1306767

25-Jun-13

Client: Cypress Engineering
Project: TWP Roswell Station 9

Sample ID	1306762-001ADUP	SampType:	DUP	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	BatchQC	Batch ID:	R11460	RunNo:	11460					
Prep Date:		Analysis Date:	6/20/2013	SeqNo:	324084	Units:	µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	75000	1000						3.60	20	
Surr: BFB	530000		400000		132	26.3	265	0	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 for VOA and TOC only.
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

Sample Log-In Check List

Client Name: CYP

Work Order Number: 1306767

RcptNo: 1

Received by/date:

[Signature] 06/18/2013

Logged By:

Lindsay Mangin

6/18/2013 9:55:00 AM

[Signature]

Completed By:

Lindsay Mangin

6/18/2013 3:03:34 PM

[Signature]

Reviewed By:

[Signature]

06/18/13

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? UPS

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?
(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:

(<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	NA	Good	Yes			



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

August 27, 2013

George Robinson
Cypress Engineering
7171 Highway 6 North
Suite 102
Houston, TX 770952422
TEL: (281) 797-3420
FAX (281) 859-1881

RE: TWP Roswell Station 9

OrderNo.: 1307867

Dear George Robinson:

Hall Environmental Analysis Laboratory received 2 sample(s) on 7/18/2013 for the analyses presented in the following report.

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

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

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #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 1307867

Date Reported: 8/27/2013

CLIENT: Cypress Engineering

Client Sample ID: West Baker Furnace

Project: TWP Roswell Station 9

Collection Date: 7/17/2013 10:30:00 AM

Lab ID: 1307867-001

Matrix: AIR

Received Date: 7/18/2013 1:30:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: GASOLINE RANGE					Analyst: DAM		
Gasoline Range Organics (GRO)	4680	250		µg/L	50	7/19/2013 12:32:54 PM	R12077
% GRO Hydrocarbons: <C6	28.6	0		%	50	7/19/2013 12:32:54 PM	R12077
% GRO Hydrocarbons: C06-C7	30.3	0		%	50	7/19/2013 12:32:54 PM	R12077
% GRO Hydrocarbons: C07-C8	30.3	0		%	50	7/19/2013 12:32:54 PM	R12077
% GRO Hydrocarbons: C08-C9	6.90	0		%	50	7/19/2013 12:32:54 PM	R12077
% GRO Hydrocarbons: C09-C10	3.50	0		%	50	7/19/2013 12:32:54 PM	R12077
% GRO Hydrocarbons: C10-C11	0.300	0		%	50	7/19/2013 12:32:54 PM	R12077
% GRO Hydrocarbons: C11-C12	0.100	0		%	50	7/19/2013 12:32:54 PM	R12077
% GRO Hydrocarbons: C12-C14	ND	0		%	50	7/19/2013 12:32:54 PM	R12077
% GRO Hydrocarbons: C14+	ND	0		%	50	7/19/2013 12:32:54 PM	R12077
Surr: BFB	96.4	26.3-265		%REC	50	7/19/2013 12:32:54 PM	R12077

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	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 for VOA and TOC only.
	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 1307867

Date Reported: 8/27/2013

CLIENT: Cypress Engineering

Client Sample ID: East Baker Furnace

Project: TWP Roswell Station 9

Collection Date: 7/17/2013 10:35:00 AM

Lab ID: 1307867-002

Matrix: AIR

Received Date: 7/18/2013 1:30:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: GASOLINE RANGE				Analyst: DAM			
Gasoline Range Organics (GRO)	5780	250		µg/L	50	7/19/2013 1:00:23 PM	R12077
% GRO Hydrocarbons: <C6	29.5	0		%	50	7/19/2013 1:00:23 PM	R12077
% GRO Hydrocarbons: C06-C7	29.8	0		%	50	7/19/2013 1:00:23 PM	R12077
% GRO Hydrocarbons: C07-C8	29.1	0		%	50	7/19/2013 1:00:23 PM	R12077
% GRO Hydrocarbons: C08-C9	7.00	0		%	50	7/19/2013 1:00:23 PM	R12077
% GRO Hydrocarbons: C09-C10	3.60	0		%	50	7/19/2013 1:00:23 PM	R12077
% GRO Hydrocarbons: C10-C11	0.800	0		%	50	7/19/2013 1:00:23 PM	R12077
% GRO Hydrocarbons: C11-C12	0.200	0		%	50	7/19/2013 1:00:23 PM	R12077
% GRO Hydrocarbons: C12-C14	ND	0		%	50	7/19/2013 1:00:23 PM	R12077
% GRO Hydrocarbons: C14+	ND	0		%	50	7/19/2013 1:00:23 PM	R12077
Surr: BFB	101	26.3-265		%REC	50	7/19/2013 1:00:23 PM	R12077

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	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 for VOA and TOC only.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		

Sample Log-In Check List

Client Name: CYP

Work Order Number: 1307867

RcptNo: 1

Received by/date:

AS 07/18/13

Logged By: Lindsay Mangin

7/18/2013 1:30:00 PM

Lindsay Mangin

Completed By: Lindsay Mangin

7/18/2013 2:03:19 PM

Lindsay Mangin

Reviewed By:

mg

07/18/13

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?

(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:

(<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	NA	Good	Not Present			

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Analysis Request

[illegible]

Remarks:

Any Questions Please Call
George Robinson @
281-797-3420



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

September 05, 2013

George Robinson
Cypress Engineering
7171 Highway 6 North
Suite 102
Houston, TX 770952422
TEL: (281) 797-3420
FAX: (281) 859-1881

RE: TWP Roswell Station 9

OrderNo.: 1308C33

Dear George Robinson:

Hall Environmental Analysis Laboratory received 2 sample(s) on 8/28/2013 for the analyses presented in the following report.

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

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

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #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 1308C33

Date Reported: 9/5/2013

CLIENT: Cypress Engineering

Client Sample ID: West Baker Furnace

Project: TWP Roswell Station 9

Collection Date: 8/27/2013 8:45:00 AM

Lab ID: 1308C33-001

Matrix: AIR

Received Date: 8/28/2013 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: GASOLINE RANGE					Analyst: RAA		
Gasoline Range Organics (GRO)	3040	250		µg/L	50	9/4/2013 2:37:26 PM	R13082
% GRO Hydrocarbons: <C6	25.7	0		%	50	9/4/2013 2:37:26 PM	R13082
% GRO Hydrocarbons: C06-C7	28.7	0		%	50	9/4/2013 2:37:26 PM	R13082
% GRO Hydrocarbons: C07-C8	31.0	0		%	50	9/4/2013 2:37:26 PM	R13082
% GRO Hydrocarbons: C08-C9	8.30	0		%	50	9/4/2013 2:37:26 PM	R13082
% GRO Hydrocarbons: C09-C10	5.00	0		%	50	9/4/2013 2:37:26 PM	R13082
% GRO Hydrocarbons: C10-C11	0.900	0		%	50	9/4/2013 2:37:26 PM	R13082
% GRO Hydrocarbons: C11-C12	0.300	0		%	50	9/4/2013 2:37:26 PM	R13082
% GRO Hydrocarbons: C12-C14	0.100	0		%	50	9/4/2013 2:37:26 PM	R13082
% GRO Hydrocarbons: C14+	ND	0		%	50	9/4/2013 2:37:26 PM	R13082
Surr: BFB	104	26.3-265		%REC	50	9/4/2013 2:37:26 PM	R13082

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	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 for VOA and TOC only.
	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 1308C33

Date Reported: 9/5/2013

CLIENT: Cypress Engineering

Client Sample ID: East Baker Furance

Project: TWP Roswell Station 9

Collection Date: 8/27/2013 8:50:00 AM

Lab ID: 1308C33-002

Matrix: AIR

Received Date: 8/28/2013 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: GASOLINE RANGE					Analyst: RAA		
Gasoline Range Organics (GRO)	3040	250		µg/L	50	9/4/2013 3:05:06 PM	R13082
% GRO Hydrocarbons: <C6	25.6	0		%	50	9/4/2013 3:05:06 PM	R13082
% GRO Hydrocarbons: C06-C7	28.7	0		%	50	9/4/2013 3:05:06 PM	R13082
% GRO Hydrocarbons: C07-C8	31.0	0		%	50	9/4/2013 3:05:06 PM	R13082
% GRO Hydrocarbons: C08-C9	8.50	0		%	50	9/4/2013 3:05:06 PM	R13082
% GRO Hydrocarbons: C09-C10	5.10	0		%	50	9/4/2013 3:05:06 PM	R13082
% GRO Hydrocarbons: C10-C11	0.900	0		%	50	9/4/2013 3:05:06 PM	R13082
% GRO Hydrocarbons: C11-C12	0.200	0		%	50	9/4/2013 3:05:06 PM	R13082
% GRO Hydrocarbons: C12-C14	ND	0		%	50	9/4/2013 3:05:06 PM	R13082
% GRO Hydrocarbons: C14+	ND	0		%	50	9/4/2013 3:05:06 PM	R13082
Surr: BFB	105	26.3-265		%REC	50	9/4/2013 3:05:06 PM	R13082

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	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 for VOA and TOC only.
	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#: 1308C33

05-Sep-13

Client: Cypress Engineering
Project: TWP Roswell Station 9

Sample ID: 1308C11-003ADUP		SampType: DUP		TestCode: EPA Method 8015D: Gasoline Range						
Client ID: BatchQC		Batch ID: R13082		RunNo: 13082						
Prep Date:		Analysis Date: 9/4/2013		SeqNo: 373376		Units: µg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	150	5.0						3.53	20	
Surr: BFB	1900		2000		97.2	26.3	265	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 greater than 2 for VOA and TOC only.
RL Reporting Detection Limit

Sample Log-In Check List

Client Name: CYP

Work Order Number: 1308C33

RcptNo: 1

Received by/date:

LM

08/28/13

Logged By: Ashley Gallegos

8/28/2013 10:00:00 AM

Ag

Completed By: Ashley Gallegos

8/28/2013 11:20:32 AM

Ag

Reviewed By:

mg

08/28/13

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? UPS

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?
(Note discrepancies on chain of custody) Yes ☒ No ☐ # of preserved bottles checked for pH:
(<2 or >12 unless noted)
13. Are matrices correctly identified on Chain of Custody? Yes ☒ No ☐ Adjusted?
14. Is it clear what analyses were requested? Yes ☒ No ☐
15. Were all holding times able to be met?
(If no, notify customer for authorization.) Yes ☒ No ☐ Checked by:

Special Handling (if applicable)

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

Person Notified:

Date:

By Whom:

Via:

eMail

Phone

Fax

In Person

Regarding:

Client Instructions:

17. Additional remarks:

18. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1		Good	Yes			



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

October 03, 2013

George Robinson
Cypress Engineering
7171 Highway 6 North
Suite 102
Houston, TX 770952422
TEL: (281) 797-3420
FAX (281) 859-1881

RE: TWP Roswell Station 9

OrderNo.: 1309C87

Dear George Robinson:

Hall Environmental Analysis Laboratory received 2 sample(s) on 9/26/2013 for the analyses presented in the following report.

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

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

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

Sincerely,

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 1309C87

Date Reported: 10/3/2013

CLIENT: Cypress Engineering

Client Sample ID: West Baker Furnace

Project: TWP Roswell Station 9

Collection Date: 9/25/2013 12:40:00 PM

Lab ID: 1309C87-001

Matrix: AIR

Received Date: 9/26/2013 9:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: GASOLINE RANGE				Analyst: NSB			
Gasoline Range Organics (GRO)	2280	250		µg/L	50	9/27/2013 2:40:18 PM	R13687
% GRO Hydrocarbons: <C6	25.4	0		%	50	9/27/2013 2:40:18 PM	R13687
% GRO Hydrocarbons: C06-C7	29.5	0		%	50	9/27/2013 2:40:18 PM	R13687
% GRO Hydrocarbons: C07-C8	24.8	0		%	50	9/27/2013 2:40:18 PM	R13687
% GRO Hydrocarbons: C08-C9	10.0	0		%	50	9/27/2013 2:40:18 PM	R13687
% GRO Hydrocarbons: C09-C10	7.50	0		%	50	9/27/2013 2:40:18 PM	R13687
% GRO Hydrocarbons: C10-C11	1.90	0		%	50	9/27/2013 2:40:18 PM	R13687
% GRO Hydrocarbons: C11-C12	0.800	0		%	50	9/27/2013 2:40:18 PM	R13687
% GRO Hydrocarbons: C12-C14	0.100	0		%	50	9/27/2013 2:40:18 PM	R13687
% GRO Hydrocarbons: C14+	ND	0		%	50	9/27/2013 2:40:18 PM	R13687
Surr: BFB	105	26.3-265		%REC	50	9/27/2013 2:40:18 PM	R13687

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	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 for VOA and TOC only.
	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 1309C87

Date Reported: 10/3/2013

CLIENT: Cypress Engineering

Client Sample ID: East Baker Furnace

Project: TWP Roswell Station 9

Collection Date: 9/25/2013 12:45:00 PM

Lab ID: 1309C87-002

Matrix: AIR

Received Date: 9/26/2013 9:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: GASOLINE RANGE				Analyst: NSB			
Gasoline Range Organics (GRO)	2040	250		µg/L	50	9/27/2013 3:07:24 PM	R13687
% GRO Hydrocarbons: <C6	25.9	0		%	50	9/27/2013 3:07:24 PM	R13687
% GRO Hydrocarbons: C06-C7	30.1	0		%	50	9/27/2013 3:07:24 PM	R13687
% GRO Hydrocarbons: C07-C8	25.4	0		%	50	9/27/2013 3:07:24 PM	R13687
% GRO Hydrocarbons: C08-C9	9.50	0		%	50	9/27/2013 3:07:24 PM	R13687
% GRO Hydrocarbons: C09-C10	7.40	0		%	50	9/27/2013 3:07:24 PM	R13687
% GRO Hydrocarbons: C10-C11	1.20	0		%	50	9/27/2013 3:07:24 PM	R13687
% GRO Hydrocarbons: C11-C12	0.400	0		%	50	9/27/2013 3:07:24 PM	R13687
% GRO Hydrocarbons: C12-C14	0.100	0		%	50	9/27/2013 3:07:24 PM	R13687
% GRO Hydrocarbons: C14+	ND	0		%	50	9/27/2013 3:07:24 PM	R13687
Surr: BFB	107	26.3-265		%REC	50	9/27/2013 3:07:24 PM	R13687

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

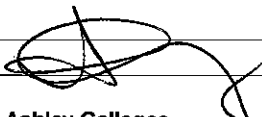
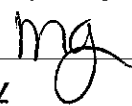
Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	O	RSD is greater than RSDlimit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

Sample Log-In Check List

Client Name: CYP

Work Order Number: 1309C87

RcptNo: 1

Received by/date:		09/26/13
Logged By:	Ashley Gallegos	9/26/2013 9:30:00 AM
Completed By:	Ashley Gallegos	9/26/2013 5:47:24 PM
Reviewed By:		09/27/13

Chain of Custody

- Custody seals intact on sample bottles? Yes ☐ No ☐ Not Present ☒
- Is Chain of Custody complete? Yes ☒ No ☐ Not Present ☐
- How was the sample delivered? UPS

Log In

- Was an attempt made to cool the samples? Yes ☒ No ☐ NA ☐
- Were all samples received at a temperature of >0° C to 6.0°C Yes ☒ No ☐ NA ☐
- Sample(s) in proper container(s)? Yes ☒ No ☐
- Sufficient sample volume for indicated test(s)? Yes ☒ No ☐
- Are samples (except VOA and ONG) properly preserved? Yes ☒ No ☐
- Was preservative added to bottles? Yes ☐ No ☒ NA ☐
- VOA vials have zero headspace? Yes ☐ No ☐ No VOA Vials ☒
- Were any sample containers received broken? Yes ☐ No ☒
- Does paperwork match bottle labels? Yes ☒ No ☐
(Note discrepancies on chain of custody)
- Are matrices correctly identified on Chain of Custody? Yes ☒ No ☐
- Is it clear what analyses were requested? Yes ☒ No ☐
- 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)

- Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☒

Person Notified:	<input type="text"/>	Date:	<input type="text"/>
By Whom:	<input type="text"/>	Via:	<input type="checkbox"/> eMail <input type="checkbox"/> Phone <input type="checkbox"/> Fax <input type="checkbox"/> In Person
Regarding:	<input type="text"/>		
Client Instructions:	<input type="text"/>		

- Additional remarks:

18. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1		Good	Yes			

Chain-of-Custody Record

Client: Cypress Engineering Services Inc.
 ATTN: George Robinson, PE
 Mailing Address: Highway 6 North Suite 100
Houston, TX 77095-2422
 Phone #: 281.797.3420
 Email/Fax#: georgec.robinson@cypressinc.us
 QA/QC Package: Cypress Inc. US
☒ Standard ☐ Level 4 (Full Validation)
 Accreditation
☐ NELAP ☐ Other _____
☐ EDD (Type) _____

Turn-Around Time:

☒ Standard ☐ Rush

Project Name:

TWP Roswell Station 9

Project #: MONTHLY EFFLUENT

Baker Furnace Discharge

Project Manager:

George Robinson, PE

Sampler:

CM Barnhill, PE

On Ice: ☐ Yes ☒ No

Sample Temperature:

Container Type and #

Preservative Type

HEAL No

1309087

-001

-002

Sample Request ID

Matrix

Date

West Baker Furnace

East Baker Furnace

12/13/12

12/13/12

12:40

12:45

Relinquished by:

Time:

Date:

Received by:

Date

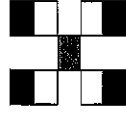
Time

Remarks:

30 Call George Robinson

any questions please

281.797.3420



HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Analysis Request

BTEX + MTBE + TMB's (8021)

BTEX + MTBE + TPH (Gas only)

TPH 8015B (GRO / DRO / MRO)

TPH (Method 418.1)

EDB (Method 504.1)

PAH's (8310 or 8270 SIMS)

RCRA 8 Metals

Anions (F, Cl, NO₃, NO₂, PO₄, SO₄)

8081 Pesticides / 8082 PCB's

8260B (VOA)

8270 (Semi-VOA)

TPH MOD-8015 GRO

HCR

Air Bubbles (Y or N)



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

October 28, 2013

George Robinson
Cypress Engineering
7171 Highway 6 North
Suite 102
Houston, TX 770952422
TEL: (281) 797-3420
FAX (281) 859-1881

RE: TWP Roswell Station 9

OrderNo.: 1310926

Dear George Robinson:

Hall Environmental Analysis Laboratory received 2 sample(s) on 10/18/2013 for the analyses presented in the following report.

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

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

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #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 1310926

Date Reported: 10/28/2013

CLIENT: Cypress Engineering

Client Sample ID: West Baker Furnace

Project: TWP Roswell Station 9

Collection Date: 10/17/2013 1:10:00 PM

Lab ID: 1310926-001

Matrix: AIR

Received Date: 10/18/2013 9:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: GASOLINE RANGE				Analyst: NSB			
Gasoline Range Organics (GRO)	1900	125		µg/L	25	10/24/2013 12:09:48 PM	R14324
% GRO Hydrocarbons: <C6	28.0	0		%	25	10/24/2013 12:09:48 PM	R14324
% GRO Hydrocarbons: C06-C7	38.7	0		%	25	10/24/2013 12:09:48 PM	R14324
% GRO Hydrocarbons: C07-C8	21.3	0		%	25	10/24/2013 12:09:48 PM	R14324
% GRO Hydrocarbons: C08-C9	7.40	0		%	25	10/24/2013 12:09:48 PM	R14324
% GRO Hydrocarbons: C09-C10	3.60	0		%	25	10/24/2013 12:09:48 PM	R14324
% GRO Hydrocarbons: C10-C11	0.500	0		%	25	10/24/2013 12:09:48 PM	R14324
% GRO Hydrocarbons: C11-C12	0.400	0		%	25	10/24/2013 12:09:48 PM	R14324
% GRO Hydrocarbons: C12-C14	0.100	0		%	25	10/24/2013 12:09:48 PM	R14324
% GRO Hydrocarbons: C14+	ND	0		%	25	10/24/2013 12:09:48 PM	R14324
Surr: BFB	98.4	26.3-265		%REC	25	10/24/2013 12:09:48 PM	R14324

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	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 for VOA and TOC only.
	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 1310926

Date Reported: 10/28/2013

CLIENT: Cypress Engineering

Client Sample ID: East Baker Furnice

Project: TWP Roswell Station 9

Collection Date: 10/17/2013 1:20:00 PM

Lab ID: 1310926-002

Matrix: AIR

Received Date: 10/18/2013 9:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: GASOLINE RANGE					Analyst: NSB		
Gasoline Range Organics (GRO)	1650	125		µg/L	25	10/24/2013 12:37:02 PM	R14324
% GRO Hydrocarbons: <C6	30.5	0		%	25	10/24/2013 12:37:02 PM	R14324
% GRO Hydrocarbons: C06-C7	32.8	0		%	25	10/24/2013 12:37:02 PM	R14324
% GRO Hydrocarbons: C07-C8	22.8	0		%	25	10/24/2013 12:37:02 PM	R14324
% GRO Hydrocarbons: C08-C9	7.90	0		%	25	10/24/2013 12:37:02 PM	R14324
% GRO Hydrocarbons: C09-C10	4.60	0		%	25	10/24/2013 12:37:02 PM	R14324
% GRO Hydrocarbons: C10-C11	0.600	0		%	25	10/24/2013 12:37:02 PM	R14324
% GRO Hydrocarbons: C11-C12	0.400	0		%	25	10/24/2013 12:37:02 PM	R14324
% GRO Hydrocarbons: C12-C14	0.200	0		%	25	10/24/2013 12:37:02 PM	R14324
% GRO Hydrocarbons: C14+	0.200	0		%	25	10/24/2013 12:37:02 PM	R14324
Surr: BFB	101	26.3-265		%REC	25	10/24/2013 12:37:02 PM	R14324

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	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 for VOA and TOC only.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		

Sample Log-In Check List

Client Name: CYP

Work Order Number: 1310926

RcptNo: 1

Received by/date:	<i>[Signature]</i>	<i>10/18/13</i>
Logged By:	Lindsay Mangin	10/18/2013 9:15:00 AM
Completed By:	Lindsay Mangin	10/18/2013 11:47:32 AM
Reviewed By:	<i>[Signature]</i>	<i>10/18/13</i>

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? Courier

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?
(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: _____
(<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:	<i>[Signature]</i>	Date:	<i>10/18/13</i>
By Whom:	<i>[Signature]</i>	Via:	<input type="checkbox"/> eMail <input type="checkbox"/> Phone <input type="checkbox"/> Fax <input type="checkbox"/> In Person
Regarding:	<i>[Signature]</i>		
Client Instructions:	<i>[Signature]</i>		

17. Additional remarks:

18. Cooler Information

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



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

December 04, 2013

George Robinson
Cypress Engineering
7171 Highway 6 North
Suite 102
Houston, TX 770952422
TEL: (281) 797-3420
FAX (281) 859-1881

RE: TWP Roswell Station 9

OrderNo.: 1311B01

Dear George Robinson:

Hall Environmental Analysis Laboratory received 2 sample(s) on 11/25/2013 for the analyses presented in the following report.

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

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

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #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 1311B01

Date Reported: 12/4/2013

CLIENT: Cypress Engineering

Client Sample ID: West Baker Furnace

Project: TWP Roswell Station 9

Collection Date: 11/22/2013 11:30:00 AM

Lab ID: 1311B01-001

Matrix: AIR

Received Date: 11/25/2013 11:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: GASOLINE RANGE				Analyst: RAA			
Gasoline Range Organics (GRO)	2100	125		µg/L	25	11/26/2013 2:54:19 PM	R15122
% GRO Hydrocarbons: <C6	31.9	0		%	25	11/26/2013 2:54:19 PM	R15122
% GRO Hydrocarbons: C06-C7	35.5	0		%	25	11/26/2013 2:54:19 PM	R15122
% GRO Hydrocarbons: C07-C8	23.4	0		%	25	11/26/2013 2:54:19 PM	R15122
% GRO Hydrocarbons: C08-C9	5.90	0		%	25	11/26/2013 2:54:19 PM	R15122
% GRO Hydrocarbons: C09-C10	3.00	0		%	25	11/26/2013 2:54:19 PM	R15122
% GRO Hydrocarbons: C10-C11	0.100	0		%	25	11/26/2013 2:54:19 PM	R15122
% GRO Hydrocarbons: C11-C12	0.100	0		%	25	11/26/2013 2:54:19 PM	R15122
% GRO Hydrocarbons: C12-C14	0.100	0		%	25	11/26/2013 2:54:19 PM	R15122
% GRO Hydrocarbons: C14+	ND	0		%	25	11/26/2013 2:54:19 PM	R15122
Surr: BFB	111	26.3-265		%REC	25	11/26/2013 2:54:19 PM	R15122

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	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 for VOA and TOC only.
	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 1311B01

Date Reported: 12/4/2013

CLIENT: Cypress Engineering

Client Sample ID: East Baker Furnace

Project: TWP Roswell Station 9

Collection Date: 11/22/2013 11:40:00 AM

Lab ID: 1311B01-002

Matrix: AIR

Received Date: 11/25/2013 11:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: GASOLINE RANGE				Analyst: RAA			
Gasoline Range Organics (GRO)	1960	125		µg/L	25	11/26/2013 3:49:42 PM	R15122
% GRO Hydrocarbons: <C6	29.6	0		%	25	11/26/2013 3:49:42 PM	R15122
% GRO Hydrocarbons: C06-C7	32.5	0		%	25	11/26/2013 3:49:42 PM	R15122
% GRO Hydrocarbons: C07-C8	24.2	0		%	25	11/26/2013 3:49:42 PM	R15122
% GRO Hydrocarbons: C08-C9	7.90	0		%	25	11/26/2013 3:49:42 PM	R15122
% GRO Hydrocarbons: C09-C10	4.40	0		%	25	11/26/2013 3:49:42 PM	R15122
% GRO Hydrocarbons: C10-C11	0.700	0		%	25	11/26/2013 3:49:42 PM	R15122
% GRO Hydrocarbons: C11-C12	0.400	0		%	25	11/26/2013 3:49:42 PM	R15122
% GRO Hydrocarbons: C12-C14	0.300	0		%	25	11/26/2013 3:49:42 PM	R15122
% GRO Hydrocarbons: C14+	ND	0		%	25	11/26/2013 3:49:42 PM	R15122
Surr: BFB	110	26.3-265		%REC	25	11/26/2013 3:49:42 PM	R15122

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	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 for VOA and TOC only.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		

Sample Log-In Check List

Client Name: CYP

Work Order Number: 1311B01

RcptNo: 1

Received by/date:

AG

11/25/13

Logged By: Michelle Garcia

11/25/2013 11:00:00 AM

Michelle Garcia

Completed By: Michelle Garcia

11/25/2013 3:13:59 PM

Michelle Garcia

Reviewed By:

TO

11/25/13

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?

UPS

Log In

4. Was an attempt made to cool the samples?

Yes ☒

No ☐

NA

5. Were all samples received at a temperature of $>0^{\circ}\text{C}$ 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 ☐

of preserved
bottles checked
for pH:

(Note discrepancies on chain of custody)

13. Are matrices correctly identified on Chain of Custody?

Yes ☒

No ☐

(<2 or >12 unless noted)

14. Is it clear what analyses were requested?

Yes ☒

No ☐

Adjusted?

15. Were all holding times able to be met?

Yes ☒

No ☐

Checked by:

(If no, notify customer for authorization.)

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 $^{\circ}\text{C}$	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	NA	Good	Yes			

Chain-of-Custody Record

Client: Cypress Engineering Services Inc.
 ATTN: George Robinson, PE
 Mailing Address: 1171 Highway 6 North Suite 102
Houston, Texas 77095-2422
 Phone #: 281.797.3420
 Email or Fax#: George.robinson@
 QA/QC Package: Cypress inc. us
☒ Standard ☐ Level 4 (Full Validation)
 Accreditation
☐ NELAP ☐ Other
☐ EDD (Type)

Turn-Around Time:

☒ Standard ☐ Rush
 Project Name: Twp Roswell Station 9

Project #: MONTHLY Baker
Furnace Effluent Sampling
 Project Manager: George Robinson, PE
11/20/13

Sampler: CM Barnhill, PE
 On Ice: ☐ Yes ☒ No
 Sample Temperature:

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No.
11/24/13	11:30	Air	West Baker Furnace	1x1250g	None	13110-001
11/24/13	11:40	Air	East Baker Furnace	1x1250g	None	-002

Date: 11/24/13 Time: 1300
 Relinquished by: [Signature]
 Date: 11/25/13 Time: 11:00
 Received by: Alex Gallagos
 Received by: [Signature]



HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Analysis Request

BTEX + MTBE + TMBs (8021)	
BTEX + MTBE + TPH (Gas only)	
TPH 8015B (GRO / DRO / MRO)	X
TPH (Method 418.1)	
EDB (Method 504.1)	
PAH's (8310 or 8270 SIMS)	
RCRA 8 Metals	
Anions (F, Cl, NO ₃ , NO ₂ , PO ₄ , SO ₄)	
8081 Pesticides / 8082 PCBs	
8260B (VOA)	
8270 (Semi-VOA)	X

Remarks: *Any Questions Please Call
George Robinson
281.797.3420



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

December 24, 2013

George Robinson
Cypress Engineering
7171 Highway 6 North
Suite 102
Houston, TX 770952422
TEL: (281) 797-3420
FAX (281) 859-1881

RE: TWP Roswell Station 9 SVE

Order No.: 1312968

Dear George Robinson:

Hall Environmental Analysis Laboratory received 2 sample(s) on 12/18/2013 for the analyses presented in the following report.

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

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

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #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 1312968

Date Reported: 12/24/2013

CLIENT: Cypress Engineering

Client Sample ID: West Baker Furnace

Project: TWP Roswell Station 9 SVE

Collection Date: 12/17/2013

Lab ID: 1312968-001

Matrix: AIR

Received Date: 12/18/2013 10:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: GASOLINE RANGE				Analyst: NSB			
Gasoline Range Organics (GRO)	1980	125		µg/L	25	12/23/2013 11:12:15 AM	R15705
% GRO Hydrocarbons: <C6	28.6	0		%	25	12/23/2013 11:12:15 AM	R15705
% GRO Hydrocarbons: C06-C7	37.8	0		%	25	12/23/2013 11:12:15 AM	R15705
% GRO Hydrocarbons: C07-C8	21.0	0		%	25	12/23/2013 11:12:15 AM	R15705
% GRO Hydrocarbons: C08-C9	7.30	0		%	25	12/23/2013 11:12:15 AM	R15705
% GRO Hydrocarbons: C09-C10	4.10	0		%	25	12/23/2013 11:12:15 AM	R15705
% GRO Hydrocarbons: C10-C11	0.700	0		%	25	12/23/2013 11:12:15 AM	R15705
% GRO Hydrocarbons: C11-C12	0.300	0		%	25	12/23/2013 11:12:15 AM	R15705
% GRO Hydrocarbons: C12-C14	0.200	0		%	25	12/23/2013 11:12:15 AM	R15705
% GRO Hydrocarbons: C14+	ND	0		%	25	12/23/2013 11:12:15 AM	R15705
Surr: BFB	92.7	48.4-164		%REC	25	12/23/2013 11:12:15 AM	R15705

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	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 for VOA and TOC only.
	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 1312968

Date Reported: 12/24/2013

CLIENT: Cypress Engineering

Client Sample ID: East Baker Furnace

Project: TWP Roswell Station 9 SVE

Collection Date: 12/17/2013

Lab ID: 1312968-002

Matrix: AIR

Received Date: 12/18/2013 10:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: GASOLINE RANGE				Analyst: NSB			
Gasoline Range Organics (GRO)	1770	125		µg/L	25	12/23/2013 12:07:05 PM	R15705
% GRO Hydrocarbons: <C6	31.4	0		%	25	12/23/2013 12:07:05 PM	R15705
% GRO Hydrocarbons: C06-C7	33.2	0		%	25	12/23/2013 12:07:05 PM	R15705
% GRO Hydrocarbons: C07-C8	22.8	0		%	25	12/23/2013 12:07:05 PM	R15705
% GRO Hydrocarbons: C08-C9	7.20	0		%	25	12/23/2013 12:07:05 PM	R15705
% GRO Hydrocarbons: C09-C10	4.20	0		%	25	12/23/2013 12:07:05 PM	R15705
% GRO Hydrocarbons: C10-C11	0.600	0		%	25	12/23/2013 12:07:05 PM	R15705
% GRO Hydrocarbons: C11-C12	0.300	0		%	25	12/23/2013 12:07:05 PM	R15705
% GRO Hydrocarbons: C12-C14	0.300	0		%	25	12/23/2013 12:07:05 PM	R15705
% GRO Hydrocarbons: C14+	ND	0		%	25	12/23/2013 12:07:05 PM	R15705
Surr: BFB	93.1	48.4-164		%REC	25	12/23/2013 12:07:05 PM	R15705

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	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 for VOA and TOC only.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		

Sample Log-In Check List

Client Name: CYP

Work Order Number: 1312968

RcptNo: 1

Received by/date: JB 12/18/13

Logged By: Anne Thorne 12/18/2013 10:20:00 AM

Anne Thorne

Completed By: Anne Thorne 12/20/2013

Anne Thorne

Reviewed By: AT 12/20/13

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? UPS

Log In

4. Was an attempt made to cool the samples? Yes ☐ No ☐ NA ☒
5. Were all samples received at a temperature of $>0^{\circ}\text{C}$ 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?
(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: _____
(<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:	<input type="text"/>	Date:	<input type="text"/>
By Whom:	<input type="text"/>	Via:	<input type="checkbox"/> eMail <input type="checkbox"/> Phone <input type="checkbox"/> Fax <input type="checkbox"/> In Person
Regarding:	<input type="text"/>		
Client Instructions:	<input type="text"/>		

17. Additional remarks:

18. Cooler Information



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

May 31, 2013

George Robinson
Cypress Engineering
7171 Highway 6 North
Suite 102
Houston, TX 770952422
TEL: (281) 797-3420
FAX (281) 859-1881

RE: TWP Roswell Station 9

Order No.: 1305715

Dear George Robinson:

Hall Environmental Analysis Laboratory received 5 sample(s) on 5/17/2013 for the analyses presented in the following report.

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

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

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 1305715

Date Reported: 5/31/2013

CLIENT: Cypress Engineering

Client Sample ID: Pre-Treatment

Project: TWP Roswell Station 9

Collection Date: 5/16/2013 7:20:00 AM

Lab ID: 1305715-001

Matrix: AQUEOUS

Received Date: 5/17/2013 9:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8021B: VOLATILES					Analyst: NSB		
Methyl tert-butyl ether (MTBE)	ND	250		µg/L	100	5/20/2013 6:35:57 PM	R10751
Benzene	2800	100		µg/L	100	5/20/2013 6:35:57 PM	R10751
Toluene	4900	100		µg/L	100	5/20/2013 6:35:57 PM	R10751
Ethylbenzene	260	100		µg/L	100	5/20/2013 6:35:57 PM	R10751
Xylenes, Total	2600	200		µg/L	100	5/20/2013 6:35:57 PM	R10751
1,2,4-Trimethylbenzene	160	100		µg/L	100	5/20/2013 6:35:57 PM	R10751
1,3,5-Trimethylbenzene	100	100		µg/L	100	5/20/2013 6:35:57 PM	R10751
Surr: 4-Bromofluorobenzene	101	69.4-129		%REC	100	5/20/2013 6:35:57 PM	R10751

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank	Page 1 of 26
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded	
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit	
	P	Sample pH greater than 2 for VOA and TOC only.	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 1305715

Date Reported: 5/31/2013

CLIENT: Cypress Engineering

Client Sample ID: Post Air- Stripper

Project: TWP Roswell Station 9

Collection Date: 5/16/2013 7:20:00 AM

Lab ID: 1305715-002

Matrix: AQUEOUS

Received Date: 5/17/2013 9:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Methyl tert-butyl ether (MTBE)	ND	12		µg/L	5	5/20/2013 10:08:04 PM	R10751
Benzene	ND	5.0		µg/L	5	5/20/2013 10:08:04 PM	R10751
Toluene	ND	5.0		µg/L	5	5/20/2013 10:08:04 PM	R10751
Ethylbenzene	ND	5.0		µg/L	5	5/20/2013 10:08:04 PM	R10751
Xylenes, Total	ND	10		µg/L	5	5/20/2013 10:08:04 PM	R10751
1,2,4-Trimethylbenzene	ND	5.0		µg/L	5	5/20/2013 10:08:04 PM	R10751
1,3,5-Trimethylbenzene	ND	5.0		µg/L	5	5/20/2013 10:08:04 PM	R10751
Surr: 4-Bromofluorobenzene	99.9	69.4-129		%REC	5	5/20/2013 10:08:04 PM	R10751

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank	Page 2 of 26
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded	
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit	
	P	Sample pH greater than 2 for VOA and TOC only.	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 1305715

Date Reported: 5/31/2013

CLIENT: Cypress Engineering

Client Sample ID: Between GAC's

Project: TWP Roswell Station 9

Collection Date: 5/16/2013 7:20:00 AM

Lab ID: 1305715-003

Matrix: AQUEOUS

Received Date: 5/17/2013 9:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Methyl tert-butyl ether (MTBE)	ND	2.5		µg/L	1	5/20/2013 10:38:19 PM	R10751
Benzene	3.3	1.0		µg/L	1	5/20/2013 10:38:19 PM	R10751
Toluene	ND	1.0		µg/L	1	5/20/2013 10:38:19 PM	R10751
Ethylbenzene	ND	1.0		µg/L	1	5/20/2013 10:38:19 PM	R10751
Xylenes, Total	ND	2.0		µg/L	1	5/20/2013 10:38:19 PM	R10751
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	5/20/2013 10:38:19 PM	R10751
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	5/20/2013 10:38:19 PM	R10751
Surr: 4-Bromofluorobenzene	100	69.4-129		%REC	1	5/20/2013 10:38:19 PM	R10751

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank	Page 3 of 26
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded	
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit	
	P	Sample pH greater than 2 for VOA and TOC only.	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 1305715

Date Reported: 5/31/2013

CLIENT: Cypress Engineering

Client Sample ID: Post Treatment

Project: TWP Roswell Station 9

Collection Date: 5/16/2013 7:20:00 AM

Lab ID: 1305715-004

Matrix: AQUEOUS

Received Date: 5/17/2013 9:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: JRR
Fluoride	7.8	2.0	*	mg/L	20	5/17/2013 4:22:43 PM	R10725
Chloride	380	25		mg/L	50	5/20/2013 5:58:00 PM	R10757
Nitrogen, Nitrite (As N)	ND	2.0		mg/L	20	5/17/2013 4:22:43 PM	R10725
Bromide	0.43	0.10		mg/L	1	5/17/2013 4:10:18 PM	R10725
Nitrogen, Nitrate (As N)	ND	0.10		mg/L	1	5/17/2013 4:10:18 PM	R10725
Phosphorus, Orthophosphate (As P)	ND	0.50		mg/L	1	5/17/2013 4:10:18 PM	R10725
Sulfate	1300	25		mg/L	50	5/20/2013 5:58:00 PM	R10757
EPA METHOD 200.7: DISSOLVED METALS							Analyst: JLF
Calcium	490	5.0		mg/L	5	5/22/2013 4:12:35 PM	R10804
Magnesium	140	5.0		mg/L	5	5/22/2013 4:12:35 PM	R10804
Potassium	3.2	1.0		mg/L	1	5/22/2013 4:10:06 PM	R10804
Sodium	210	5.0		mg/L	5	5/22/2013 4:12:35 PM	R10804
EPA METHOD 8260B: VOLATILES							Analyst: CWS
Benzene	ND	1.0		µg/L	1	5/18/2013 7:47:21 PM	R10728
Toluene	ND	1.0		µg/L	1	5/18/2013 7:47:21 PM	R10728
Ethylbenzene	ND	1.0		µg/L	1	5/18/2013 7:47:21 PM	R10728
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	5/18/2013 7:47:21 PM	R10728
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	5/18/2013 7:47:21 PM	R10728
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	5/18/2013 7:47:21 PM	R10728
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	5/18/2013 7:47:21 PM	R10728
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	5/18/2013 7:47:21 PM	R10728
Naphthalene	ND	2.0		µg/L	1	5/18/2013 7:47:21 PM	R10728
1-Methylnaphthalene	ND	4.0		µg/L	1	5/18/2013 7:47:21 PM	R10728
2-Methylnaphthalene	ND	4.0		µg/L	1	5/18/2013 7:47:21 PM	R10728
Acetone	59	10		µg/L	1	5/18/2013 7:47:21 PM	R10728
Bromobenzene	ND	1.0		µg/L	1	5/18/2013 7:47:21 PM	R10728
Bromodichloromethane	ND	1.0		µg/L	1	5/18/2013 7:47:21 PM	R10728
Bromoform	ND	1.0		µg/L	1	5/18/2013 7:47:21 PM	R10728
Bromomethane	ND	3.0		µg/L	1	5/18/2013 7:47:21 PM	R10728
2-Butanone	ND	10		µg/L	1	5/18/2013 7:47:21 PM	R10728
Carbon disulfide	ND	10		µg/L	1	5/18/2013 7:47:21 PM	R10728
Carbon Tetrachloride	ND	1.0		µg/L	1	5/18/2013 7:47:21 PM	R10728
Chlorobenzene	ND	1.0		µg/L	1	5/18/2013 7:47:21 PM	R10728
Chloroethane	ND	2.0		µg/L	1	5/18/2013 7:47:21 PM	R10728
Chloroform	ND	1.0		µg/L	1	5/18/2013 7:47:21 PM	R10728
Chloromethane	ND	3.0		µg/L	1	5/18/2013 7:47:21 PM	R10728
2-Chlorotoluene	ND	1.0		µg/L	1	5/18/2013 7:47:21 PM	R10728
4-Chlorotoluene	ND	1.0		µg/L	1	5/18/2013 7:47:21 PM	R10728
cis-1,2-DCE	ND	1.0		µg/L	1	5/18/2013 7:47:21 PM	R10728

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
- P Sample pH greater than 2 for VOA and TOC only.
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1305715

Date Reported: 5/31/2013

CLIENT: Cypress Engineering

Client Sample ID: Post Treatment

Project: TWP Roswell Station 9

Collection Date: 5/16/2013 7:20:00 AM

Lab ID: 1305715-004

Matrix: AQUEOUS

Received Date: 5/17/2013 9:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES				Analyst: CWS			
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	5/18/2013 7:47:21 PM	R10728
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	5/18/2013 7:47:21 PM	R10728
Dibromochloromethane	ND	1.0		µg/L	1	5/18/2013 7:47:21 PM	R10728
Dibromomethane	ND	1.0		µg/L	1	5/18/2013 7:47:21 PM	R10728
1,2-Dichlorobenzene	ND	1.0		µg/L	1	5/18/2013 7:47:21 PM	R10728
1,3-Dichlorobenzene	ND	1.0		µg/L	1	5/18/2013 7:47:21 PM	R10728
1,4-Dichlorobenzene	ND	1.0		µg/L	1	5/18/2013 7:47:21 PM	R10728
Dichlorodifluoromethane	ND	1.0		µg/L	1	5/18/2013 7:47:21 PM	R10728
1,1-Dichloroethane	ND	1.0		µg/L	1	5/18/2013 7:47:21 PM	R10728
1,1-Dichloroethene	ND	1.0		µg/L	1	5/18/2013 7:47:21 PM	R10728
1,2-Dichloropropane	ND	1.0		µg/L	1	5/18/2013 7:47:21 PM	R10728
1,3-Dichloropropane	ND	1.0		µg/L	1	5/18/2013 7:47:21 PM	R10728
2,2-Dichloropropane	ND	2.0		µg/L	1	5/18/2013 7:47:21 PM	R10728
1,1-Dichloropropene	ND	1.0		µg/L	1	5/18/2013 7:47:21 PM	R10728
Hexachlorobutadiene	ND	1.0		µg/L	1	5/18/2013 7:47:21 PM	R10728
2-Hexanone	ND	10		µg/L	1	5/18/2013 7:47:21 PM	R10728
Isopropylbenzene	ND	1.0		µg/L	1	5/18/2013 7:47:21 PM	R10728
4-Isopropyltoluene	ND	1.0		µg/L	1	5/18/2013 7:47:21 PM	R10728
4-Methyl-2-pentanone	ND	10		µg/L	1	5/18/2013 7:47:21 PM	R10728
Methylene Chloride	ND	3.0		µg/L	1	5/18/2013 7:47:21 PM	R10728
n-Butylbenzene	ND	3.0		µg/L	1	5/18/2013 7:47:21 PM	R10728
n-Propylbenzene	ND	1.0		µg/L	1	5/18/2013 7:47:21 PM	R10728
sec-Butylbenzene	ND	1.0		µg/L	1	5/18/2013 7:47:21 PM	R10728
Styrene	ND	1.0		µg/L	1	5/18/2013 7:47:21 PM	R10728
tert-Butylbenzene	ND	1.0		µg/L	1	5/18/2013 7:47:21 PM	R10728
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	5/18/2013 7:47:21 PM	R10728
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	5/18/2013 7:47:21 PM	R10728
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	5/18/2013 7:47:21 PM	R10728
trans-1,2-DCE	ND	1.0		µg/L	1	5/18/2013 7:47:21 PM	R10728
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	5/18/2013 7:47:21 PM	R10728
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	5/18/2013 7:47:21 PM	R10728
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	5/18/2013 7:47:21 PM	R10728
1,1,1-Trichloroethane	ND	1.0		µg/L	1	5/18/2013 7:47:21 PM	R10728
1,1,2-Trichloroethane	ND	1.0		µg/L	1	5/18/2013 7:47:21 PM	R10728
Trichloroethene (TCE)	ND	1.0		µg/L	1	5/18/2013 7:47:21 PM	R10728
Trichlorofluoromethane	ND	1.0		µg/L	1	5/18/2013 7:47:21 PM	R10728
1,2,3-Trichloropropane	ND	2.0		µg/L	1	5/18/2013 7:47:21 PM	R10728
Vinyl chloride	ND	1.0		µg/L	1	5/18/2013 7:47:21 PM	R10728
Xylenes, Total	ND	1.5		µg/L	1	5/18/2013 7:47:21 PM	R10728
Surr: 1,2-Dichloroethane-d4	98.7	70-130		%REC	1	5/18/2013 7:47:21 PM	R10728

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
- P Sample pH greater than 2 for VOA and TOC only.
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1305715

Date Reported: 5/31/2013

CLIENT: Cypress Engineering

Client Sample ID: Post Treatment

Project: TWP Roswell Station 9

Collection Date: 5/16/2013 7:20:00 AM

Lab ID: 1305715-004

Matrix: AQUEOUS

Received Date: 5/17/2013 9:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: CWS	
Surr: 4-Bromofluorobenzene	102	69.5-130		%REC	1	5/18/2013 7:47:21 PM	R10728
Surr: Dibromofluoromethane	101	70-130		%REC	1	5/18/2013 7:47:21 PM	R10728
Surr: Toluene-d8	96.8	70-130		%REC	1	5/18/2013 7:47:21 PM	R10728

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank	Page 6 of 26
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded	
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit	
	P	Sample pH greater than 2 for VOA and TOC only.	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 1305715

Date Reported: 5/31/2013

CLIENT: Cypress Engineering

Client Sample ID: Trip Blank

Project: TWP Roswell Station 9

Collection Date:

Lab ID: 1305715-005

Matrix: TRIP BLANK

Received Date: 5/17/2013 9:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES							Analyst: CWS
Benzene	ND	1.0		µg/L	1	5/20/2013 9:09:02 PM	R10753
Toluene	ND	1.0		µg/L	1	5/20/2013 9:09:02 PM	R10753
Ethylbenzene	ND	1.0		µg/L	1	5/20/2013 9:09:02 PM	R10753
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	5/20/2013 9:09:02 PM	R10753
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	5/20/2013 9:09:02 PM	R10753
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	5/20/2013 9:09:02 PM	R10753
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	5/20/2013 9:09:02 PM	R10753
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	5/20/2013 9:09:02 PM	R10753
Naphthalene	ND	2.0		µg/L	1	5/20/2013 9:09:02 PM	R10753
1-Methylnaphthalene	ND	4.0		µg/L	1	5/20/2013 9:09:02 PM	R10753
2-Methylnaphthalene	ND	4.0		µg/L	1	5/20/2013 9:09:02 PM	R10753
Acetone	ND	10		µg/L	1	5/20/2013 9:09:02 PM	R10753
Bromobenzene	ND	1.0		µg/L	1	5/20/2013 9:09:02 PM	R10753
Bromodichloromethane	ND	1.0		µg/L	1	5/20/2013 9:09:02 PM	R10753
Bromoform	ND	1.0		µg/L	1	5/20/2013 9:09:02 PM	R10753
Bromomethane	ND	3.0		µg/L	1	5/20/2013 9:09:02 PM	R10753
2-Butanone	ND	10		µg/L	1	5/20/2013 9:09:02 PM	R10753
Carbon disulfide	ND	10		µg/L	1	5/20/2013 9:09:02 PM	R10753
Carbon Tetrachloride	ND	1.0		µg/L	1	5/20/2013 9:09:02 PM	R10753
Chlorobenzene	ND	1.0		µg/L	1	5/20/2013 9:09:02 PM	R10753
Chloroethane	ND	2.0		µg/L	1	5/20/2013 9:09:02 PM	R10753
Chloroform	ND	1.0		µg/L	1	5/20/2013 9:09:02 PM	R10753
Chloromethane	ND	3.0		µg/L	1	5/20/2013 9:09:02 PM	R10753
2-Chlorotoluene	ND	1.0		µg/L	1	5/20/2013 9:09:02 PM	R10753
4-Chlorotoluene	ND	1.0		µg/L	1	5/20/2013 9:09:02 PM	R10753
cis-1,2-DCE	ND	1.0		µg/L	1	5/20/2013 9:09:02 PM	R10753
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	5/20/2013 9:09:02 PM	R10753
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	5/20/2013 9:09:02 PM	R10753
Dibromochloromethane	ND	1.0		µg/L	1	5/20/2013 9:09:02 PM	R10753
Dibromomethane	ND	1.0		µg/L	1	5/20/2013 9:09:02 PM	R10753
1,2-Dichlorobenzene	ND	1.0		µg/L	1	5/20/2013 9:09:02 PM	R10753
1,3-Dichlorobenzene	ND	1.0		µg/L	1	5/20/2013 9:09:02 PM	R10753
1,4-Dichlorobenzene	ND	1.0		µg/L	1	5/20/2013 9:09:02 PM	R10753
Dichlorodifluoromethane	ND	1.0		µg/L	1	5/20/2013 9:09:02 PM	R10753
1,1-Dichloroethane	ND	1.0		µg/L	1	5/20/2013 9:09:02 PM	R10753
1,1-Dichloroethene	ND	1.0		µg/L	1	5/20/2013 9:09:02 PM	R10753
1,2-Dichloropropane	ND	1.0		µg/L	1	5/20/2013 9:09:02 PM	R10753
1,3-Dichloropropane	ND	1.0		µg/L	1	5/20/2013 9:09:02 PM	R10753
2,2-Dichloropropane	ND	2.0		µg/L	1	5/20/2013 9:09:02 PM	R10753
1,1-Dichloropropene	ND	1.0		µg/L	1	5/20/2013 9:09:02 PM	R10753

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

Qualifiers:	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	E Value above quantitation range	H Holding times for preparation or analysis exceeded
	J Analyte detected below quantitation limits	ND Not Detected at the Reporting Limit
	P Sample pH greater than 2 for VOA and TOC only.	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 1305715

Date Reported: 5/31/2013

CLIENT: Cypress Engineering

Client Sample ID: Trip Blank

Project: TWP Roswell Station 9

Collection Date:

Lab ID: 1305715-005

Matrix: TRIP BLANK

Received Date: 5/17/2013 9:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES							Analyst: CWS
Hexachlorobutadiene	ND	1.0		µg/L	1	5/20/2013 9:09:02 PM	R10753
2-Hexanone	ND	10		µg/L	1	5/20/2013 9:09:02 PM	R10753
Isopropylbenzene	ND	1.0		µg/L	1	5/20/2013 9:09:02 PM	R10753
4-Isopropyltoluene	ND	1.0		µg/L	1	5/20/2013 9:09:02 PM	R10753
4-Methyl-2-pentanone	ND	10		µg/L	1	5/20/2013 9:09:02 PM	R10753
Methylene Chloride	ND	3.0		µg/L	1	5/20/2013 9:09:02 PM	R10753
n-Butylbenzene	ND	3.0		µg/L	1	5/20/2013 9:09:02 PM	R10753
n-Propylbenzene	ND	1.0		µg/L	1	5/20/2013 9:09:02 PM	R10753
sec-Butylbenzene	ND	1.0		µg/L	1	5/20/2013 9:09:02 PM	R10753
Styrene	ND	1.0		µg/L	1	5/20/2013 9:09:02 PM	R10753
tert-Butylbenzene	ND	1.0		µg/L	1	5/20/2013 9:09:02 PM	R10753
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	5/20/2013 9:09:02 PM	R10753
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	5/20/2013 9:09:02 PM	R10753
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	5/20/2013 9:09:02 PM	R10753
trans-1,2-DCE	ND	1.0		µg/L	1	5/20/2013 9:09:02 PM	R10753
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	5/20/2013 9:09:02 PM	R10753
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	5/20/2013 9:09:02 PM	R10753
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	5/20/2013 9:09:02 PM	R10753
1,1,1-Trichloroethane	ND	1.0		µg/L	1	5/20/2013 9:09:02 PM	R10753
1,1,2-Trichloroethane	ND	1.0		µg/L	1	5/20/2013 9:09:02 PM	R10753
Trichloroethene (TCE)	ND	1.0		µg/L	1	5/20/2013 9:09:02 PM	R10753
Trichlorofluoromethane	ND	1.0		µg/L	1	5/20/2013 9:09:02 PM	R10753
1,2,3-Trichloropropane	ND	2.0		µg/L	1	5/20/2013 9:09:02 PM	R10753
Vinyl chloride	ND	1.0		µg/L	1	5/20/2013 9:09:02 PM	R10753
Xylenes, Total	ND	1.5		µg/L	1	5/20/2013 9:09:02 PM	R10753
Surr: 1,2-Dichloroethane-d4	94.6	70-130		%REC	1	5/20/2013 9:09:02 PM	R10753
Surr: 4-Bromofluorobenzene	99.5	69.5-130		%REC	1	5/20/2013 9:09:02 PM	R10753
Surr: Dibromofluoromethane	107	70-130		%REC	1	5/20/2013 9:09:02 PM	R10753
Surr: Toluene-d8	93.5	70-130		%REC	1	5/20/2013 9:09:02 PM	R10753

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	P	Sample pH greater than 2 for VOA and TOC only.	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#: 1305715

31-May-13

Client: Cypress Engineering
Project: TWP Roswell Station 9

Sample ID MB	SampType: MBLK		TestCode: EPA Method 200.7: Dissolved Metals							
Client ID: PBW	Batch ID: R10804		RunNo: 10804							
Prep Date:	Analysis Date: 5/22/2013		SeqNo: 305413		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	ND	1.0								
Magnesium	ND	1.0								
Potassium	ND	1.0								
Sodium	ND	1.0								

Sample ID LCS	SampType: LCS		TestCode: EPA Method 200.7: Dissolved Metals							
Client ID: LCSW	Batch ID: R10804		RunNo: 10804							
Prep Date:	Analysis Date: 5/22/2013		SeqNo: 305414		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	51	1.0	50.00	0	101	85	115			
Magnesium	51	1.0	50.00	0	101	85	115			
Potassium	49	1.0	50.00	0	97.4	85	115			
Sodium	49	1.0	50.00	0	98.4	85	115			

Sample ID 1305406-002AMS	SampType: MS		TestCode: EPA Method 200.7: Dissolved Metals							
Client ID: BatchQC	Batch ID: R10804		RunNo: 10804							
Prep Date:	Analysis Date: 5/22/2013		SeqNo: 305572		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Magnesium	62	1.0	50.00	9.969	104	70	130			
Potassium	52	1.0	50.00	1.638	100	70	130			
Sodium	64	1.0	50.00	13.23	101	70	130			

Sample ID 1305406-002AMSD	SampType: MSD		TestCode: EPA Method 200.7: Dissolved Metals							
Client ID: BatchQC	Batch ID: R10804		RunNo: 10804							
Prep Date:	Analysis Date: 5/22/2013		SeqNo: 305573		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Magnesium	61	1.0	50.00	9.969	102	70	130	1.04	20	
Potassium	51	1.0	50.00	1.638	99.0	70	130	1.20	20	
Sodium	63	1.0	50.00	13.23	100	70	130	0.849	20	

Sample ID 1305406-002AMS	SampType: MS		TestCode: EPA Method 200.7: Dissolved Metals							
Client ID: BatchQC	Batch ID: R10804		RunNo: 10804							
Prep Date:	Analysis Date: 5/22/2013		SeqNo: 305575		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	320	5.0	250.0	53.98	105	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 |
| P Sample pH greater than 2 for VOA and TOC only. | 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#: 1305715

31-May-13

Client: Cypress Engineering
Project: TWP Roswell Station 9

Sample ID	1305406-002AMSD	SampType:	MSD	TestCode:	EPA Method 200.7: Dissolved Metals					
Client ID:	BatchQC	Batch ID:	R10804	RunNo:	10804					
Prep Date:		Analysis Date:	5/22/2013	SeqNo:	305579	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	320	5.0	250.0	53.98	106	70	130	0.940	20	

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 |
| P Sample pH greater than 2 for VOA and TOC only. | 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#: 1305715

31-May-13

Client: Cypress Engineering
Project: TWP Roswell Station 9

Sample ID MB	SampType: MBLK		TestCode: EPA Method 300.0: Anions							
Client ID: PBW	Batch ID: R10725		RunNo: 10725							
Prep Date:	Analysis Date: 5/17/2013		SeqNo: 303271		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	ND	0.10								
Nitrogen, Nitrite (As N)	ND	0.10								
Bromide	ND	0.10								
Nitrogen, Nitrate (As N)	ND	0.10								
Phosphorus, Orthophosphate (As P)	ND	0.50								

Sample ID LCS	SampType: LCS		TestCode: EPA Method 300.0: Anions							
Client ID: LCSW	Batch ID: R10725		RunNo: 10725							
Prep Date:	Analysis Date: 5/17/2013		SeqNo: 303272		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	0.52	0.10	0.5000	0	104	90	110			
Nitrogen, Nitrite (As N)	0.99	0.10	1.000	0	98.6	90	110			
Bromide	2.5	0.10	2.500	0	100	90	110			
Nitrogen, Nitrate (As N)	2.6	0.10	2.500	0	102	90	110			
Phosphorus, Orthophosphate (As P)	5.1	0.50	5.000	0	101	90	110			

Sample ID 1305706-001AMS	SampType: MS		TestCode: EPA Method 300.0: Anions							
Client ID: BatchQC	Batch ID: R10725		RunNo: 10725							
Prep Date:	Analysis Date: 5/17/2013		SeqNo: 303287		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Bromide	2.4	0.10	2.500	0	96.3	83.3	107			

Sample ID 1305706-001AMSD	SampType: MSD		TestCode: EPA Method 300.0: Anions							
Client ID: BatchQC	Batch ID: R10725		RunNo: 10725							
Prep Date:	Analysis Date: 5/17/2013		SeqNo: 303288		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Bromide	2.4	0.10	2.500	0	94.8	83.3	107	1.63	20	

Sample ID MB	SampType: MBLK		TestCode: EPA Method 300.0: Anions							
Client ID: PBW	Batch ID: R10725		RunNo: 10725							
Prep Date:	Analysis Date: 5/17/2013		SeqNo: 303327		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	ND	0.10								
Nitrogen, Nitrite (As N)	ND	0.10								
Bromide	ND	0.10								
Nitrogen, Nitrate (As N)	ND	0.10								
Phosphorus, Orthophosphate (As P)	ND	0.50								

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
P Sample pH greater than 2 for VOA and TOC only.	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#: 1305715

31-May-13

Client: Cypress Engineering
Project: TWP Roswell Station 9

Sample ID LCS	SampType: LCS		TestCode: EPA Method 300.0: Anions							
Client ID: LCSW	Batch ID: R10725		RunNo: 10725							
Prep Date:	Analysis Date: 5/17/2013		SeqNo: 303328		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	0.51	0.10	0.5000	0	102	90	110			
Nitrogen, Nitrite (As N)	0.95	0.10	1.000	0	95.5	90	110			
Bromide	2.4	0.10	2.500	0	95.1	90	110			
Nitrogen, Nitrate (As N)	2.4	0.10	2.500	0	97.2	90	110			
Phosphorus, Orthophosphate (As P)	4.8	0.50	5.000	0	96.7	90	110			

Sample ID 1305708-001AMS	SampType: MS		TestCode: EPA Method 300.0: Anions							
Client ID: BatchQC	Batch ID: R10725		RunNo: 10725							
Prep Date:	Analysis Date: 5/18/2013		SeqNo: 303344		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	2.8	0.10	0.5000	2.412	84.0	76.6	110			
Bromide	2.6	0.10	2.500	0.1903	94.9	83.3	107			

Sample ID 1305708-001AMSD	SampType: MSD		TestCode: EPA Method 300.0: Anions							
Client ID: BatchQC	Batch ID: R10725		RunNo: 10725							
Prep Date:	Analysis Date: 5/18/2013		SeqNo: 303345		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	2.8	0.10	0.5000	2.412	83.2	76.6	110	0.145	20	
Bromide	2.6	0.10	2.500	0.1903	95.3	83.3	107	0.382	20	

Sample ID MB	SampType: MBLK		TestCode: EPA Method 300.0: Anions							
Client ID: PBW	Batch ID: R10757		RunNo: 10757							
Prep Date:	Analysis Date: 5/20/2013		SeqNo: 304121		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	0.50								
Sulfate	ND	0.50								

Sample ID LCS	SampType: LCS		TestCode: EPA Method 300.0: Anions							
Client ID: LCSW	Batch ID: R10757		RunNo: 10757							
Prep Date:	Analysis Date: 5/20/2013		SeqNo: 304122		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	4.9	0.50	5.000	0	97.2	90	110			
Sulfate	9.5	0.50	10.00	0	95.2	90	110			

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 |
| P Sample pH greater than 2 for VOA and TOC only. | 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#: 1305715

31-May-13

Client: Cypress Engineering
Project: TWP Roswell Station 9

Sample ID MB	SampType: MBLK			TestCode: EPA Method 300.0: Anions						
Client ID: PBW	Batch ID: R10757			RunNo: 10757						
Prep Date:	Analysis Date: 5/20/2013			SeqNo: 304181		Units: mg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	0.50								
Sulfate	ND	0.50								

Sample ID LCS	SampType: LCS			TestCode: EPA Method 300.0: Anions						
Client ID: LCSW	Batch ID: R10757			RunNo: 10757						
Prep Date:	Analysis Date: 5/20/2013			SeqNo: 304182		Units: mg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	4.7	0.50	5.000	0	93.5	90	110			
Sulfate	9.2	0.50	10.00	0	92.1	90	110			

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
P Sample pH greater than 2 for VOA and TOC only.	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#: 1305715

31-May-13

Client: Cypress Engineering
Project: TWP Roswell Station 9

Sample ID 5ML RB	SampType: MBLK		TestCode: EPA Method 8021B: Volatiles							
Client ID: PBW	Batch ID: R10751		RunNo: 10751							
Prep Date:	Analysis Date: 5/20/2013		SeqNo: 303952		Units: µg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	ND	2.5								
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Xylenes, Total	ND	2.0								
1,2,4-Trimethylbenzene	ND	1.0								
1,3,5-Trimethylbenzene	ND	1.0								
Surr: 4-Bromofluorobenzene	20		20.00		98.5	69.4	129			

Sample ID 100NG BTEX LCS	SampType: LCS		TestCode: EPA Method 8021B: Volatiles							
Client ID: LCSW	Batch ID: R10751		RunNo: 10751							
Prep Date:	Analysis Date: 5/20/2013		SeqNo: 303953		Units: µg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	22	2.5	20.00	0	108	76.9	115			
Benzene	22	1.0	20.00	0	108	80	120			
Toluene	21	1.0	20.00	0	106	80	120			
Ethylbenzene	21	1.0	20.00	0	104	80	120			
Xylenes, Total	63	2.0	60.00	0	106	80	120			
1,2,4-Trimethylbenzene	21	1.0	20.00	0	103	80	120			
1,3,5-Trimethylbenzene	21	1.0	20.00	0	106	80	120			
Surr: 4-Bromofluorobenzene	20		20.00		101	69.4	129			

Sample ID 1305665-001AMS	SampType: MS		TestCode: EPA Method 8021B: Volatiles							
Client ID: BatchQC	Batch ID: R10751		RunNo: 10751							
Prep Date:	Analysis Date: 5/20/2013		SeqNo: 303962		Units: µg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	42	5.0	40.00	0	105	65.6	125			
Benzene	42	2.0	40.00	0.6680	103	80	120			
Toluene	42	2.0	40.00	0.7600	102	80	120			
Ethylbenzene	41	2.0	40.00	0.6320	100	80	120			
Xylenes, Total	120	4.0	120.0	1.548	103	80	120			
1,2,4-Trimethylbenzene	40	2.0	40.00	0.5240	99.2	74	128			
1,3,5-Trimethylbenzene	42	2.0	40.00	0.4600	105	75.5	130			
Surr: 4-Bromofluorobenzene	41		40.00		103	69.4	129			

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
P	Sample pH greater than 2 for VOA and TOC only.	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#: 1305715

31-May-13

Client: Cypress Engineering
Project: TWP Roswell Station 9

Sample ID	1305665-001AMSD	SampType:	MSD	TestCode:	EPA Method 8021B: Volatiles					
Client ID:	BatchQC	Batch ID:	R10751	RunNo:	10751					
Prep Date:		Analysis Date:	5/20/2013	SeqNo:	303963	Units:	µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	42	5.0	40.00	0	106	65.6	125	1.25	20	
Benzene	40	2.0	40.00	0.6680	99.5	80	120	3.72	20	
Toluene	40	2.0	40.00	0.7600	96.9	80	120	4.98	20	
Ethylbenzene	39	2.0	40.00	0.6320	96.4	80	120	3.98	20	
Xylenes, Total	120	4.0	120.0	1.548	98.3	80	120	4.23	20	
1,2,4-Trimethylbenzene	39	2.0	40.00	0.5240	95.9	74	128	3.27	20	
1,3,5-Trimethylbenzene	41	2.0	40.00	0.4600	101	75.5	130	3.85	20	
Surr: 4-Bromofluorobenzene	41		40.00		102	69.4	129	0	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
P	Sample pH greater than 2 for VOA and TOC only.	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#: 1305715

31-May-13

Client: Cypress Engineering
Project: TWP Roswell Station 9

Sample ID	5ml rb	SampType:	MBLK	TestCode:	EPA Method 8260B: VOLATILES					
Client ID:	PBW	Batch ID:	R10728	RunNo:	10728					
Prep Date:		Analysis Date:	5/17/2013	SeqNo:	303358	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								
1,1-Dichloropropene	ND	1.0								

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
P	Sample pH greater than 2 for VOA and TOC only.	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#: 1305715

31-May-13

Client: Cypress Engineering
Project: TWP Roswell Station 9

Sample ID 5ml rb	SampType: MBLK			TestCode: EPA Method 8260B: VOLATILES						
Client ID: PBW	Batch ID: R10728			RunNo: 10728						
Prep Date:	Analysis Date: 5/17/2013			SeqNo: 303358		Units: µg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Hexachlorobutadiene	ND	1.0								
2-Hexanone	ND	10								
Isopropylbenzene	ND	1.0								
4-Isopropyltoluene	ND	1.0								
4-Methyl-2-pentanone	ND	10								
Methylene Chloride	ND	3.0								
n-Butylbenzene	ND	3.0								
n-Propylbenzene	ND	1.0								
sec-Butylbenzene	ND	1.0								
Styrene	ND	1.0								
tert-Butylbenzene	ND	1.0								
1,1,1,2-Tetrachloroethane	ND	1.0								
1,1,2,2-Tetrachloroethane	ND	2.0								
Tetrachloroethene (PCE)	ND	1.0								
trans-1,2-DCE	ND	1.0								
trans-1,3-Dichloropropene	ND	1.0								
1,2,3-Trichlorobenzene	ND	1.0								
1,2,4-Trichlorobenzene	ND	1.0								
1,1,1-Trichloroethane	ND	1.0								
1,1,2-Trichloroethane	ND	1.0								
Trichloroethene (TCE)	ND	1.0								
Trichlorofluoromethane	ND	1.0								
1,2,3-Trichloropropane	ND	2.0								
Vinyl chloride	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	9.6		10.00		96.0	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		102	69.5	130			
Surr: Dibromofluoromethane	11		10.00		107	70	130			
Surr: Toluene-d8	10		10.00		101	70	130			

Sample ID 100ng lcs	SampType: LCS			TestCode: EPA Method 8260B: VOLATILES						
Client ID: LCSW	Batch ID: R10728			RunNo: 10728						
Prep Date:	Analysis Date: 5/17/2013			SeqNo: 303360		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	21	1.0	20.00	0	104	80	120			
Chlorobenzene	20	1.0	20.00	0	102	70	130			
1,1-Dichloroethene	21	1.0	20.00	0	106	85.8	133			
Trichloroethene (TCE)	22	1.0	20.00	0	109	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
P Sample pH greater than 2 for VOA and TOC only.	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#: 1305715

31-May-13

Client: Cypress Engineering
Project: TWP Roswell Station 9

Sample ID 100ng lcs	SampType: LCS		TestCode: EPA Method 8260B: VOLATILES							
Client ID: LCSW	Batch ID: R10728		RunNo: 10728							
Prep Date:	Analysis Date: 5/17/2013		SeqNo: 303360		Units: µg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 1,2-Dichloroethane-d4	9.8		10.00		97.7	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		100	69.5	130			
Surr: Dibromofluoromethane	11		10.00		106	70	130			
Surr: Toluene-d8	10		10.00		101	70	130			

Sample ID 1305687-001a ms	SampType: MS		TestCode: EPA Method 8260B: VOLATILES							
Client ID: BatchQC	Batch ID: R10728		RunNo: 10728							
Prep Date:	Analysis Date: 5/17/2013		SeqNo: 303366		Units: µg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	23	1.0	20.00	0	116	70	130			
Toluene	21	1.0	20.00	0	103	68.5	128			
Chlorobenzene	20	1.0	20.00	0	101	70	130			
1,1-Dichloroethene	21	1.0	20.00	0	104	70	130			
Trichloroethene (TCE)	23	1.0	20.00	0	114	61.3	102			S
Surr: 1,2-Dichloroethane-d4	10		10.00		101	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		101	69.5	130			
Surr: Dibromofluoromethane	11		10.00		109	70	130			
Surr: Toluene-d8	9.8		10.00		98.3	70	130			

Sample ID 1305687-001a msd	SampType: MSD		TestCode: EPA Method 8260B: VOLATILES							
Client ID: BatchQC	Batch ID: R10728		RunNo: 10728							
Prep Date:	Analysis Date: 5/17/2013		SeqNo: 303367		Units: µg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	21	1.0	20.00	0	103	70	130	11.4	20	
Toluene	19	1.0	20.00	0	95.7	68.5	128	6.97	20	
Chlorobenzene	19	1.0	20.00	0	95.0	70	130	5.91	20	
1,1-Dichloroethene	19	1.0	20.00	0	94.7	70	130	9.35	20	
Trichloroethene (TCE)	20	1.0	20.00	0	101	61.3	102	12.0	20	
Surr: 1,2-Dichloroethane-d4	9.6		10.00		96.3	70	130	0	0	
Surr: 4-Bromofluorobenzene	10		10.00		103	69.5	130	0	0	
Surr: Dibromofluoromethane	10		10.00		102	70	130	0	0	
Surr: Toluene-d8	9.6		10.00		95.5	70	130	0	0	

Sample ID rb2	SampType: MBLK		TestCode: EPA Method 8260B: VOLATILES							
Client ID: PBW	Batch ID: R10728		RunNo: 10728							
Prep Date:	Analysis Date: 5/18/2013		SeqNo: 303377		Units: µg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								

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
P	Sample pH greater than 2 for VOA and TOC only.	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#: 1305715

31-May-13

Client: Cypress Engineering
Project: TWP Roswell Station 9

Sample ID rb2	SampType: MBLK			TestCode: EPA Method 8260B: VOLATILES						
Client ID: PBW	Batch ID: R10728			RunNo: 10728						
Prep Date:	Analysis Date: 5/18/2013			SeqNo: 303377	Units: µg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
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								
1,1-Dichloropropene	ND	1.0								
Hexachlorobutadiene	ND	1.0								

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH greater than 2 for VOA and TOC only.
RL Reporting Detection Limit

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1305715

31-May-13

Client: Cypress Engineering
Project: TWP Roswell Station 9

Sample ID rb2	SampType: MBLK			TestCode: EPA Method 8260B: VOLATILES						
Client ID: PBW	Batch ID: R10728			RunNo: 10728						
Prep Date:	Analysis Date: 5/18/2013			SeqNo: 303377		Units: µg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
2-Hexanone	ND	10								
Isopropylbenzene	ND	1.0								
4-Isopropyltoluene	ND	1.0								
4-Methyl-2-pentanone	ND	10								
Methylene Chloride	ND	3.0								
n-Butylbenzene	ND	3.0								
n-Propylbenzene	ND	1.0								
sec-Butylbenzene	ND	1.0								
Styrene	ND	1.0								
tert-Butylbenzene	ND	1.0								
1,1,1,2-Tetrachloroethane	ND	1.0								
1,1,2,2-Tetrachloroethane	ND	2.0								
Tetrachloroethene (PCE)	ND	1.0								
trans-1,2-DCE	ND	1.0								
trans-1,3-Dichloropropene	ND	1.0								
1,2,3-Trichlorobenzene	ND	1.0								
1,2,4-Trichlorobenzene	ND	1.0								
1,1,1-Trichloroethane	ND	1.0								
1,1,2-Trichloroethane	ND	1.0								
Trichloroethene (TCE)	ND	1.0								
Trichlorofluoromethane	ND	1.0								
1,2,3-Trichloropropane	ND	2.0								
Vinyl chloride	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	9.6		10.00		96.5	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		101	69.5	130			
Surr: Dibromofluoromethane	10		10.00		104	70	130			
Surr: Toluene-d8	9.8		10.00		98.2	70	130			

Sample ID 100ng lcs ii	SampType: LCS			TestCode: EPA Method 8260B: VOLATILES						
Client ID: LCSW	Batch ID: R10728			RunNo: 10728						
Prep Date:	Analysis Date: 5/18/2013			SeqNo: 303379		Units: µg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	22	1.0	20.00	0	111	70	130			
Toluene	21	1.0	20.00	0	106	80	120			
Chlorobenzene	20	1.0	20.00	0	99.2	70	130			
1,1-Dichloroethene	21	1.0	20.00	0	106	85.8	133			
Trichloroethene (TCE)	22	1.0	20.00	0	109	70	130			
Surr: 1,2-Dichloroethane-d4	9.8		10.00		98.5	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
P Sample pH greater than 2 for VOA and TOC only.	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#: 1305715

31-May-13

Client: Cypress Engineering
Project: TWP Roswell Station 9

Sample ID 100ng lcs ii	SampType: LCS		TestCode: EPA Method 8260B: VOLATILES							
Client ID: LCSW	Batch ID: R10728		RunNo: 10728							
Prep Date:	Analysis Date: 5/18/2013		SeqNo: 303379		Units: µg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	10		10.00		101	69.5	130			
Surr: Dibromofluoromethane	10		10.00		105	70	130			
Surr: Toluene-d8	9.8		10.00		98.2	70	130			

Sample ID 1305690-007a ms	SampType: MS		TestCode: EPA Method 8260B: VOLATILES							
Client ID: BatchQC	Batch ID: R10728		RunNo: 10728							
Prep Date:	Analysis Date: 5/18/2013		SeqNo: 303397		Units: µg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	20	1.0	20.00	0	100	70	130			
Toluene	20	1.0	20.00	0	100	68.5	128			
Chlorobenzene	20	1.0	20.00	0	97.7	70	130			
1,1-Dichloroethene	18	1.0	20.00	0	91.7	70	130			
Trichloroethene (TCE)	20	1.0	20.00	0	98.0	61.3	102			
Surr: 1,2-Dichloroethane-d4	8.7		10.00		87.0	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		101	69.5	130			
Surr: Dibromofluoromethane	9.6		10.00		96.3	70	130			
Surr: Toluene-d8	9.4		10.00		94.4	70	130			

Sample ID 1305690-007a msd	SampType: MSD		TestCode: EPA Method 8260B: VOLATILES							
Client ID: BatchQC	Batch ID: R10728		RunNo: 10728							
Prep Date:	Analysis Date: 5/18/2013		SeqNo: 303398		Units: µg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	19	1.0	20.00	0	95.8	70	130	4.74	20	
Toluene	20	1.0	20.00	0	97.6	68.5	128	2.54	20	
Chlorobenzene	19	1.0	20.00	0	93.6	70	130	4.30	20	
1,1-Dichloroethene	17	1.0	20.00	0	85.5	70	130	7.03	20	
Trichloroethene (TCE)	18	1.0	20.00	0	92.3	61.3	102	5.93	20	
Surr: 1,2-Dichloroethane-d4	8.7		10.00		86.7	70	130	0	0	
Surr: 4-Bromofluorobenzene	10		10.00		103	69.5	130	0	0	
Surr: Dibromofluoromethane	9.5		10.00		95.0	70	130	0	0	
Surr: Toluene-d8	9.8		10.00		97.5	70	130	0	0	

Sample ID rb3	SampType: MBLK		TestCode: EPA Method 8260B: VOLATILES							
Client ID: PBW	Batch ID: R10728		RunNo: 10728							
Prep Date:	Analysis Date: 5/18/2013		SeqNo: 303399		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								

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
P	Sample pH greater than 2 for VOA and TOC only.	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#: 1305715

31-May-13

Client: Cypress Engineering
Project: TWP Roswell Station 9

Sample ID rb3	SampType: MBLK			TestCode: EPA Method 8260B: VOLATILES						
Client ID: PBW	Batch ID: R10728			RunNo: 10728						
Prep Date:	Analysis Date: 5/18/2013			SeqNo: 303399	Units: µg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
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								
1,1-Dichloropropene	ND	1.0								
Hexachlorobutadiene	ND	1.0								
2-Hexanone	ND	10								

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH greater than 2 for VOA and TOC only.
RL Reporting Detection Limit

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1305715

31-May-13

Client: Cypress Engineering
Project: TWP Roswell Station 9

Sample ID rb3	SampType: MBLK			TestCode: EPA Method 8260B: VOLATILES						
Client ID: PBW	Batch ID: R10728			RunNo: 10728						
Prep Date:	Analysis Date: 5/18/2013			SeqNo: 303399		Units: µg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Isopropylbenzene	ND	1.0								
4-Isopropyltoluene	ND	1.0								
4-Methyl-2-pentanone	ND	10								
Methylene Chloride	ND	3.0								
n-Butylbenzene	ND	3.0								
n-Propylbenzene	ND	1.0								
sec-Butylbenzene	ND	1.0								
Styrene	ND	1.0								
tert-Butylbenzene	ND	1.0								
1,1,1,2-Tetrachloroethane	ND	1.0								
1,1,2,2-Tetrachloroethane	ND	2.0								
Tetrachloroethene (PCE)	ND	1.0								
trans-1,2-DCE	ND	1.0								
trans-1,3-Dichloropropene	ND	1.0								
1,2,3-Trichlorobenzene	ND	1.0								
1,2,4-Trichlorobenzene	ND	1.0								
1,1,1-Trichloroethane	ND	1.0								
1,1,2-Trichloroethane	ND	1.0								
Trichloroethene (TCE)	ND	1.0								
Trichlorofluoromethane	ND	1.0								
1,2,3-Trichloropropane	ND	2.0								
Vinyl chloride	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	9.2		10.00		92.1	70	130			
Surr: 4-Bromofluorobenzene	9.9		10.00		99.4	69.5	130			
Surr: Dibromofluoromethane	11		10.00		108	70	130			
Surr: Toluene-d8	9.7		10.00		97.1	70	130			

Sample ID 100ng lcs iii	SampType: LCS			TestCode: EPA Method 8260B: VOLATILES						
Client ID: LCSW	Batch ID: R10728			RunNo: 10728						
Prep Date:	Analysis Date: 5/18/2013			SeqNo: 303401		Units: µg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	20	1.0	20.00	0	99.0	70	130			
Toluene	19	1.0	20.00	0	93.4	80	120			
Chlorobenzene	19	1.0	20.00	0	93.6	70	130			
1,1-Dichloroethene	18	1.0	20.00	0	89.4	85.8	133			
Trichloroethene (TCE)	20	1.0	20.00	0	99.0	70	130			
Surr: 1,2-Dichloroethane-d4	9.2		10.00		91.8	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		100	69.5	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
P Sample pH greater than 2 for VOA and TOC only.	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#: 1305715

31-May-13

Client: Cypress Engineering
Project: TWP Roswell Station 9

Sample ID	100ng lcs iii	SampType: LCS			TestCode: EPA Method 8260B: VOLATILES					
Client ID:	LCSW	Batch ID: R10728			RunNo: 10728					
Prep Date:		Analysis Date: 5/18/2013			SeqNo: 303401		Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: Dibromofluoromethane	10		10.00		102	70	130			
Surr: Toluene-d8	9.9		10.00		98.7	70	130			

Sample ID	5ml rb	SampType: MBLK			TestCode: EPA Method 8260B: VOLATILES					
Client ID:	PBW	Batch ID: R10753			RunNo: 10753					
Prep Date:		Analysis Date: 5/20/2013			SeqNo: 303979		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								

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH greater than 2 for VOA and TOC only.
RL Reporting Detection Limit

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1305715

31-May-13

Client: Cypress Engineering
Project: TWP Roswell Station 9

Sample ID	5ml rb	SampType:	MBLK	TestCode:	EPA Method 8260B: VOLATILES					
Client ID:	PBW	Batch ID:	R10753	RunNo:	10753					
Prep Date:		Analysis Date:	5/20/2013	SeqNo:	303979	Units:	µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,4-Dichlorobenzene	ND	1.0								
Dichlorodifluoromethane	ND	1.0								
1,1-Dichloroethane	ND	1.0								
1,1-Dichloroethene	ND	1.0								
1,2-Dichloropropane	ND	1.0								
1,3-Dichloropropane	ND	1.0								
2,2-Dichloropropane	ND	2.0								
1,1-Dichloropropene	ND	1.0								
Hexachlorobutadiene	ND	1.0								
2-Hexanone	ND	10								
Isopropylbenzene	ND	1.0								
4-Isopropyltoluene	ND	1.0								
4-Methyl-2-pentanone	ND	10								
Methylene Chloride	ND	3.0								
n-Butylbenzene	ND	3.0								
n-Propylbenzene	ND	1.0								
sec-Butylbenzene	ND	1.0								
Styrene	ND	1.0								
tert-Butylbenzene	ND	1.0								
1,1,1,2-Tetrachloroethane	ND	1.0								
1,1,2,2-Tetrachloroethane	ND	2.0								
Tetrachloroethene (PCE)	ND	1.0								
trans-1,2-DCE	ND	1.0								
trans-1,3-Dichloropropene	ND	1.0								
1,2,3-Trichlorobenzene	ND	1.0								
1,2,4-Trichlorobenzene	ND	1.0								
1,1,1-Trichloroethane	ND	1.0								
1,1,2-Trichloroethane	ND	1.0								
Trichloroethene (TCE)	ND	1.0								
Trichlorofluoromethane	ND	1.0								
1,2,3-Trichloropropane	ND	2.0								
Vinyl chloride	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	9.7		10.00		96.9	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		104	69.5	130			
Surr: Dibromofluoromethane	11		10.00		109	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
P	Sample pH greater than 2 for VOA and TOC only.	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#: 1305715

31-May-13

Client: Cypress Engineering

Project: TWP Roswell Station 9

Sample ID	100ng lcs	SampType: LCS			TestCode: EPA Method 8260B: VOLATILES					
Client ID:	LCSW	Batch ID: R10753			RunNo: 10753					
Prep Date:		Analysis Date: 5/20/2013			SeqNo: 303981		Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	21	1.0	20.00	0	105	70	130			
Toluene	20	1.0	20.00	0	99.5	80	120			
Chlorobenzene	19	1.0	20.00	0	96.0	70	130			
1,1-Dichloroethene	19	1.0	20.00	0	96.5	85.8	133			
Trichloroethene (TCE)	22	1.0	20.00	0	109	70	130			
Surr: 1,2-Dichloroethane-d4	9.5		10.00		95.3	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		102	69.5	130			
Surr: Dibromofluoromethane	11		10.00		110	70	130			
Surr: Toluene-d8	9.6		10.00		96.4	70	130			

Sample ID	1305764-001a ms	SampType: MS			TestCode: EPA Method 8260B: VOLATILES					
Client ID:	BatchQC	Batch ID: R10753			RunNo: 10753					
Prep Date:		Analysis Date: 5/20/2013			SeqNo: 303997		Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	21	1.0	20.00	0	107	70	130			
Toluene	20	1.0	20.00	0	98.8	68.5	128			
Chlorobenzene	19	1.0	20.00	0	96.3	70	130			
1,1-Dichloroethene	20	1.0	20.00	0	102	70	130			
Trichloroethene (TCE)	21	1.0	20.00	0	107	61.3	102			S
Surr: 1,2-Dichloroethane-d4	9.3		10.00		93.5	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		101	69.5	130			
Surr: Dibromofluoromethane	10		10.00		104	70	130			
Surr: Toluene-d8	9.3		10.00		93.3	70	130			

Sample ID	1305764-001a msd			SampType:	MSD		TestCode:	EPA Method 8260B: VOLATILES			
Client ID:	BatchQC			Batch ID:	R10753		RunNo:	10753			
Prep Date:				Analysis Date:	5/20/2013		SeqNo:	303998		Units:	µg/L
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Benzene	21	1.0	20.00	0	107	70	130	0.803	20		
Toluene	19	1.0	20.00	0	96.2	68.5	128	2.70	20		
Chlorobenzene	19	1.0	20.00	0	94.1	70	130	2.27	20		
1,1-Dichloroethene	20	1.0	20.00	0	98.2	70	130	3.34	20		
Trichloroethene (TCE)	21	1.0	20.00	0	104	61.3	102	2.06	20	S	
Surr: 1,2-Dichloroethane-d4	9.7		10.00		96.5	70	130	0	0		
Surr: 4-Bromofluorobenzene	9.9		10.00		98.6	69.5	130	0	0		
Surr: Dibromofluoromethane	11		10.00		109	70	130	0	0		
Surr: Toluene-d8	9.5		10.00		94.9	70	130	0	0		

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH greater than 2 for VOA and TOC only.
RL Reporting Detection Limit

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

Sample Log-In Check List

Client Name: CYP

Work Order Number: 1305715

RcptNo: 1

Received by/date:

[Signature]

05/17/13

Logged By: Lindsay Mangin

5/17/2013 9:50:00 AM

[Signature]

Completed By: Lindsay Mangin

5/17/2013 10:48:39 AM

[Signature]

Reviewed By:

IO

05/17/2013

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? UPS

Log In

4. Was an attempt made to cool the samples? Yes ☒ No NA
 5. Were all samples received at a temperature of $>0^{\circ}\text{C}$ 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?
(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
- Added 0.4mL HNO_3 to -004C for acceptable pH. *[Signature]*
05/17/13
- # of preserved bottles checked for pH: 2
(<2 or >12 unless noted)
Adjusted? Yes
- Checked by: *[Signature]* 05/17/13

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:

Filtered from unpres into a 25mL for diss Metals.

18. Cooler Information

Cooler No	Temp $^{\circ}\text{C}$	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.8	Good	Yes			

05/17/13

www.hallenvironmental.com

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

BTEx + MTBE + TMB's (8021)	BTEx + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions (F, Cl, NO ₃ , NO ₂ , PO ₄ , SO ₄)	8081 Pesticides / 8082 PCB's	8260B VOA	8270 (Semi-VOA)	Major Cations Na, Ca, K, Mg By: WMC * Not Field / Heavy	Air Bubbles (Y or N)
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Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

June 27, 2013

George Robinson
Cypress Engineering
7171 Highway 6 North
Suite 102
Houston, TX 770952422
TEL: (281) 797-3420
FAX (281) 859-1881

RE: TWP Roswell Station 9

OrderNo.: 1306739

Dear George Robinson:

Hall Environmental Analysis Laboratory received 5 sample(s) on 6/18/2013 for the analyses presented in the following report.

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

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

Sincerely,

A handwritten signature in black ink, appearing to read 'Andy Freeman', with a stylized flourish at the end.

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1306739

Date Reported: 6/27/2013

CLIENT: Cypress Engineering

Client Sample ID: Pre-Treatment

Project: TWP Roswell Station 9

Collection Date: 6/17/2013 9:30:00 AM

Lab ID: 1306739-001

Matrix: AQUEOUS

Received Date: 6/18/2013 9:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	2500	100		µg/L	100	6/20/2013 7:15:49 PM	R11460
Toluene	4500	100		µg/L	100	6/20/2013 7:15:49 PM	R11460
Ethylbenzene	260	100		µg/L	100	6/20/2013 7:15:49 PM	R11460
Xylenes, Total	2500	200		µg/L	100	6/20/2013 7:15:49 PM	R11460
Surr: 4-Bromofluorobenzene	99.5	69.4-129		%REC	100	6/20/2013 7:15:49 PM	R11460

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	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 for VOA and TOC only.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
				Page 1 of 19

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1306739

Date Reported: 6/27/2013

CLIENT: Cypress Engineering

Client Sample ID: Post-Air Stripper

Project: TWP Roswell Station 9

Collection Date: 6/17/2013 9:30:00 AM

Lab ID: 1306739-002

Matrix: AQUEOUS

Received Date: 6/18/2013 9:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	5.0		µg/L	5	6/20/2013 10:47:54 PM	R11460
Toluene	ND	5.0		µg/L	5	6/20/2013 10:47:54 PM	R11460
Ethylbenzene	ND	5.0		µg/L	5	6/20/2013 10:47:54 PM	R11460
Xylenes, Total	ND	10		µg/L	5	6/20/2013 10:47:54 PM	R11460
Surr: 4-Bromofluorobenzene	103	69.4-129		%REC	5	6/20/2013 10:47:54 PM	R11460

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	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 for VOA and TOC only.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
				Page 2 of 19

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1306739

Date Reported: 6/27/2013

CLIENT: Cypress Engineering

Client Sample ID: Between GAC's

Project: TWP Roswell Station 9

Collection Date: 6/17/2013 9:30:00 AM

Lab ID: 1306739-003

Matrix: AQUEOUS

Received Date: 6/18/2013 9:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	4.0	1.0		µg/L	1	6/20/2013 11:18:07 PM	R11460
Toluene	ND	1.0		µg/L	1	6/20/2013 11:18:07 PM	R11460
Ethylbenzene	ND	1.0		µg/L	1	6/20/2013 11:18:07 PM	R11460
Xylenes, Total	ND	2.0		µg/L	1	6/20/2013 11:18:07 PM	R11460
Surr: 4-Bromofluorobenzene	106	69.4-129		%REC	1	6/20/2013 11:18:07 PM	R11460

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	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 for VOA and TOC only.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
				Page 3 of 19

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1306739

Date Reported: 6/27/2013

CLIENT: Cypress Engineering

Client Sample ID: Post-Treatment

Project: TWP Roswell Station 9

Collection Date: 6/17/2013 9:30:00 AM

Lab ID: 1306739-004

Matrix: AQUEOUS

Received Date: 6/18/2013 9:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: JRR
Fluoride	5.4	2.0	*	mg/L	20	6/25/2013 2:24:01 AM	R11535
Chloride	340	25		mg/L	50	6/19/2013 10:02:12 PM	R11437
Nitrogen, Nitrite (As N)	ND	0.10		mg/L	1	6/18/2013 11:02:41 PM	R11399
Bromide	0.47	0.10		mg/L	1	6/18/2013 11:02:41 PM	R11399
Nitrogen, Nitrate (As N)	ND	0.10		mg/L	1	6/18/2013 11:02:41 PM	R11399
Phosphorus, Orthophosphate (As P)	ND	10		mg/L	20	6/18/2013 11:15:05 PM	R11399
Sulfate	1000	25		mg/L	50	6/19/2013 10:02:12 PM	R11437
EPA METHOD 200.7: DISSOLVED METALS							Analyst: JLF
Calcium	460	5.0		mg/L	5	6/19/2013 5:06:00 PM	R11414
Magnesium	130	5.0		mg/L	5	6/19/2013 5:06:00 PM	R11414
Potassium	5.6	1.0		mg/L	1	6/19/2013 5:03:29 PM	R11414
Sodium	230	5.0		mg/L	5	6/19/2013 5:06:00 PM	R11414
EPA METHOD 8260B: VOLATILES							Analyst: DAM
Benzene	ND	1.0		µg/L	1	6/19/2013 1:40:01 AM	R11382
Toluene	ND	1.0		µg/L	1	6/19/2013 1:40:01 AM	R11382
Ethylbenzene	ND	1.0		µg/L	1	6/19/2013 1:40:01 AM	R11382
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	6/19/2013 1:40:01 AM	R11382
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	6/19/2013 1:40:01 AM	R11382
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	6/19/2013 1:40:01 AM	R11382
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	6/19/2013 1:40:01 AM	R11382
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	6/19/2013 1:40:01 AM	R11382
Naphthalene	ND	2.0		µg/L	1	6/19/2013 1:40:01 AM	R11382
1-Methylnaphthalene	ND	4.0		µg/L	1	6/19/2013 1:40:01 AM	R11382
2-Methylnaphthalene	ND	4.0		µg/L	1	6/19/2013 1:40:01 AM	R11382
Acetone	66	10		µg/L	1	6/19/2013 1:40:01 AM	R11382
Bromobenzene	ND	1.0		µg/L	1	6/19/2013 1:40:01 AM	R11382
Bromodichloromethane	ND	1.0		µg/L	1	6/19/2013 1:40:01 AM	R11382
Bromoform	ND	1.0		µg/L	1	6/19/2013 1:40:01 AM	R11382
Bromomethane	ND	3.0		µg/L	1	6/19/2013 1:40:01 AM	R11382
2-Butanone	ND	10		µg/L	1	6/19/2013 1:40:01 AM	R11382
Carbon disulfide	ND	10		µg/L	1	6/19/2013 1:40:01 AM	R11382
Carbon Tetrachloride	ND	1.0		µg/L	1	6/19/2013 1:40:01 AM	R11382
Chlorobenzene	ND	1.0		µg/L	1	6/19/2013 1:40:01 AM	R11382
Chloroethane	ND	2.0		µg/L	1	6/19/2013 1:40:01 AM	R11382
Chloroform	ND	1.0		µg/L	1	6/19/2013 1:40:01 AM	R11382
Chloromethane	ND	3.0		µg/L	1	6/19/2013 1:40:01 AM	R11382
2-Chlorotoluene	ND	1.0		µg/L	1	6/19/2013 1:40:01 AM	R11382
4-Chlorotoluene	ND	1.0		µg/L	1	6/19/2013 1:40:01 AM	R11382
cis-1,2-DCE	ND	1.0		µg/L	1	6/19/2013 1:40:01 AM	R11382

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	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 for VOA and TOC only.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
				Page 4 of 19

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1306739

Date Reported: 6/27/2013

CLIENT: Cypress Engineering

Client Sample ID: Post-Treatment

Project: TWP Roswell Station 9

Collection Date: 6/17/2013 9:30:00 AM

Lab ID: 1306739-004

Matrix: AQUEOUS

Received Date: 6/18/2013 9:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES							Analyst: DAM
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	6/19/2013 1:40:01 AM	R11382
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	6/19/2013 1:40:01 AM	R11382
Dibromochloromethane	ND	1.0		µg/L	1	6/19/2013 1:40:01 AM	R11382
Dibromomethane	ND	1.0		µg/L	1	6/19/2013 1:40:01 AM	R11382
1,2-Dichlorobenzene	ND	1.0		µg/L	1	6/19/2013 1:40:01 AM	R11382
1,3-Dichlorobenzene	ND	1.0		µg/L	1	6/19/2013 1:40:01 AM	R11382
1,4-Dichlorobenzene	ND	1.0		µg/L	1	6/19/2013 1:40:01 AM	R11382
Dichlorodifluoromethane	ND	1.0		µg/L	1	6/19/2013 1:40:01 AM	R11382
1,1-Dichloroethane	ND	1.0		µg/L	1	6/19/2013 1:40:01 AM	R11382
1,1-Dichloroethene	ND	1.0		µg/L	1	6/19/2013 1:40:01 AM	R11382
1,2-Dichloropropane	ND	1.0		µg/L	1	6/19/2013 1:40:01 AM	R11382
1,3-Dichloropropane	ND	1.0		µg/L	1	6/19/2013 1:40:01 AM	R11382
2,2-Dichloropropane	ND	2.0		µg/L	1	6/19/2013 1:40:01 AM	R11382
1,1-Dichloropropene	ND	1.0		µg/L	1	6/19/2013 1:40:01 AM	R11382
Hexachlorobutadiene	ND	1.0		µg/L	1	6/19/2013 1:40:01 AM	R11382
2-Hexanone	ND	10		µg/L	1	6/19/2013 1:40:01 AM	R11382
Isopropylbenzene	ND	1.0		µg/L	1	6/19/2013 1:40:01 AM	R11382
4-Isopropyltoluene	ND	1.0		µg/L	1	6/19/2013 1:40:01 AM	R11382
4-Methyl-2-pentanone	ND	10		µg/L	1	6/19/2013 1:40:01 AM	R11382
Methylene Chloride	ND	3.0		µg/L	1	6/19/2013 1:40:01 AM	R11382
n-Butylbenzene	ND	3.0		µg/L	1	6/19/2013 1:40:01 AM	R11382
n-Propylbenzene	ND	1.0		µg/L	1	6/19/2013 1:40:01 AM	R11382
sec-Butylbenzene	ND	1.0		µg/L	1	6/19/2013 1:40:01 AM	R11382
Styrene	ND	1.0		µg/L	1	6/19/2013 1:40:01 AM	R11382
tert-Butylbenzene	ND	1.0		µg/L	1	6/19/2013 1:40:01 AM	R11382
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	6/19/2013 1:40:01 AM	R11382
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	6/19/2013 1:40:01 AM	R11382
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	6/19/2013 1:40:01 AM	R11382
trans-1,2-DCE	ND	1.0		µg/L	1	6/19/2013 1:40:01 AM	R11382
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	6/19/2013 1:40:01 AM	R11382
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	6/19/2013 1:40:01 AM	R11382
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	6/19/2013 1:40:01 AM	R11382
1,1,1-Trichloroethane	ND	1.0		µg/L	1	6/19/2013 1:40:01 AM	R11382
1,1,2-Trichloroethane	ND	1.0		µg/L	1	6/19/2013 1:40:01 AM	R11382
Trichloroethene (TCE)	ND	1.0		µg/L	1	6/19/2013 1:40:01 AM	R11382
Trichlorofluoromethane	ND	1.0		µg/L	1	6/19/2013 1:40:01 AM	R11382
1,2,3-Trichloropropane	ND	2.0		µg/L	1	6/19/2013 1:40:01 AM	R11382
Vinyl chloride	ND	1.0		µg/L	1	6/19/2013 1:40:01 AM	R11382
Xylenes, Total	ND	1.5		µg/L	1	6/19/2013 1:40:01 AM	R11382
Surr: 1,2-Dichloroethane-d4	85.9	70-130		%REC	1	6/19/2013 1:40:01 AM	R11382

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 RSDlimit
- R RPD 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 for VOA and TOC only.
- RL Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1306739

Date Reported: 6/27/2013

CLIENT: Cypress Engineering

Client Sample ID: Post-Treatment

Project: TWP Roswell Station 9

Collection Date: 6/17/2013 9:30:00 AM

Lab ID: 1306739-004

Matrix: AQUEOUS

Received Date: 6/18/2013 9:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: DAM	
Surr: 4-Bromofluorobenzene	91.8	69.5-130		%REC	1	6/19/2013 1:40:01 AM	R11382
Surr: Dibromofluoromethane	91.1	70-130		%REC	1	6/19/2013 1:40:01 AM	R11382
Surr: Toluene-d8	91.6	70-130		%REC	1	6/19/2013 1:40:01 AM	R11382

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	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 for VOA and TOC only.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1306739

Date Reported: 6/27/2013

CLIENT: Cypress Engineering

Client Sample ID: Trip Blank

Project: TWP Roswell Station 9

Collection Date:

Lab ID: 1306739-005

Matrix: TRIP BLANK

Received Date: 6/18/2013 9:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES							Analyst: DAM
Benzene	ND	1.0		µg/L	1	6/19/2013 2:08:15 AM	R11382
Toluene	ND	1.0		µg/L	1	6/19/2013 2:08:15 AM	R11382
Ethylbenzene	ND	1.0		µg/L	1	6/19/2013 2:08:15 AM	R11382
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	6/19/2013 2:08:15 AM	R11382
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	6/19/2013 2:08:15 AM	R11382
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	6/19/2013 2:08:15 AM	R11382
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	6/19/2013 2:08:15 AM	R11382
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	6/19/2013 2:08:15 AM	R11382
Naphthalene	ND	2.0		µg/L	1	6/19/2013 2:08:15 AM	R11382
1-Methylnaphthalene	ND	4.0		µg/L	1	6/19/2013 2:08:15 AM	R11382
2-Methylnaphthalene	ND	4.0		µg/L	1	6/19/2013 2:08:15 AM	R11382
Acetone	ND	10		µg/L	1	6/19/2013 2:08:15 AM	R11382
Bromobenzene	ND	1.0		µg/L	1	6/19/2013 2:08:15 AM	R11382
Bromodichloromethane	ND	1.0		µg/L	1	6/19/2013 2:08:15 AM	R11382
Bromoform	ND	1.0		µg/L	1	6/19/2013 2:08:15 AM	R11382
Bromomethane	ND	3.0		µg/L	1	6/19/2013 2:08:15 AM	R11382
2-Butanone	ND	10		µg/L	1	6/19/2013 2:08:15 AM	R11382
Carbon disulfide	ND	10		µg/L	1	6/19/2013 2:08:15 AM	R11382
Carbon Tetrachloride	ND	1.0		µg/L	1	6/19/2013 2:08:15 AM	R11382
Chlorobenzene	ND	1.0		µg/L	1	6/19/2013 2:08:15 AM	R11382
Chloroethane	ND	2.0		µg/L	1	6/19/2013 2:08:15 AM	R11382
Chloroform	ND	1.0		µg/L	1	6/19/2013 2:08:15 AM	R11382
Chloromethane	ND	3.0		µg/L	1	6/19/2013 2:08:15 AM	R11382
2-Chlorotoluene	ND	1.0		µg/L	1	6/19/2013 2:08:15 AM	R11382
4-Chlorotoluene	ND	1.0		µg/L	1	6/19/2013 2:08:15 AM	R11382
cis-1,2-DCE	ND	1.0		µg/L	1	6/19/2013 2:08:15 AM	R11382
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	6/19/2013 2:08:15 AM	R11382
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	6/19/2013 2:08:15 AM	R11382
Dibromochloromethane	ND	1.0		µg/L	1	6/19/2013 2:08:15 AM	R11382
Dibromomethane	ND	1.0		µg/L	1	6/19/2013 2:08:15 AM	R11382
1,2-Dichlorobenzene	ND	1.0		µg/L	1	6/19/2013 2:08:15 AM	R11382
1,3-Dichlorobenzene	ND	1.0		µg/L	1	6/19/2013 2:08:15 AM	R11382
1,4-Dichlorobenzene	ND	1.0		µg/L	1	6/19/2013 2:08:15 AM	R11382
Dichlorodifluoromethane	ND	1.0		µg/L	1	6/19/2013 2:08:15 AM	R11382
1,1-Dichloroethane	ND	1.0		µg/L	1	6/19/2013 2:08:15 AM	R11382
1,1-Dichloroethene	ND	1.0		µg/L	1	6/19/2013 2:08:15 AM	R11382
1,2-Dichloropropane	ND	1.0		µg/L	1	6/19/2013 2:08:15 AM	R11382
1,3-Dichloropropane	ND	1.0		µg/L	1	6/19/2013 2:08:15 AM	R11382
2,2-Dichloropropane	ND	2.0		µg/L	1	6/19/2013 2:08:15 AM	R11382
1,1-Dichloropropene	ND	1.0		µg/L	1	6/19/2013 2:08:15 AM	R11382

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

Qualifiers:	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	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 for VOA and TOC only.
	R RPD outside accepted recovery limits	RL Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1306739

Date Reported: 6/27/2013

CLIENT: Cypress Engineering

Client Sample ID: Trip Blank

Project: TWP Roswell Station 9

Collection Date:

Lab ID: 1306739-005

Matrix: TRIP BLANK

Received Date: 6/18/2013 9:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES							Analyst: DAM
Hexachlorobutadiene	ND	1.0		µg/L	1	6/19/2013 2:08:15 AM	R11382
2-Hexanone	ND	10		µg/L	1	6/19/2013 2:08:15 AM	R11382
Isopropylbenzene	ND	1.0		µg/L	1	6/19/2013 2:08:15 AM	R11382
4-Isopropyltoluene	ND	1.0		µg/L	1	6/19/2013 2:08:15 AM	R11382
4-Methyl-2-pentanone	ND	10		µg/L	1	6/19/2013 2:08:15 AM	R11382
Methylene Chloride	ND	3.0		µg/L	1	6/19/2013 2:08:15 AM	R11382
n-Butylbenzene	ND	3.0		µg/L	1	6/19/2013 2:08:15 AM	R11382
n-Propylbenzene	ND	1.0		µg/L	1	6/19/2013 2:08:15 AM	R11382
sec-Butylbenzene	ND	1.0		µg/L	1	6/19/2013 2:08:15 AM	R11382
Styrene	ND	1.0		µg/L	1	6/19/2013 2:08:15 AM	R11382
tert-Butylbenzene	ND	1.0		µg/L	1	6/19/2013 2:08:15 AM	R11382
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	6/19/2013 2:08:15 AM	R11382
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	6/19/2013 2:08:15 AM	R11382
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	6/19/2013 2:08:15 AM	R11382
trans-1,2-DCE	ND	1.0		µg/L	1	6/19/2013 2:08:15 AM	R11382
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	6/19/2013 2:08:15 AM	R11382
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	6/19/2013 2:08:15 AM	R11382
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	6/19/2013 2:08:15 AM	R11382
1,1,1-Trichloroethane	ND	1.0		µg/L	1	6/19/2013 2:08:15 AM	R11382
1,1,2-Trichloroethane	ND	1.0		µg/L	1	6/19/2013 2:08:15 AM	R11382
Trichloroethene (TCE)	ND	1.0		µg/L	1	6/19/2013 2:08:15 AM	R11382
Trichlorofluoromethane	ND	1.0		µg/L	1	6/19/2013 2:08:15 AM	R11382
1,2,3-Trichloropropane	ND	2.0		µg/L	1	6/19/2013 2:08:15 AM	R11382
Vinyl chloride	ND	1.0		µg/L	1	6/19/2013 2:08:15 AM	R11382
Xylenes, Total	ND	1.5		µg/L	1	6/19/2013 2:08:15 AM	R11382
Surr: 1,2-Dichloroethane-d4	85.4	70-130		%REC	1	6/19/2013 2:08:15 AM	R11382
Surr: 4-Bromofluorobenzene	92.0	69.5-130		%REC	1	6/19/2013 2:08:15 AM	R11382
Surr: Dibromofluoromethane	89.4	70-130		%REC	1	6/19/2013 2:08:15 AM	R11382
Surr: Toluene-d8	91.7	70-130		%REC	1	6/19/2013 2:08:15 AM	R11382

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

Qualifiers:	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	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 for VOA and TOC only.
	R RPD outside accepted recovery limits	RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1306739

27-Jun-13

Client: Cypress Engineering

Project: TWP Roswell Station 9

Sample ID	MB	SampType: MBLK			TestCode: EPA Method 200.7: Dissolved Metals					
Client ID:	PBW	Batch ID: R11414			RunNo: 11414					
Prep Date:		Analysis Date: 6/19/2013			SeqNo: 322566		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	ND	1.0								
Magnesium	ND	1.0								
Potassium	ND	1.0								

Sample ID	LCS		SampType: LCS		TestCode: EPA Method 200.7: Dissolved Metals					
Client ID:	LCSW		Batch ID: R11414		RunNo: 11414					
Prep Date:			Analysis Date: 6/19/2013		SeqNo: 322567		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	52	1.0	50.00	0	104	85	115			
Magnesium	52	1.0	50.00	0	105	85	115			
Potassium	52	1.0	50.00	0	104	85	115			

Sample ID	MB	SampType: MBLK			TestCode: EPA Method 200.7: Dissolved Metals					
Client ID:	PBW	Batch ID: R11414			RunNo: 11414					
Prep Date:		Analysis Date: 6/19/2013			SeqNo: 322584		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	ND	1.0								
Magnesium	ND	1.0								
Potassium	ND	1.0								
Sodium	ND	1.0								

Sample ID	LCS		SampType: LCS		TestCode: EPA Method 200.7: Dissolved Metals					
Client ID:	LCSW		Batch ID: R11414		RunNo: 11414					
Prep Date:			Analysis Date: 6/19/2013		SeqNo: 322585		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	51	1.0	50.00	0	102	85	115			
Magnesium	51	1.0	50.00	0	102	85	115			
Potassium	50	1.0	50.00	0	100	85	115			
Sodium	50	1.0	50.00	0	100	85	115			

Sample ID	1306515-001CMS		SampType: MS		TestCode: EPA Method 200.7: Dissolved Metals					
Client ID:	BatchQC		Batch ID: R11414		RunNo: 11414					
Prep Date:			Analysis Date: 6/19/2013		SeqNo: 322880		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Magnesium	59	1.0	50.00	8.228	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

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 for VOA and TOC only.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1306739

27-Jun-13

Client: Cypress Engineering
Project: TWP Roswell Station 9

Sample ID	1306515-001CMSD	SampType:	MSD	TestCode:	EPA Method 200.7: Dissolved Metals						
Client ID:	BatchQC	Batch ID:	R11414	RunNo:	11414						
Prep Date:		Analysis Date:	6/19/2013	SeqNo:	322881	Units:	mg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Magnesium	59	1.0	50.00	8.228	101	70	130	1.18	20		

Sample ID	1306515-001CMS	SampType:	MS	TestCode:	EPA Method 200.7: Dissolved Metals						
Client ID:	BatchQC	Batch ID:	R11414	RunNo:	11414						
Prep Date:		Analysis Date:	6/19/2013	SeqNo:	322883	Units:	mg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Calcium	310	5.0	250.0	48.29	106	70	130				

Sample ID	1306515-001CMSD	SampType:	MSD	TestCode:	EPA Method 200.7: Dissolved Metals						
Client ID:	BatchQC	Batch ID:	R11414	RunNo:	11414						
Prep Date:		Analysis Date:	6/19/2013	SeqNo:	322884	Units:	mg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Calcium	310	5.0	250.0	48.29	105	70	130	0.678	20		

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

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 for VOA and TOC only.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1306739

27-Jun-13

Client: Cypress Engineering
Project: TWP Roswell Station 9

Sample ID	1306712-001CMS		SampType: MS		TestCode: EPA Method 300.0: Anions					
Client ID:	BatchQC		Batch ID: R11399		RunNo: 11399					
Prep Date:			Analysis Date: 6/18/2013		SeqNo: 322251		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nitrogen, Nitrite (As N)	0.78	0.10	1.000	0	77.6	84.3	102			S
Bromide	3.0	0.10	2.500	0	121	92	104			S
Nitrogen, Nitrate (As N)	2.4	0.10	2.500	0	95.8	93	113			
Phosphorus, Orthophosphate (As P)	4.7	0.50	5.000	0	94.1	73.9	120			

Sample ID	1306712-001CMSD		SampType: MSD		TestCode: EPA Method 300.0: Anions					
Client ID:	BatchQC		Batch ID: R11399		RunNo: 11399					
Prep Date:			Analysis Date: 6/18/2013		SeqNo: 322252		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nitrogen, Nitrite (As N)	0.77	0.10	1.000	0	77.3	84.3	102	0.323	20	S
Bromide	3.0	0.10	2.500	0	121	92	104	0.212	20	S
Nitrogen, Nitrate (As N)	2.4	0.10	2.500	0	95.6	93	113	0.201	20	
Phosphorus, Orthophosphate (As P)	4.5	0.50	5.000	0	90.7	73.9	120	3.74	20	

Sample ID	MB	SampType: MBLK			TestCode: EPA Method 300.0: Anions					
Client ID:	PBW	Batch ID: R11399			RunNo: 11399					
Prep Date:		Analysis Date: 6/18/2013			SeqNo: 322279		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nitrogen, Nitrite (As N)	ND	0.10								
Bromide	ND	0.10								
Nitrogen, Nitrate (As N)	ND	0.10								
Phosphorus, Orthophosphate (As P	ND	0.50								

Sample ID	LCS		SampType: LCS		TestCode: EPA Method 300.0: Anions					
Client ID:	LCSW		Batch ID: R11399		RunNo: 11399					
Prep Date:			Analysis Date: 6/18/2013		SeqNo: 322280		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nitrogen, Nitrite (As N)	0.95	0.10	1.000	0	95.0	90	110			
Bromide	2.4	0.10	2.500	0	96.2	90	110			
Nitrogen, Nitrate (As N)	2.5	0.10	2.500	0	100	90	110			
Phosphorus, Orthophosphate (As P	5.0	0.50	5.000	0	100	90	110			

Sample ID	1306710-001AMS		SampType: MS		TestCode: EPA Method 300.0: Anions					
Client ID:	BatchQC		Batch ID: R11399		RunNo: 11399					
Prep Date:			Analysis Date: 6/18/2013		SeqNo: 322286		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Bromide	2.6	0.10	2.500	0.1965	96.7	92	104			

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 for VOA and TOC only. |
| R RPD outside accepted recovery limits | RL Reporting Detection Limit |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1306739

27-Jun-13

Client: Cypress Engineering
Project: TWP Roswell Station 9

Sample ID	1306710-001AMSD		SampType: MSD		TestCode: EPA Method 300.0: Anions					
Client ID:	BatchQC		Batch ID: R11399		RunNo: 11399					
Prep Date:			Analysis Date: 6/18/2013		SeqNo: 322287		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Bromide	2.6	0.10	2.500	0.1965	95.6	92	104	1.11	20	

Sample ID	MB	SampType: MBLK			TestCode: EPA Method 300.0: Anions					
Client ID:	PBW	Batch ID: R11399			RunNo: 11399					
Prep Date:		Analysis Date: 6/18/2013			SeqNo: 322313		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nitrogen, Nitrite (As N)	ND	0.10								
Bromide	ND	0.10								
Nitrogen, Nitrate (As N)	ND	0.10								
Phosphorus, Orthophosphate (As P	ND	0.50								

Sample ID	LCS		SampType: LCS		TestCode: EPA Method 300.0: Anions					
Client ID:	LCSW		Batch ID: R11399		RunNo: 11399					
Prep Date:			Analysis Date: 6/19/2013		SeqNo: 322314		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nitrogen, Nitrite (As N)	0.96	0.10	1.000	0	96.3	90	110			
Bromide	2.4	0.10	2.500	0	97.1	90	110			
Nitrogen, Nitrate (As N)	2.5	0.10	2.500	0	101	90	110			
Phosphorus, Orthophosphate (As P)	5.1	0.50	5.000	0	102	90	110			

Sample ID	1306727-002AMS		SampType: MS		TestCode: EPA Method 300.0: Anions					
Client ID:	BatchQC		Batch ID: R11399		RunNo: 11399					
Prep Date:			Analysis Date: 6/19/2013		SeqNo: 322325		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nitrogen, Nitrite (As N)	0.99	0.10	1.000	0	98.6	84.3	102			
Bromide	2.8	0.10	2.500	0.3548	96.9	92	104			
Nitrogen, Nitrate (As N)	8.4	0.10	2.500	5.589	112	93	113			
Phosphorus, Orthophosphate (As P)	5.4	0.50	5.000	0.3555	100	73.9	120			

Sample ID	1306727-002AMSD		SampType: MSD		TestCode: EPA Method 300.0: Anions					
Client ID:	BatchQC		Batch ID: R11399		RunNo: 11399					
Prep Date:			Analysis Date: 6/19/2013		SeqNo: 322326		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nitrogen, Nitrite (As N)	0.99	0.10	1.000	0	99.0	84.3	102	0.425	20	
Bromide	2.9	0.10	2.500	0.3548	100	92	104	3.05	20	
Nitrogen, Nitrate (As N)	8.4	0.10	2.500	5.589	112	93	113	0.00238	20	
Phosphorus, Orthophosphate (As P)	5.3	0.50	5.000	0.3555	98.7	73.9	120	1.26	20	

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 for VOA and TOC only. |
| R RPD outside accepted recovery limits | RL Reporting Detection Limit |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1306739

27-Jun-13

Client: Cypress Engineering
Project: TWP Roswell Station 9

Sample ID MB	SampType: MBLK		TestCode: EPA Method 300.0: Anions							
Client ID: PBW	Batch ID: R11437		RunNo: 11437							
Prep Date:	Analysis Date: 6/19/2013		SeqNo: 323319		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	0.50								
Sulfate	ND	0.50								

Sample ID LCS	SampType: LCS		TestCode: EPA Method 300.0: Anions							
Client ID: LCSW	Batch ID: R11437		RunNo: 11437							
Prep Date:	Analysis Date: 6/19/2013		SeqNo: 323320		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	4.6	0.50	5.000	0	92.4	90	110			
Sulfate	9.4	0.50	10.00	0	93.9	90	110			

Sample ID MB	SampType: MBLK		TestCode: EPA Method 300.0: Anions							
Client ID: PBW	Batch ID: R11535		RunNo: 11535							
Prep Date:	Analysis Date: 6/24/2013		SeqNo: 326679		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	ND	0.10								

Sample ID LCS-b	SampType: LCS		TestCode: EPA Method 300.0: Anions							
Client ID: LCSW	Batch ID: R11535		RunNo: 11535							
Prep Date:	Analysis Date: 6/24/2013		SeqNo: 326681		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	0.48	0.10	0.5000	0	95.9	90	110			

Sample ID 1306964-001AMS	SampType: MS		TestCode: EPA Method 300.0: Anions							
Client ID: BatchQC	Batch ID: R11535		RunNo: 11535							
Prep Date:	Analysis Date: 6/24/2013		SeqNo: 326698		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	0.62	0.10	0.5000	0.1368	96.1	76.9	114			

Sample ID 1306964-001AMSD	SampType: MSD		TestCode: EPA Method 300.0: Anions							
Client ID: BatchQC	Batch ID: R11535		RunNo: 11535							
Prep Date:	Analysis Date: 6/24/2013		SeqNo: 326699		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	0.62	0.10	0.5000	0.1368	97.4	76.9	114	1.02	20	

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 for VOA and TOC only. |
| R RPD outside accepted recovery limits | RL Reporting Detection Limit |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1306739

27-Jun-13

Client: Cypress Engineering
Project: TWP Roswell Station 9

Sample ID	1306944-001AMS	SampType:	MS	TestCode:	EPA Method 300.0: Anions					
Client ID:	BatchQC	Batch ID:	R11535	RunNo:	11535					
Prep Date:		Analysis Date:	6/25/2013	SeqNo:	326732	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	1.1	0.10	0.5000	0.5777	95.0	76.9	114			

Sample ID	1306944-001AMSD	SampType:	MSD	TestCode:	EPA Method 300.0: Anions					
Client ID:	BatchQC	Batch ID:	R11535	RunNo:	11535					
Prep Date:		Analysis Date:	6/25/2013	SeqNo:	326733	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	1.1	0.10	0.5000	0.5777	96.4	76.9	114	0.691	20	

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

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 for VOA and TOC only.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1306739

27-Jun-13

Client: Cypress Engineering
Project: TWP Roswell Station 9

Sample ID 5ML RB	SampType: MBLK		TestCode: EPA Method 8021B: Volatiles							
Client ID: PBW	Batch ID: R11460		RunNo: 11460							
Prep Date:	Analysis Date: 6/20/2013		SeqNo: 324109		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								
Xylenes, Total	ND	2.0								
Surr: 4-Bromofluorobenzene	21		20.00		105	69.4	129			

Sample ID 100NG BTEX LCS	SampType: LCS		TestCode: EPA Method 8021B: Volatiles							
Client ID: LCSW	Batch ID: R11460		RunNo: 11460							
Prep Date:	Analysis Date: 6/20/2013		SeqNo: 324111		Units: µg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	19	1.0	20.00	0	95.0	80	120			
Toluene	19	1.0	20.00	0	96.0	80	120			
Ethylbenzene	19	1.0	20.00	0	96.2	80	120			
Xylenes, Total	61	2.0	60.00	0	101	80	120			
m,p-Xylene	41	1.0	40.00	0	103	80	120			
o-Xylene	20	1.0	20.00	0	98.2	80	120			
Surr: 4-Bromofluorobenzene	21		20.00		104	69.4	129			

Sample ID 1306739-001AMS	SampType: MS		TestCode: EPA Method 8021B: Volatiles							
Client ID: Pre-Treatment	Batch ID: R11460		RunNo: 11460							
Prep Date:	Analysis Date: 6/20/2013		SeqNo: 324116		Units: µg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	4400	100	2000	2490	96.4	80	120			
Toluene	6400	100	2000	4518	96.3	80	120			
Ethylbenzene	2200	100	2000	263.6	95.7	80	120			
Xylenes, Total	8500	200	6000	2476	100	80	120			
m,p-Xylene	5900	100	4000	0	148	37.9	179			
o-Xylene	2600	100	2000	0	128	67.5	138			
Surr: 4-Bromofluorobenzene	2100		2000		106	69.4	129			

Sample ID 1306739-001AMSD	SampType: MSD		TestCode: EPA Method 8021B: Volatiles							
Client ID: Pre-Treatment	Batch ID: R11460		RunNo: 11460							
Prep Date:	Analysis Date: 6/20/2013		SeqNo: 324117		Units: µg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	4500	100	2000	2490	101	80	120	1.89	20	
Toluene	6400	100	2000	4518	96.4	80	120	0.0372	20	
Ethylbenzene	2200	100	2000	263.6	98.7	80	120	2.77	20	
Xylenes, Total	8600	200	6000	2476	101	80	120	0.673	20	

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 for VOA and TOC only. |
| R RPD outside accepted recovery limits | RL Reporting Detection Limit |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1306739

27-Jun-13

Client: Cypress Engineering
Project: TWP Roswell Station 9

Sample ID	1306739-001AMSD	SampType:	MSD	TestCode:	EPA Method 8021B: Volatiles						
Client ID:	Pre-Treatment	Batch ID:	R11460	RunNo:	11460						
Prep Date:		Analysis Date:	6/20/2013	SeqNo:	324117	Units:	µg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
m,p-Xylene	6000	100	4000	0	149	37.9	179	0	20		
o-Xylene	2600	100	2000	0	129	67.5	138	0	20		
Surr: 4-Bromofluorobenzene	2200		2000		108	69.4	129	0	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 for VOA and TOC only.
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1306739

27-Jun-13

Client: Cypress Engineering
Project: TWP Roswell Station 9

Sample ID	5ml rb	SampType:	MBLK	TestCode:	EPA Method 8260B: VOLATILES					
Client ID:	PBW	Batch ID:	R11382	RunNo:	11382					
Prep Date:		Analysis Date:	6/18/2013	SeqNo:	321684	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								
1,1-Dichloropropene	ND	1.0								

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

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 for VOA and TOC only.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1306739

27-Jun-13

Client: Cypress Engineering
Project: TWP Roswell Station 9

Sample ID 5ml rb	SampType: MBLK			TestCode: EPA Method 8260B: VOLATILES						
Client ID: PBW	Batch ID: R11382			RunNo: 11382						
Prep Date:	Analysis Date: 6/18/2013			SeqNo: 321684		Units: µg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
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	8.7		10.00		86.5	70	130			
Surr: 4-Bromofluorobenzene	9.6		10.00		95.8	69.5	130			
Surr: Dibromofluoromethane	8.8		10.00		88.3	70	130			
Surr: Toluene-d8	9.2		10.00		91.6	70	130			

Sample ID 100ng lcs	SampType: LCS			TestCode: EPA Method 8260B: VOLATILES						
Client ID: LCSW	Batch ID: R11382			RunNo: 11382						
Prep Date:	Analysis Date: 6/18/2013			SeqNo: 321686		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	80	120			
Chlorobenzene	20	1.0	20.00	0	102	70	130			
1,1-Dichloroethene	22	1.0	20.00	0	109	85.8	133			
Trichloroethene (TCE)	20	1.0	20.00	0	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 for VOA and TOC only.
R RPD outside accepted recovery limits	RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1306739

27-Jun-13

Client: Cypress Engineering
Project: TWP Roswell Station 9

Sample ID 100ng lcs	SampType: LCS		TestCode: EPA Method 8260B: VOLATILES							
Client ID: LCSW	Batch ID: R11382		RunNo: 11382							
Prep Date:	Analysis Date: 6/18/2013		SeqNo: 321686		Units: µg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 1,2-Dichloroethane-d4	9.1		10.00		90.5	70	130			
Surr: 4-Bromofluorobenzene	9.7		10.00		97.5	69.5	130			
Surr: Dibromofluoromethane	9.4		10.00		93.7	70	130			
Surr: Toluene-d8	9.3		10.00		92.5	70	130			

Sample ID 1306682-001a ms	SampType: MS		TestCode: EPA Method 8260B: VOLATILES							
Client ID: BatchQC	Batch ID: R11382		RunNo: 11382							
Prep Date:	Analysis Date: 6/18/2013		SeqNo: 321692		Units: µg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	22	1.0	20.00	0	109	70	130			
Toluene	23	1.0	20.00	0	113	68.5	128			
Chlorobenzene	21	1.0	20.00	0	105	70	130			
1,1-Dichloroethene	20	1.0	20.00	0	102	70	130			
Trichloroethene (TCE)	20	1.0	20.00	0	98.5	61.3	102			
Surr: 1,2-Dichloroethane-d4	8.9		10.00		88.6	70	130			
Surr: 4-Bromofluorobenzene	9.7		10.00		96.8	69.5	130			
Surr: Dibromofluoromethane	9.2		10.00		91.7	70	130			
Surr: Toluene-d8	9.1		10.00		91.1	70	130			

Sample ID 1306682-001a msd	SampType: MSD		TestCode: EPA Method 8260B: VOLATILES							
Client ID: BatchQC	Batch ID: R11382		RunNo: 11382							
Prep Date:	Analysis Date: 6/18/2013		SeqNo: 321702		Units: µg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	21	1.0	20.00	0	104	70	130	4.38	20	
Toluene	22	1.0	20.00	0	111	68.5	128	1.83	20	
Chlorobenzene	21	1.0	20.00	0	103	70	130	1.75	20	
1,1-Dichloroethene	20	1.0	20.00	0	98.1	70	130	3.89	20	
Trichloroethene (TCE)	19	1.0	20.00	0	94.6	61.3	102	4.06	20	
Surr: 1,2-Dichloroethane-d4	8.6		10.00		86.5	70	130	0	0	
Surr: 4-Bromofluorobenzene	9.6		10.00		95.6	69.5	130	0	0	
Surr: Dibromofluoromethane	9.0		10.00		90.0	70	130	0	0	
Surr: Toluene-d8	9.6		10.00		96.3	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

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 for VOA and TOC only.
RL Reporting Detection Limit

Sample Log-In Check List

Client Name: CYP

Work Order Number: 1306739

RcptNo: 1

Received by/date:

Logged By: Lindsay Mangin

6/18/2013 9:55:00 AM

Completed By: Lindsay Mangin

6/18/2013 1:07:57 PM

Reviewed By: IO

06/18/13

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? UPS

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?
(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: 2
(≤2 or >12 unless noted)
Adjusted? _____
Checked by: mg

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	2.7	Good	Yes			

Chain-of-Custody Record

Client: Cypress Engineering Services, Inc.
 ATTN: George Robinson, PE
 Mailing Address: 155 Highway 6 North
Suite 102, Houston TX 77095
 Phone #: 281.797.3420
 Email or Fax#: george.robinson@cypresinc.us
 QA/QC Package: ☒ Level 4 (Full Validation) ☐ Other _____
☒ Standard ☐ NELAP ☐ Other _____
☐ EDD (Type) _____

Date	Time	Matrix	Sample Request ID
1/13/2013	0930	H2O	Pre-Treatment
1/13/2013	0930	H2O	Post-Air Striper
1/13/2013	0930	H2O	Between Gals
1/13/2013	0930	H2O	Post-Treatment
1/13/2013	0930	H2O	Field to Hendrix
1/13/2013	0930	H2O	Trip Blank
1/13/2013	1625		
1/13/2013	1625		

Turn-Around Time:

☒ Standard ☐ Rush
 Project Name: TWP Roswell Station 9

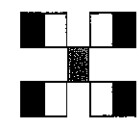
Project #: Monthly Discharge Sampling 2013 (June 2013)

Project Manager: George Robinson, PE

Sampled: DM Barnhill, PE
 On Ice: ☒ Yes ☐ No
 Sample Temperature: 2-7

Container Type and #	Preservative Type	HEAL No
3x40m Vials	HCL	-001
3x40m Vials	HCL	-002
3x40m Vials	HCL	-003
3x40m Vials	HCL	-004
1x15m plastic	None	
1x50m	H2SO4	
1x25m	HNO3	
2x40m Vials	HCL	-005

Received by: [Signature] Date: 1/13/2013 Time: 0955
 Received by: [Signature] Date: 1/13/2013 Time: 1615



HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

Analysis Request

BTEX + MTBE + TMB's (8021)	
BTEX + MTBE + TPH (Gas only)	
TPH 8015B (GRO / DRO / MRO)	
TPH (Method 418.1)	
EDB (Method 504.1)	
PAH's (8310 or 8270 SIMS)	
RCRA 8 Metals	
Anions (F, Cl, NO3, NO2, PO4, SO4)	
8081 Pesticides / 8082 PCB's	
8260B (VOA)	
8270 (Semi-VOA)	
MAJOR CATIONS	
Na, Ca, K, Mg	
By: 6010c	
* Field to Hendrix	
Air Bubbles (Y or N)	

Remarks: Any Questions Please Call
CMS c 575 826 1615
or George Robinson
281.797.3420



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

July 31, 2013

George Robinson
Cypress Engineering
7171 Highway 6 North
Suite 102
Houston, TX 770952422
TEL: (281) 797-3420
FAX (281) 859-1881

RE: TWP Roswell Station 9

OrderNo.: 1307905

Dear George Robinson:

Hall Environmental Analysis Laboratory received 5 sample(s) on 7/19/2013 for the analyses presented in the following report.

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

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

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #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 1307905

Date Reported: 7/31/2013

CLIENT: Cypress Engineering

Client Sample ID: Pre-Treatment

Project: TWP Roswell Station 9

Collection Date: 7/17/2013 10:45:00 AM

Lab ID: 1307905-001

Matrix: AQUEOUS

Received Date: 7/19/2013 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8021B: VOLATILES							Analyst: DAM
Methyl tert-butyl ether (MTBE)	ND	250		µg/L	100	7/23/2013 7:39:27 PM	R12136
Benzene	3000	100		µg/L	100	7/23/2013 7:39:27 PM	R12136
Toluene	5300	100		µg/L	100	7/23/2013 7:39:27 PM	R12136
Ethylbenzene	270	100		µg/L	100	7/23/2013 7:39:27 PM	R12136
Xylenes, Total	2600	200		µg/L	100	7/23/2013 7:39:27 PM	R12136
1,2,4-Trimethylbenzene	170	100		µg/L	100	7/23/2013 7:39:27 PM	R12136
1,3,5-Trimethylbenzene	100	100		µg/L	100	7/23/2013 7:39:27 PM	R12136
Surr: 4-Bromofluorobenzene	103	69.4-129		%REC	100	7/23/2013 7:39:27 PM	R12136

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	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 for VOA and TOC only.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
				Page 1 of 17

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1307905

Date Reported: 7/31/2013

CLIENT: Cypress Engineering

Client Sample ID: Post Air Stripper

Project: TWP Roswell Station 9

Collection Date: 7/17/2013 10:45:00 AM

Lab ID: 1307905-002

Matrix: AQUEOUS

Received Date: 7/19/2013 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8021B: VOLATILES							Analyst: DAM
Methyl tert-butyl ether (MTBE)	ND	12		µg/L	5	7/23/2013 8:09:40 PM	R12136
Benzene	ND	5.0		µg/L	5	7/23/2013 8:09:40 PM	R12136
Toluene	ND	5.0		µg/L	5	7/23/2013 8:09:40 PM	R12136
Ethylbenzene	ND	5.0		µg/L	5	7/23/2013 8:09:40 PM	R12136
Xylenes, Total	ND	10		µg/L	5	7/23/2013 8:09:40 PM	R12136
1,2,4-Trimethylbenzene	ND	5.0		µg/L	5	7/23/2013 8:09:40 PM	R12136
1,3,5-Trimethylbenzene	ND	5.0		µg/L	5	7/23/2013 8:09:40 PM	R12136
Surr: 4-Bromofluorobenzene	104	69.4-129		%REC	5	7/23/2013 8:09:40 PM	R12136

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	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 for VOA and TOC only.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
				Page 2 of 17

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1307905

Date Reported: 7/31/2013

CLIENT: Cypress Engineering

Client Sample ID: Between GAC's

Project: TWP Roswell Station 9

Collection Date: 7/17/2013 10:45:00 AM

Lab ID: 1307905-003

Matrix: AQUEOUS

Received Date: 7/19/2013 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8021B: VOLATILES							Analyst: DAM
Methyl tert-butyl ether (MTBE)	ND	2.5		µg/L	1	7/23/2013 8:39:47 PM	R12136
Benzene	3.2	1.0		µg/L	1	7/23/2013 8:39:47 PM	R12136
Toluene	1.8	1.0		µg/L	1	7/23/2013 8:39:47 PM	R12136
Ethylbenzene	ND	1.0		µg/L	1	7/23/2013 8:39:47 PM	R12136
Xylenes, Total	ND	2.0		µg/L	1	7/23/2013 8:39:47 PM	R12136
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	7/23/2013 8:39:47 PM	R12136
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	7/23/2013 8:39:47 PM	R12136
Surr: 4-Bromofluorobenzene	105	69.4-129		%REC	1	7/23/2013 8:39:47 PM	R12136

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	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 for VOA and TOC only.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
				Page 3 of 17

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1307905

Date Reported: 7/31/2013

CLIENT: Cypress Engineering

Client Sample ID: Post-Treatment

Project: TWP Roswell Station 9

Collection Date: 7/17/2013 10:45:00 AM

Lab ID: 1307905-004

Matrix: AQUEOUS

Received Date: 7/19/2013 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: JRR
Fluoride	1.2	0.50		mg/L	5	7/22/2013 8:10:56 PM	R12117
Chloride	380	25		mg/L	50	7/24/2013 4:30:52 AM	R12143
Bromide	ND	0.50		mg/L	5	7/22/2013 8:10:56 PM	R12117
Phosphorus, Orthophosphate (As P)	ND	2.5	H	mg/L	5	7/22/2013 8:10:56 PM	R12117
Sulfate	1100	25		mg/L	50	7/24/2013 4:30:52 AM	R12143
Nitrate+Nitrite as N	ND	1.0		mg/L	5	7/23/2013 8:26:48 AM	R12143
EPA METHOD 200.7: DISSOLVED METALS							Analyst: JLF
Calcium	480	5.0		mg/L	5	7/26/2013 5:13:11 PM	R12216
Magnesium	130	5.0		mg/L	5	7/26/2013 5:13:11 PM	R12216
Potassium	2.8	1.0		mg/L	1	7/26/2013 5:10:23 PM	R12216
Sodium	200	5.0		mg/L	5	7/29/2013 2:08:43 PM	R12249
EPA METHOD 8260B: VOLATILES							Analyst: CWS
Benzene	ND	1.0		µg/L	1	7/22/2013 4:08:41 PM	R12108
Toluene	ND	1.0		µg/L	1	7/22/2013 4:08:41 PM	R12108
Ethylbenzene	ND	1.0		µg/L	1	7/22/2013 4:08:41 PM	R12108
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	7/22/2013 4:08:41 PM	R12108
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	7/22/2013 4:08:41 PM	R12108
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	7/22/2013 4:08:41 PM	R12108
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	7/22/2013 4:08:41 PM	R12108
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	7/22/2013 4:08:41 PM	R12108
Naphthalene	ND	2.0		µg/L	1	7/22/2013 4:08:41 PM	R12108
1-Methylnaphthalene	ND	4.0		µg/L	1	7/22/2013 4:08:41 PM	R12108
2-Methylnaphthalene	ND	4.0		µg/L	1	7/22/2013 4:08:41 PM	R12108
Acetone	74	10		µg/L	1	7/22/2013 4:08:41 PM	R12108
Bromobenzene	ND	1.0		µg/L	1	7/22/2013 4:08:41 PM	R12108
Bromodichloromethane	ND	1.0		µg/L	1	7/22/2013 4:08:41 PM	R12108
Bromoform	ND	1.0		µg/L	1	7/22/2013 4:08:41 PM	R12108
Bromomethane	ND	3.0		µg/L	1	7/22/2013 4:08:41 PM	R12108
2-Butanone	17	10		µg/L	1	7/22/2013 4:08:41 PM	R12108
Carbon disulfide	ND	10		µg/L	1	7/22/2013 4:08:41 PM	R12108
Carbon Tetrachloride	ND	1.0		µg/L	1	7/22/2013 4:08:41 PM	R12108
Chlorobenzene	ND	1.0		µg/L	1	7/22/2013 4:08:41 PM	R12108
Chloroethane	ND	2.0		µg/L	1	7/22/2013 4:08:41 PM	R12108
Chloroform	ND	1.0		µg/L	1	7/22/2013 4:08:41 PM	R12108
Chloromethane	ND	3.0		µg/L	1	7/22/2013 4:08:41 PM	R12108
2-Chlorotoluene	ND	1.0		µg/L	1	7/22/2013 4:08:41 PM	R12108
4-Chlorotoluene	ND	1.0		µg/L	1	7/22/2013 4:08:41 PM	R12108
cis-1,2-DCE	ND	1.0		µg/L	1	7/22/2013 4:08:41 PM	R12108
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	7/22/2013 4:08:41 PM	R12108

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

Qualifiers:	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	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 for VOA and TOC only.
	R RPD outside accepted recovery limits	RL Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1307905

Date Reported: 7/31/2013

CLIENT: Cypress Engineering

Client Sample ID: Post-Treatment

Project: TWP Roswell Station 9

Collection Date: 7/17/2013 10:45:00 AM

Lab ID: 1307905-004

Matrix: AQUEOUS

Received Date: 7/19/2013 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES							Analyst: CWS
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	7/22/2013 4:08:41 PM	R12108
Dibromochloromethane	ND	1.0		µg/L	1	7/22/2013 4:08:41 PM	R12108
Dibromomethane	ND	1.0		µg/L	1	7/22/2013 4:08:41 PM	R12108
1,2-Dichlorobenzene	ND	1.0		µg/L	1	7/22/2013 4:08:41 PM	R12108
1,3-Dichlorobenzene	ND	1.0		µg/L	1	7/22/2013 4:08:41 PM	R12108
1,4-Dichlorobenzene	ND	1.0		µg/L	1	7/22/2013 4:08:41 PM	R12108
Dichlorodifluoromethane	ND	1.0		µg/L	1	7/22/2013 4:08:41 PM	R12108
1,1-Dichloroethane	ND	1.0		µg/L	1	7/22/2013 4:08:41 PM	R12108
1,1-Dichloroethene	ND	1.0		µg/L	1	7/22/2013 4:08:41 PM	R12108
1,2-Dichloropropane	ND	1.0		µg/L	1	7/22/2013 4:08:41 PM	R12108
1,3-Dichloropropane	ND	1.0		µg/L	1	7/22/2013 4:08:41 PM	R12108
2,2-Dichloropropane	ND	2.0		µg/L	1	7/22/2013 4:08:41 PM	R12108
1,1-Dichloropropene	ND	1.0		µg/L	1	7/22/2013 4:08:41 PM	R12108
Hexachlorobutadiene	ND	1.0		µg/L	1	7/22/2013 4:08:41 PM	R12108
2-Hexanone	ND	10		µg/L	1	7/22/2013 4:08:41 PM	R12108
Isopropylbenzene	ND	1.0		µg/L	1	7/22/2013 4:08:41 PM	R12108
4-Isopropyltoluene	ND	1.0		µg/L	1	7/22/2013 4:08:41 PM	R12108
4-Methyl-2-pentanone	ND	10		µg/L	1	7/22/2013 4:08:41 PM	R12108
Methylene Chloride	ND	3.0		µg/L	1	7/22/2013 4:08:41 PM	R12108
n-Butylbenzene	ND	3.0		µg/L	1	7/22/2013 4:08:41 PM	R12108
n-Propylbenzene	ND	1.0		µg/L	1	7/22/2013 4:08:41 PM	R12108
sec-Butylbenzene	ND	1.0		µg/L	1	7/22/2013 4:08:41 PM	R12108
Styrene	ND	1.0		µg/L	1	7/22/2013 4:08:41 PM	R12108
tert-Butylbenzene	ND	1.0		µg/L	1	7/22/2013 4:08:41 PM	R12108
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	7/22/2013 4:08:41 PM	R12108
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	7/22/2013 4:08:41 PM	R12108
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	7/22/2013 4:08:41 PM	R12108
trans-1,2-DCE	ND	1.0		µg/L	1	7/22/2013 4:08:41 PM	R12108
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	7/22/2013 4:08:41 PM	R12108
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	7/22/2013 4:08:41 PM	R12108
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	7/22/2013 4:08:41 PM	R12108
1,1,1-Trichloroethane	ND	1.0		µg/L	1	7/22/2013 4:08:41 PM	R12108
1,1,2-Trichloroethane	ND	1.0		µg/L	1	7/22/2013 4:08:41 PM	R12108
Trichloroethene (TCE)	ND	1.0		µg/L	1	7/22/2013 4:08:41 PM	R12108
Trichlorofluoromethane	ND	1.0		µg/L	1	7/22/2013 4:08:41 PM	R12108
1,2,3-Trichloropropane	ND	2.0		µg/L	1	7/22/2013 4:08:41 PM	R12108
Vinyl chloride	ND	1.0		µg/L	1	7/22/2013 4:08:41 PM	R12108
Xylenes, Total	ND	1.5		µg/L	1	7/22/2013 4:08:41 PM	R12108
Surr: 1,2-Dichloroethane-d4	99.4	70-130		%REC	1	7/22/2013 4:08:41 PM	R12108
Surr: 4-Bromofluorobenzene	95.6	70-130		%REC	1	7/22/2013 4:08:41 PM	R12108

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

Qualifiers:	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	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 for VOA and TOC only.
	R RPD outside accepted recovery limits	RL Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1307905

Date Reported: 7/31/2013

CLIENT: Cypress Engineering

Client Sample ID: Post-Treatment

Project: TWP Roswell Station 9

Collection Date: 7/17/2013 10:45:00 AM

Lab ID: 1307905-004

Matrix: AQUEOUS

Received Date: 7/19/2013 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: CWS	
Surr: Dibromofluoromethane	102	70-130		%REC	1	7/22/2013 4:08:41 PM	R12108
Surr: Toluene-d8	100	70-130		%REC	1	7/22/2013 4:08:41 PM	R12108

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	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 for VOA and TOC only.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1307905

Date Reported: 7/31/2013

CLIENT: Cypress Engineering

Client Sample ID: Trip Blank

Project: TWP Roswell Station 9

Collection Date:

Lab ID: 1307905-005

Matrix: TRIP BLANK

Received Date: 7/19/2013 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES							Analyst: CWS
Benzene	ND	1.0		µg/L	1	7/22/2013 4:37:38 PM	R12108
Toluene	ND	1.0		µg/L	1	7/22/2013 4:37:38 PM	R12108
Ethylbenzene	ND	1.0		µg/L	1	7/22/2013 4:37:38 PM	R12108
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	7/22/2013 4:37:38 PM	R12108
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	7/22/2013 4:37:38 PM	R12108
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	7/22/2013 4:37:38 PM	R12108
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	7/22/2013 4:37:38 PM	R12108
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	7/22/2013 4:37:38 PM	R12108
Naphthalene	ND	2.0		µg/L	1	7/22/2013 4:37:38 PM	R12108
1-Methylnaphthalene	ND	4.0		µg/L	1	7/22/2013 4:37:38 PM	R12108
2-Methylnaphthalene	ND	4.0		µg/L	1	7/22/2013 4:37:38 PM	R12108
Acetone	ND	10		µg/L	1	7/22/2013 4:37:38 PM	R12108
Bromobenzene	ND	1.0		µg/L	1	7/22/2013 4:37:38 PM	R12108
Bromodichloromethane	ND	1.0		µg/L	1	7/22/2013 4:37:38 PM	R12108
Bromoform	ND	1.0		µg/L	1	7/22/2013 4:37:38 PM	R12108
Bromomethane	ND	3.0		µg/L	1	7/22/2013 4:37:38 PM	R12108
2-Butanone	ND	10		µg/L	1	7/22/2013 4:37:38 PM	R12108
Carbon disulfide	ND	10		µg/L	1	7/22/2013 4:37:38 PM	R12108
Carbon Tetrachloride	ND	1.0		µg/L	1	7/22/2013 4:37:38 PM	R12108
Chlorobenzene	ND	1.0		µg/L	1	7/22/2013 4:37:38 PM	R12108
Chloroethane	ND	2.0		µg/L	1	7/22/2013 4:37:38 PM	R12108
Chloroform	ND	1.0		µg/L	1	7/22/2013 4:37:38 PM	R12108
Chloromethane	ND	3.0		µg/L	1	7/22/2013 4:37:38 PM	R12108
2-Chlorotoluene	ND	1.0		µg/L	1	7/22/2013 4:37:38 PM	R12108
4-Chlorotoluene	ND	1.0		µg/L	1	7/22/2013 4:37:38 PM	R12108
cis-1,2-DCE	ND	1.0		µg/L	1	7/22/2013 4:37:38 PM	R12108
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	7/22/2013 4:37:38 PM	R12108
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	7/22/2013 4:37:38 PM	R12108
Dibromochloromethane	ND	1.0		µg/L	1	7/22/2013 4:37:38 PM	R12108
Dibromomethane	ND	1.0		µg/L	1	7/22/2013 4:37:38 PM	R12108
1,2-Dichlorobenzene	ND	1.0		µg/L	1	7/22/2013 4:37:38 PM	R12108
1,3-Dichlorobenzene	ND	1.0		µg/L	1	7/22/2013 4:37:38 PM	R12108
1,4-Dichlorobenzene	ND	1.0		µg/L	1	7/22/2013 4:37:38 PM	R12108
Dichlorodifluoromethane	ND	1.0		µg/L	1	7/22/2013 4:37:38 PM	R12108
1,1-Dichloroethane	ND	1.0		µg/L	1	7/22/2013 4:37:38 PM	R12108
1,1-Dichloroethene	ND	1.0		µg/L	1	7/22/2013 4:37:38 PM	R12108
1,2-Dichloropropane	ND	1.0		µg/L	1	7/22/2013 4:37:38 PM	R12108
1,3-Dichloropropane	ND	1.0		µg/L	1	7/22/2013 4:37:38 PM	R12108
2,2-Dichloropropane	ND	2.0		µg/L	1	7/22/2013 4:37:38 PM	R12108
1,1-Dichloropropene	ND	1.0		µg/L	1	7/22/2013 4:37:38 PM	R12108

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 RSDlimit
- R RPD 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 for VOA and TOC only.
- RL Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1307905

Date Reported: 7/31/2013

CLIENT: Cypress Engineering

Client Sample ID: Trip Blank

Project: TWP Roswell Station 9

Collection Date:

Lab ID: 1307905-005

Matrix: TRIP BLANK

Received Date: 7/19/2013 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES							Analyst: CWS
Hexachlorobutadiene	ND	1.0		µg/L	1	7/22/2013 4:37:38 PM	R12108
2-Hexanone	ND	10		µg/L	1	7/22/2013 4:37:38 PM	R12108
Isopropylbenzene	ND	1.0		µg/L	1	7/22/2013 4:37:38 PM	R12108
4-Isopropyltoluene	ND	1.0		µg/L	1	7/22/2013 4:37:38 PM	R12108
4-Methyl-2-pentanone	ND	10		µg/L	1	7/22/2013 4:37:38 PM	R12108
Methylene Chloride	ND	3.0		µg/L	1	7/22/2013 4:37:38 PM	R12108
n-Butylbenzene	ND	3.0		µg/L	1	7/22/2013 4:37:38 PM	R12108
n-Propylbenzene	ND	1.0		µg/L	1	7/22/2013 4:37:38 PM	R12108
sec-Butylbenzene	ND	1.0		µg/L	1	7/22/2013 4:37:38 PM	R12108
Styrene	ND	1.0		µg/L	1	7/22/2013 4:37:38 PM	R12108
tert-Butylbenzene	ND	1.0		µg/L	1	7/22/2013 4:37:38 PM	R12108
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	7/22/2013 4:37:38 PM	R12108
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	7/22/2013 4:37:38 PM	R12108
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	7/22/2013 4:37:38 PM	R12108
trans-1,2-DCE	ND	1.0		µg/L	1	7/22/2013 4:37:38 PM	R12108
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	7/22/2013 4:37:38 PM	R12108
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	7/22/2013 4:37:38 PM	R12108
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	7/22/2013 4:37:38 PM	R12108
1,1,1-Trichloroethane	ND	1.0		µg/L	1	7/22/2013 4:37:38 PM	R12108
1,1,2-Trichloroethane	ND	1.0		µg/L	1	7/22/2013 4:37:38 PM	R12108
Trichloroethene (TCE)	ND	1.0		µg/L	1	7/22/2013 4:37:38 PM	R12108
Trichlorofluoromethane	ND	1.0		µg/L	1	7/22/2013 4:37:38 PM	R12108
1,2,3-Trichloropropane	ND	2.0		µg/L	1	7/22/2013 4:37:38 PM	R12108
Vinyl chloride	ND	1.0		µg/L	1	7/22/2013 4:37:38 PM	R12108
Xylenes, Total	ND	1.5		µg/L	1	7/22/2013 4:37:38 PM	R12108
Surr: 1,2-Dichloroethane-d4	99.1	70-130		%REC	1	7/22/2013 4:37:38 PM	R12108
Surr: 4-Bromofluorobenzene	98.8	70-130		%REC	1	7/22/2013 4:37:38 PM	R12108
Surr: Dibromofluoromethane	97.4	70-130		%REC	1	7/22/2013 4:37:38 PM	R12108
Surr: Toluene-d8	102	70-130		%REC	1	7/22/2013 4:37:38 PM	R12108

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

Qualifiers:	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	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 for VOA and TOC only.
	R RPD outside accepted recovery limits	RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1307905

31-Jul-13

Client: Cypress Engineering
Project: TWP Roswell Station 9

Sample ID MB	SampType: MBLK		TestCode: EPA Method 200.7: Dissolved Metals							
Client ID: PBW	Batch ID: R12216		RunNo: 12216							
Prep Date:	Analysis Date: 7/26/2013		SeqNo: 347829		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	ND	1.0								
Magnesium	ND	1.0								
Potassium	ND	1.0								

Sample ID LCS	SampType: LCS		TestCode: EPA Method 200.7: Dissolved Metals							
Client ID: LCSW	Batch ID: R12216		RunNo: 12216							
Prep Date:	Analysis Date: 7/26/2013		SeqNo: 347830		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	49	1.0	50.00	0	98.3	85	115			
Magnesium	50	1.0	50.00	0	101	85	115			
Potassium	49	1.0	50.00	0	99.0	85	115			

Sample ID MB	SampType: MBLK		TestCode: EPA Method 200.7: Dissolved Metals							
Client ID: PBW	Batch ID: R12249		RunNo: 12249							
Prep Date:	Analysis Date: 7/29/2013		SeqNo: 348395		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sodium	ND	1.0								

Sample ID LCS	SampType: LCS		TestCode: EPA Method 200.7: Dissolved Metals							
Client ID: LCSW	Batch ID: R12249		RunNo: 12249							
Prep Date:	Analysis Date: 7/29/2013		SeqNo: 348396		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sodium	50	1.0	50.00	0	101	85	115			

Sample ID 1307C06-002AMS	SampType: MS		TestCode: EPA Method 200.7: Dissolved Metals							
Client ID: BatchQC	Batch ID: R12249		RunNo: 12249							
Prep Date:	Analysis Date: 7/29/2013		SeqNo: 348606		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sodium	89	1.0	50.00	39.96	97.3	70	130			

Sample ID 1307C06-002AMSD	SampType: MSD		TestCode: EPA Method 200.7: Dissolved Metals							
Client ID: BatchQC	Batch ID: R12249		RunNo: 12249							
Prep Date:	Analysis Date: 7/29/2013		SeqNo: 348607		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sodium	89	1.0	50.00	39.96	97.7	70	130	0.251	20	

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 for VOA and TOC only. |
| R RPD outside accepted recovery limits | RL Reporting Detection Limit |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1307905

31-Jul-13

Client: Cypress Engineering
Project: TWP Roswell Station 9

Sample ID MB	SampType: MBLK		TestCode: EPA Method 300.0: Anions							
Client ID: PBW	Batch ID: R12117		RunNo: 12117							
Prep Date:	Analysis Date: 7/22/2013		SeqNo: 344641		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	ND	0.10								
Bromide	ND	0.10								
Phosphorus, Orthophosphate (As P)	ND	0.50								

Sample ID LCS	SampType: LCS		TestCode: EPA Method 300.0: Anions							
Client ID: LCSW	Batch ID: R12117		RunNo: 12117							
Prep Date:	Analysis Date: 7/22/2013		SeqNo: 344644		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	0.53	0.10	0.5000	0	106	90	110			
Bromide	2.5	0.10	2.500	0	98.3	90	110			
Phosphorus, Orthophosphate (As P)	5.1	0.50	5.000	0	102	90	110			

Sample ID 1307979-001DMS	SampType: MS		TestCode: EPA Method 300.0: Anions							
Client ID: BatchQC	Batch ID: R12117		RunNo: 12117							
Prep Date:	Analysis Date: 7/22/2013		SeqNo: 344649		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	0.65	0.10	0.5000	0.1457	101	76.9	114			
Bromide	2.7	0.10	2.500	0.1063	102	92	104			
Phosphorus, Orthophosphate (As P)	5.1	0.50	5.000	0	103	73.9	120			

Sample ID 1307979-001DMSD	SampType: MSD		TestCode: EPA Method 300.0: Anions							
Client ID: BatchQC	Batch ID: R12117		RunNo: 12117							
Prep Date:	Analysis Date: 7/22/2013		SeqNo: 344650		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	0.65	0.10	0.5000	0.1457	101	76.9	114	0.123	20	
Bromide	2.7	0.10	2.500	0.1063	103	92	104	0.244	20	
Phosphorus, Orthophosphate (As P)	5.2	0.50	5.000	0	104	73.9	120	0.946	20	

Sample ID 1307961-001BMS	SampType: MS		TestCode: EPA Method 300.0: Anions							
Client ID: BatchQC	Batch ID: R12117		RunNo: 12117							
Prep Date:	Analysis Date: 7/22/2013		SeqNo: 344659		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	1.0	0.10	0.5000	0.5274	99.6	76.9	114			
Bromide	2.6	0.10	2.500	0.06210	100	92	104			
Phosphorus, Orthophosphate (As P)	5.3	0.50	5.000	0	105	73.9	120			

Qualifiers:

- | | |
|--|--|
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| 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 for VOA and TOC only. |
| R RPD outside accepted recovery limits | RL Reporting Detection Limit |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1307905

31-Jul-13

Client: Cypress Engineering
Project: TWP Roswell Station 9

Sample ID	1307961-001BMSD	SampType:	MSD	TestCode:	EPA Method 300.0: Anions					
Client ID:	BatchQC	Batch ID:	R12117	RunNo:	12117					
Prep Date:		Analysis Date:	7/22/2013	SeqNo:	344660	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	1.0	0.10	0.5000	0.5274	101	76.9	114	0.864	20	
Bromide	2.6	0.10	2.500	0.06210	102	92	104	1.75	20	
Phosphorus, Orthophosphate (As P	5.4	0.50	5.000	0	107	73.9	120	1.92	20	

Sample ID	MB	SampType:	MBLK	TestCode:	EPA Method 300.0: Anions					
Client ID:	PBW	Batch ID:	R12143	RunNo:	12143					
Prep Date:		Analysis Date:	7/23/2013	SeqNo:	345438	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	0.50								
Sulfate	ND	0.50								
Nitrate+Nitrite as N	ND	0.20								

Sample ID	LCS	SampType:	LCS	TestCode:	EPA Method 300.0: Anions					
Client ID:	LCSW	Batch ID:	R12143	RunNo:	12143					
Prep Date:		Analysis Date:	7/23/2013	SeqNo:	345439	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	4.9	0.50	5.000	0	98.2	90	110			
Sulfate	10	0.50	10.00	0	100	90	110			
Nitrate+Nitrite as N	3.6	0.20	3.500	0	102	90	110			

Sample ID	1307996-001BMS	SampType:	MS	TestCode:	EPA Method 300.0: Anions					
Client ID:	BatchQC	Batch ID:	R12143	RunNo:	12143					
Prep Date:		Analysis Date:	7/23/2013	SeqNo:	345441	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sulfate	33	0.50	10.00	22.21	111	90.1	116			
Nitrate+Nitrite as N	4.8	0.20	3.500	1.180	102	90	110			

Sample ID	1307996-001BMSD	SampType:	MSD	TestCode:	EPA Method 300.0: Anions					
Client ID:	BatchQC	Batch ID:	R12143	RunNo:	12143					
Prep Date:		Analysis Date:	7/23/2013	SeqNo:	345442	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sulfate	33	0.50	10.00	22.21	107	90.1	116	1.24	20	
Nitrate+Nitrite as N	4.6	0.20	3.500	1.180	98.9	90	110	2.54	20	

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 for VOA and TOC only. |
| R RPD outside accepted recovery limits | RL Reporting Detection Limit |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1307905

31-Jul-13

Client: Cypress Engineering
Project: TWP Roswell Station 9

Sample ID 1307967-001AMS	SampType: MS		TestCode: EPA Method 300.0: Anions							
Client ID: BatchQC	Batch ID: R12143		RunNo: 12143							
Prep Date:	Analysis Date: 7/23/2013		SeqNo: 345453		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nitrate+Nitrite as N	18	1.0	17.50	1.064	98.9	90	110			

Sample ID 1307967-001AMSD	SampType: MSD		TestCode: EPA Method 300.0: Anions							
Client ID: BatchQC	Batch ID: R12143		RunNo: 12143							
Prep Date:	Analysis Date: 7/23/2013		SeqNo: 345454		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nitrate+Nitrite as N	18	1.0	17.50	1.064	97.6	90	110	1.19	20	

Sample ID MB	SampType: MBLK		TestCode: EPA Method 300.0: Anions							
Client ID: PBW	Batch ID: R12143		RunNo: 12143							
Prep Date:	Analysis Date: 7/23/2013		SeqNo: 345478		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	0.50								
Sulfate	ND	0.50								
Nitrate+Nitrite as N	ND	0.20								

Sample ID LCS	SampType: LCS		TestCode: EPA Method 300.0: Anions							
Client ID: LCSW	Batch ID: R12143		RunNo: 12143							
Prep Date:	Analysis Date: 7/23/2013		SeqNo: 345479		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	4.8	0.50	5.000	0	95.3	90	110			
Sulfate	9.7	0.50	10.00	0	97.5	90	110			
Nitrate+Nitrite as N	3.5	0.20	3.500	0	99.1	90	110			

Sample ID 1307A06-001BMS	SampType: MS		TestCode: EPA Method 300.0: Anions							
Client ID: BatchQC	Batch ID: R12143		RunNo: 12143							
Prep Date:	Analysis Date: 7/23/2013		SeqNo: 345481		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nitrate+Nitrite as N	4.5	0.20	3.500	0.9612	100	90	110			

Sample ID 1307A06-001BMSD	SampType: MSD		TestCode: EPA Method 300.0: Anions							
Client ID: BatchQC	Batch ID: R12143		RunNo: 12143							
Prep Date:	Analysis Date: 7/23/2013		SeqNo: 345482		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nitrate+Nitrite as N	4.5	0.20	3.500	0.9612	99.9	90	110	0.267	20	

Qualifiers:

- | | |
|--|--|
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| 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 for VOA and TOC only. |
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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1307905

31-Jul-13

Client: Cypress Engineering
Project: TWP Roswell Station 9

Sample ID	1307A05-002BMS	SampType:	MS	TestCode:	EPA Method 300.0: Anions					
Client ID:	BatchQC	Batch ID:	R12143	RunNo:	12143					
Prep Date:		Analysis Date:	7/23/2013	SeqNo:	345487	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nitrate+Nitrite as N	3.3	0.20	3.500	0	94.0	90	110			

Sample ID	1307A05-002BMSD	SampType:	MSD	TestCode:	EPA Method 300.0: Anions					
Client ID:	BatchQC	Batch ID:	R12143	RunNo:	12143					
Prep Date:		Analysis Date:	7/23/2013	SeqNo:	345488	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nitrate+Nitrite as N	3.3	0.20	3.500	0	95.2	90	110	1.33	20	

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

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 for VOA and TOC only.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1307905

31-Jul-13

Client: Cypress Engineering
Project: TWP Roswell Station 9

Sample ID	5ML RB	SampType:	MBLK	TestCode:	EPA Method 8021B: Volatiles					
Client ID:	PBW	Batch ID:	R12136	RunNo:	12136					
Prep Date:		Analysis Date:	7/23/2013	SeqNo:	345169	Units:	µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	ND	2.5								
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Xylenes, Total	ND	2.0								
1,2,4-Trimethylbenzene	ND	1.0								
1,3,5-Trimethylbenzene	ND	1.0								
Surr: 4-Bromofluorobenzene	21		20.00		104	69.4	129			

Sample ID	100NG BTEX LCS	SampType:	LCS	TestCode:	EPA Method 8021B: Volatiles					
Client ID:	LCSW	Batch ID:	R12136	RunNo:	12136					
Prep Date:		Analysis Date:	7/23/2013	SeqNo:	345170	Units:	µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	20	2.5	20.00	0	100	76.8	124			
Benzene	19	1.0	20.00	0	96.4	80	120			
Toluene	20	1.0	20.00	0	98.1	80	120			
Ethylbenzene	19	1.0	20.00	0	97.0	80	120			
Xylenes, Total	59	2.0	60.00	0	98.5	80	120			
1,2,4-Trimethylbenzene	19	1.0	20.00	0	96.6	80	120			
1,3,5-Trimethylbenzene	20	1.0	20.00	0	99.8	80	120			
Surr: 4-Bromofluorobenzene	20		20.00		101	69.4	129			

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

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 for VOA and TOC only.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1307905

31-Jul-13

Client: Cypress Engineering
Project: TWP Roswell Station 9

Sample ID	5ml rb	SampType:	MBLK	TestCode:	EPA Method 8260B: VOLATILES					
Client ID:	PBW	Batch ID:	R12108	RunNo:	12108					
Prep Date:		Analysis Date:	7/22/2013	SeqNo:	344377	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								
1,1-Dichloropropene	ND	1.0								

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

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 for VOA and TOC only.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1307905

31-Jul-13

Client: Cypress Engineering
Project: TWP Roswell Station 9

Sample ID 5ml rb	SampType: MBLK			TestCode: EPA Method 8260B: VOLATILES						
Client ID: PBW	Batch ID: R12108			RunNo: 12108						
Prep Date:	Analysis Date: 7/22/2013			SeqNo: 344377		Units: µg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Hexachlorobutadiene	ND	1.0								
2-Hexanone	ND	10								
Isopropylbenzene	ND	1.0								
4-Isopropyltoluene	ND	1.0								
4-Methyl-2-pentanone	ND	10								
Methylene Chloride	ND	3.0								
n-Butylbenzene	ND	3.0								
n-Propylbenzene	ND	1.0								
sec-Butylbenzene	ND	1.0								
Styrene	ND	1.0								
tert-Butylbenzene	ND	1.0								
1,1,1,2-Tetrachloroethane	ND	1.0								
1,1,2,2-Tetrachloroethane	ND	2.0								
Tetrachloroethene (PCE)	ND	1.0								
trans-1,2-DCE	ND	1.0								
trans-1,3-Dichloropropene	ND	1.0								
1,2,3-Trichlorobenzene	ND	1.0								
1,2,4-Trichlorobenzene	ND	1.0								
1,1,1-Trichloroethane	ND	1.0								
1,1,2-Trichloroethane	ND	1.0								
Trichloroethene (TCE)	ND	1.0								
Trichlorofluoromethane	ND	1.0								
1,2,3-Trichloropropane	ND	2.0								
Vinyl chloride	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	9.8		10.00		98.5	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		104	70	130			
Surr: Dibromofluoromethane	10		10.00		101	70	130			
Surr: Toluene-d8	10		10.00		99.6	70	130			

Sample ID 100ng lcs	SampType: LCS			TestCode: EPA Method 8260B: VOLATILES						
Client ID: LCSW	Batch ID: R12108			RunNo: 12108						
Prep Date:	Analysis Date: 7/22/2013			SeqNo: 344379		Units: µg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	20	1.0	20.00	0	102	70	130			
Toluene	19	1.0	20.00	0	93.2	80	120			
Chlorobenzene	18	1.0	20.00	0	91.2	70	130			
1,1-Dichloroethene	24	1.0	20.00	0	118	85.8	133			
Trichloroethene (TCE)	19	1.0	20.00	0	95.2	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 for VOA and TOC only.
R RPD outside accepted recovery limits	RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1307905

31-Jul-13

Client: Cypress Engineering
Project: TWP Roswell Station 9

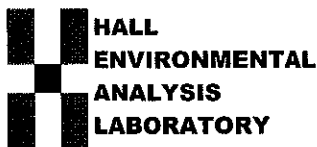
Sample ID 100ng lcs	SampType: LCS		TestCode: EPA Method 8260B: VOLATILES							
Client ID: LCSW	Batch ID: R12108		RunNo: 12108							
Prep Date:	Analysis Date: 7/22/2013		SeqNo: 344379		Units: µg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 1,2-Dichloroethane-d4	9.9		10.00		98.8	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		102	70	130			
Surr: Dibromofluoromethane	9.8		10.00		97.7	70	130			
Surr: Toluene-d8	10		10.00		101	70	130			

Sample ID 1307688-006a ms	SampType: MS		TestCode: EPA Method 8260B: VOLATILES							
Client ID: BatchQC	Batch ID: R12108		RunNo: 12108							
Prep Date:	Analysis Date: 7/22/2013		SeqNo: 344384		Units: µg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	560	20	400.0	152.6	102	67.9	137			
Toluene	430	20	400.0	29.30	101	77	127			
Chlorobenzene	400	20	400.0	0	99.2	70	130			
1,1-Dichloroethene	460	20	400.0	0	115	66.5	131			
Trichloroethene (TCE)	410	20	400.0	0	103	66.3	134			
Surr: 1,2-Dichloroethane-d4	220		200.0		108	70	130			
Surr: 4-Bromofluorobenzene	160		200.0		81.5	70	130			
Surr: Dibromofluoromethane	200		200.0		100	70	130			
Surr: Toluene-d8	200		200.0		99.3	70	130			

Sample ID 1307688-006a msd	SampType: MSD		TestCode: EPA Method 8260B: VOLATILES							
Client ID: BatchQC	Batch ID: R12108		RunNo: 12108							
Prep Date:	Analysis Date: 7/22/2013		SeqNo: 344385		Units: µg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	520	20	400.0	152.6	91.2	67.9	137	8.07	20	
Toluene	420	20	400.0	29.30	98.8	77	127	2.36	20	
Chlorobenzene	390	20	400.0	0	98.5	70	130	0.744	20	
1,1-Dichloroethene	430	20	400.0	0	106	66.5	131	7.80	20	
Trichloroethene (TCE)	360	20	400.0	0	90.6	66.3	134	12.4	20	
Surr: 1,2-Dichloroethane-d4	200		200.0		101	70	130	0	0	
Surr: 4-Bromofluorobenzene	170		200.0		82.9	70	130	0	0	
Surr: Dibromofluoromethane	190		200.0		93.4	70	130	0	0	
Surr: Toluene-d8	200		200.0		99.7	70	130	0	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 for VOA and TOC only.
R RPD outside accepted recovery limits	RL Reporting Detection Limit



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

Sample Log-In Check List

Client Name: CYP

Work Order Number: 1307905

RcptNo: 1

Received by/date:

mg

07/19/13

Logged By: Ashley Gallegos

7/19/2013 10:00:00 AM

Ag

Completed By: Ashley Gallegos

7/19/2013 1:27:39 PM

Ag

Reviewed By:

IO

07/22/13

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? UPS

Log In

4. Was an attempt made to cool the samples? Yes ☒ No ☐ NA ☐
5. Were all samples received at a temperature of $>0^{\circ}\text{C}$ 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?
(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: 02 or >12 unless noted)
- Adjusted? No
- Checked by: JK

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 $^{\circ}\text{C}$	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.0	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

Chain-of-Custody Record				Turn-Around Time:		
Client: Cypress Engineering Services Inc. 7171 Highway 6 North Suite 102 Houston, Texas 77045 Mailing Address: ATTN: George Robinson, PE Phone #: 281-797-3420 email or Fax#: george.robinson@cypressinc.us QA/QC Package: <input checked="" type="checkbox"/> Standard <input type="checkbox"/> Level 4 (Full Validation) Accreditation: <input checked="" type="checkbox"/> NELAP <input type="checkbox"/> Other <input type="checkbox"/> EDD (Type)				<input checked="" type="checkbox"/> Standard <input type="checkbox"/> Rush Project Name: TWP Rachel Station 9 Project #: Monthly Discharge Sampling Study 2013 Project Manager: George Robinson, PE Sampler: CM Barabelli, PA On Ice: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Sample Temperature: 1.0		
Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No.
1/17/13	10:45	H2O	Post-Pre-Treatment	3x400ml plastic	HAC	307905
1/17/13	10:45	H2O	Post-Pre-Treatment	3x400ml plastic	HAC	-001
1/17/13	10:45	H2O	Between GAC's	3x400ml plastic	HAC	-002
1/17/13	10:45	H2O	Post-Treatment	3x400ml plastic	HAC	-003
1/17/13	10:45	H2O	Post-Treatment	3x400ml plastic	HAC	-004
			Filtered Filtrate	3x400ml plastic	HAC	-005
			TRIP Blank	3x400ml plastic	HAC	-006
Relinquished by: [Signature] Date: 1/17/13 Time: 10:00				Received by: [Signature] Date: 1/17/13 Time: 10:00		

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

Appendix E
PSH Disposal Manifest

GANDY CORPORATION

OILFIELD SERVICES

P.O. BOX 2140

LOVINGTON, NEW MEXICO 88260

(575) 396-4948

DATE 8/23/13

OPERATOR Tross Western

LEASE Rossell Station

TIME	OIL TOP	SEAL OFF
	H ₂ O TOP 7'6" 1/2	
TIME	OIL TOP	SEAL ON
	H ₂ O TOP 3'0" 1/2	

TICKET #

BBL.

TRUCK 382

DRIVER Martin Diaz Jr.

DESTINATION _____

Superior Printing Service, Inc. - 101

Appendix F

Documentation of MPE Well Installation

APPENDIX F DOCUMENTATION OF MPE WELLS INSTALLATION

As discussed in the May 2013 *Amended Remediation Work Plan (RWP)*, four Multi-Phase Extraction (MPE) wells were installed within the Project Area between August 7 and August 8, 2013. Installation of these wells was conducted in conjunction with other monitoring well installation and monitoring/recovery well plug and abandon (P&A) activities conducted within the Project Area between August 6 and August 16, 2013. These other activities were documented in a December 2013 *Investigation Report*.

Drilling and recovery well installation activities were conducted under the supervision of a New Mexico-licensed driller from Talon LPE of Amarillo, TX (under contract to Transwestern). Well drilling/installation oversight, well logging and environmental sampling were provided by Clay Barnhill, P.G. (New Mexico) of CMB Environmental & Geological Services, Inc. of Roswell, NM, under subcontract to Cypress Engineering Services, Inc. of Houston, TX (a Transwestern environmental consultant).

The activities described below were conducted per the methodologies described in the March 2013 *Amended Investigation Work Plan (IWP)* and the May 2013 *RWP*, and under a site-specific *Health and Safety Plan (HSP)* for the project.

Ms. Catherine Goetz with the State of New Mexico's Office of the State Engineer (OSE), was also present on Wednesday August 7, 2013 to observe the field activities.

F1 IMPLEMENTATION OF FIELD ACTIVITIES

F1.1 Scope of Activities

In accordance with the May 2013 *RWP*, the following activities were implemented:

- Processing of applications for new recovery well installations with the State of New Mexico's Office of the State Engineer;
- Conducting One-Call Notifications;
- Installation of four, 75-foot deep soil borings within Circuits B, C and D of the existing remediation system, and conversion to recovery wells (see location in **Figure 1-5** of the report);
- Collection of soil samples from the capillary fringe in two of the soil borings for analysis of volatile organic compounds (VOCs);
- Collection of samples from soil cuttings generated during recovery well installation for waste characterization; and,

- Survey of new well locations.

F1.2 Application Processing

In accordance with State of New Mexico regulations, an “application for permit to drill a well with no consumptive use of water” for the proposed installation of recovery wells MPE-38 through MPE-41 was submitted on July 15, 2013 to the OSE; the application was approved on July 30, 2013.

F1.3 Soil Boring and Sampling

Soil borings for the installation of the proposed recovery wells were advanced using a REICHdrill T-650 W air rotary drilling rig; the borings were 8 inches in diameter and advanced to total depths of approximately 75 feet below ground surface (ft bgs); (see **Table F-1**). The soil borings were generally installed at the proposed locations, with the exception of the boring for recovery well MPE-39. The original location (re-named SB-MPE39A) was found to be dry, thus a second boring was advanced approximately 100 ft to the south-southwest. The new location and the plan for P&A the original location were approved in the field by Ms. Goetz of the OSE. Location SB-MPE39A was plugged using bentonite in the bottom of the borehole from 70 – 75 ft bgs, and cement from just below surface to 70 ft bgs.

During the installation of the soil boring for the new MPEs potable water was added during drilling through the unsaturated zone to allow for the recovery of soil cuttings; the volumes added are noted in the well construction logs included in **Attachment F1**. Potable water was obtained from the City of Roswell public water supply.

The locations were direct-bored from surface to 50 ft bgs; starting at this depth, 2-ft long split-spoons were used to collect soil cores every 5 ft. The soil material was field-screened with a calibrated, hand-held photo-ionization detector (PID) to assess the presence of volatile organic compounds (via head-space vapor method), and was visually inspected and classified by the field geologist; this information is also presented in the well construction logs included in **Attachment F1**. The drilling equipment was decontaminated before drilling the first location, and before starting each subsequent location. The split-spoons were decontaminated between each discrete sampling interval.

One soil sample was collected from the soil-water interface from the borings at the MPE-38 and MPE-40 locations, which indicated the greatest visual and highest PID readings indicating the

potential for hydrocarbon presence. The soil material was collected from the split-spoon using clean disposable scoops, and transferred into clean, laboratory-provided containers. These soil samples were labeled, packed for shipping, placed in an ice-filled chest, and shipped under chain-of-custody documentation to Hall Environmental Analysis Laboratory in Albuquerque, New Mexico for analysis of volatile organic compounds via EPA method SW846-8260B and metals via EPA methods SW846-6010B/7471. Analytical results are discussed below in **Section F2.3**.

F1.4 Monitoring Well Construction

The water-bearing soil borings were converted into recovery wells after cleaning out the boreholes with the drilling rig. The recovery wells were constructed using 4-inch diameter, schedule 40, flush-threaded PVC riser pipe and 0.010-inch machine-slotted PVC screen (20 ft in length); centralizers were placed at 20 and 45 ft bgs (20 and 50 ft bgs for MW-42) to help maintain the wells' vertical alignment. A 12-20 silica sand filter pack was placed around the screened interval and was extended up to 3 ft above the screen; a 2 to 3 ft-thick layer of hydrated bentonite was placed on top of the sand, and a bentonite grout was used to fill the annulus space up to 2 ft bgs. The top two feet were filled with neat cement to serve as surface seal. The wells were covered with temporary caps provided with welded protective bollards. The final surface completion will be installed once construction work for piping installation is complete. **Table F-1** summarizes well construction details. MPE well development will be conducted prior to commencing recovery well operation.

MPE well construction logs and associated OSE's "well record and log" forms are presented in **Attachment F1**.

F1.5 New Recovery Well Survey

Following recovery well installation, the surface coordinates, the top of each new monitoring well casing, and the ground surface at each new recovery well location were surveyed by a registered New Mexico professional land surveyor, with respect to the State Plane Coordinate System (NMSA 1978 47-1-49-56 (Repl. Pamp. 1993)). Horizontal positions were measured to the nearest 0.1 ft, and vertical elevations were measured to the nearest 0.01 ft. Surveyed locations are shown in **Figure 1-5** of the report, and top-of-casing (TOC) elevations for the new recovery wells are shown in **Table 4-2** of the report.

F1.7 Management of Investigation-Derived Waste

In accordance with the March 2013 *IWP* and May 2013 *RWP*, investigation-derived wastes were disposed as follows:

- Soil Cuttings from new recovery well installation: Cuttings from the 0 to 50 ft bgs depth interval and those from the 50 ft bgs to total drilling depth were drummed separately, sampled for characterization, and later transported for off-site disposal as non-hazardous, exempt waste (see **Section F2.4**).
- Equipment decontamination water was collected in drums and transferred to the recovery system's surge tank for processing via the air stripper and discharge through the irrigation system.
- Disposable sampling materials (including gloves, rags, etc.) were bagged for disposal along with Facility trash.

F2 FIELD INVESTIGATION AND DATA EVALUATION FINDINGS

F2.1 Soil and Groundwater Conditions

As described in the well construction logs included in **Attachment F1**, soils consist of the typical interbedded layers of gravel, sand, silt, and clay observed at other areas previously investigated. A noted exception was the original location for recovery well MPE-39 where a higher proportion of clays was encountered below 35 ft bgs, including an approximately 3-foot layer of fat clay in the 57 to 60 ft bgs interval, resulting in a dry location. As expected, elevated PID readings were measured, especially in the saturated portion of the soil column. .

Depth to water measurements collected on August 16, 2013 indicate that groundwater was found at depths ranging from 60.45 feet below top of casing (TOC; at MPE-39) to 68.88 feet TOC (at MPE-38). Groundwater elevation data for the new MPE wells are presented in **Table 4-2** of the report.

F2.2 Regulatory Criteria

Analytical data from the soil and waste characterization samples collected from the newly-installed recovery wells were evaluated per the regulatory criteria identified below.

In accordance with Section VI.7 of the March 2013 SO for the site, soil cleanup criteria were identified as follows:

- Soil Clean Up Levels were identified for the target COCs using the February 2012 NMED Risk Assessment Guidance for Site Investigation and Remediation; if a COC was not included in that guidance, the EPA Region 6 Screening Levels were used.

The RCRA maximum concentration levels established in 40 CFR §261.24 were used to assess the Toxicity Characteristic Leaching Procedure (TCLP) results from waste characterization samples collected for decision-making regarding disposal.

F2.3 Soil Data Evaluation

Analytical results for the soil samples collected from the soil borings for MPE-38 and MPE-40 are summarized in **Table F-2**, including soil clean up levels. Analytical data packages are presented in **Attachment F2**.

Data indicate that several VOCs and metals were reported as detected. Exceedances of BTEX, 1,2,4-Trimethylbenzene and Chromium were observed in samples from both MPEs, and a Naphthalene exceedance was also observed in the sample from MPE-40. These results are consistent with the fact that the wells are located in areas where recoverable PSH is present.

F2.4 Waste Characterization Data Evaluation

Composite samples of soil cuttings generated during installation of the soil borings for MPE installation were analyzed for total petroleum hydrocarbons (THP) in the gasoline and diesel range organics (GRO and DRO) via EPA method 8015D, for BTEX via EPA method 8021B, and for the VOCs regulated under 40 CFR §261.24 via the Toxic Characteristic Leaching Procedure (TCLP).

The analytical data package included in **Attachment F2** indicates that VOC/TCLP results were reported as not detected above the laboratory reporting limits, which are lower than the corresponding maximum concentration levels. Detections of THP GRO, TPH ORO, Ethylbenzene and Xylenes were reported at relatively low concentrations, with the exception of one TPH GRO value of 15,000 mg/Kg. Based on these analytical results, the soil cuttings generated from MPE installation were transported off-site as non-hazardous, exempt, hydrocarbon-contaminated soils for disposal at Gandy Marley, Inc.'s Contaminated Soil Landfill in Roswell, New Mexico. The corresponding shipment manifest and load inspection form are also included in **Attachment F2**.

APPENDIX F DOCUMENTATION OF MPE WELLS INSTALLATION

TABLES

APPENDIX F
DOCUMENTATION OF MPE WELLS INSTALLATION

ATTACHMENT F1

MPE well construction logs and associated
OSE's "well record and log" forms

APPENDIX F
DOCUMENTATION OF MPE WELLS INSTALLATION

ATTACHMENT F2

Analytical Data Packages and
Waste Disposal Documentation

Note: Analytical data for monitoring wells installed/sampled
in August 2013 was addressed in the
December 2013 *Investigation Report*

TABLE F-1
MONITORING WELL INSTALLATION DETAILS
TRANSWESTERN COMPRESSOR STATION No. 9
ROSWELL, CHAVES COUNTY, NEW MEXICO

Well ID	Date Drilled	Total Depth (ft gbs)	Riser Placement (ft gbs)	Centralizer Placement (ft gbs)	Screen Placement (ft gbs)	Cement Bentonite Grout Placement (ft gbs)	Bentonite Seal Placement (ft gbs)	Sand Pack Filter Placement (ft gbs)
MPE-38	08/07/13	75	0 to 55	20 and 45	55 to 75	0.5 to 50	50 to 53	53 to 75
MPE-39	08/08/13	75	0 to 55	20 and 45	55 to 75	0.5 to 50	50 to 53	53 to 75
MPE-40	08/08/13	75	0 to 55	20 and 45	55 to 75	0.5 to 50	50 to 53	53 to 75
MPE-41	08/07/13	75	0 to 55	20 and 45	55 to 75	0.5 to 50	50 to 53	53 to 75

ft gbs: feet below ground surface

Casing Material: Polyvinyl Chloride (PVC) 4 inch diameter schedule 40; 0.010 inch slotted screen

Sand Pack Material: 12/20 sand

Bentonite Seal Material: 3/8 inch pellets

TABLE F-2
SUMMARY OF SOIL ANALYTICAL RESULTS
TRANSWESTERN COMPRESSOR STATION No. 9 - ROSWELL, CHAVES COUNTY, NEW MEXICO

Analyte	NMED * Residential SSL (mg/Kg)	NMED ** SSL for DAF of 20 (mg/Kg)	EPA Region 6 Resident Soil Screening Level (mg/kg)	Client Sample ID	MPE-38 65'-67'	MPE-40 60'-62'
				Lab ID	1308626-001	1308626-002
				Collection Date	8/6/2013	8/5/2013
				Units	Result	Result
Mercury	1.56E+01	6.54E-01		mg/Kg	<0.033	<0.033
Arsenic	3.90E+00	2.61E-01		mg/Kg	<2.5	<5
Barium	1.56E+04	6.03E+03		mg/Kg	62	71
Cadmium	7.03E+00	2.75E+01		mg/Kg	<0.10	<0.20
Chromium	1.17E+05	1.66E-01		mg/Kg	3.9	6.9
Lead	4.00E+02	N/A		mg/Kg	1.7	2.9
Selenium	3.91E+02	1.93E+01		mg/Kg	<2.5	<5
Silver	3.91E+02	3.13E+01		mg/Kg	<0.25	<0.50
Benzene	1.54E+01	3.45E-02		mg/Kg	11	1.1
Toluene	5.27E+03	2.53E+01		mg/Kg	45	30
Ethylbenzene	6.84E+01	2.60E-01		mg/Kg	8.9	3.9
Methyl tert-butyl ether (MTBE)	9.01E+02	5.18E-01		mg/Kg	< 2.4	< 0.047
1,2,4-Trimethylbenzene			6.20E+00	mg/Kg	9.5	8.0
1,3,5-Trimethylbenzene			7.80E+01	mg/Kg	6.1	3.5
1,2-Dichloroethane (EDC)	7.89E+00	7.11E-03		mg/Kg	< 2.4	< 0.047
1,2-Dibromoethane (EDB)	5.88E-01	3.08E-04		mg/Kg	< 2.4	< 0.047
Naphthalene	4.30E+01	7.13E-02		mg/Kg	< 4.8	0.36
1-Methylnaphthalene			1.60E+02	mg/Kg	<9.5	0.56
2-Methylnaphthalene			2.30E+01	mg/Kg	<9.5	0.97
Acetone	6.66E+04	7.71E+01		mg/Kg	< 36	< 0.71
Bromobenzene			3.00E+01	mg/Kg	< 2.4	< 0.047
Bromodichloromethane	5.41E+00	1.16E-02		mg/Kg	< 2.4	< 0.047
Bromoform			6.20E+02	mg/Kg	< 2.4	< 0.047
Bromomethane	1.65E+01	3.60E-02		mg/Kg	< 7.1	< 0.14
2-Butanone	3.71E+04	5.21E+01		mg/Kg	< 24	< 0.47
Carbon disulfide	1.53E+03	4.33E+00		mg/Kg	< 24	< 0.47
Carbon tetrachloride	1.08E+01	2.10E-02		mg/Kg	< 4.8	< 0.095

TABLE F-2
SUMMARY OF SOIL ANALYTICAL RESULTS
TRANSWESTERN COMPRESSOR STATION No. 9 - ROSWELL, CHAVES COUNTY, NEW MEXICO

Analyte	NMED * Residential SSL (mg/Kg)	NMED ** SSL for DAF of 20 (mg/Kg)	EPA Region 6 Resident Soil Screening Level (mg/kg)	Client Sample ID	MPE-38 65'-67'	MPE-40 60'-62'
				Lab ID	1308626-001	1308626-002
				Collection Date	8/6/2013	8/5/2013
				Units	Result	Result
Chlorobenzene	3.76E+02	9.84E-01		mg/Kg	< 4.8	< 0.095
Chloroethane			1.50E+03	mg/Kg	< 4.8	< 0.095
Chloroform	5.86E+00	9.18E-03		mg/Kg	< 2.4	< 0.047
Chloromethane			1.20E+01	mg/Kg	< 7.1	< 0.14
2-Chlorotoluene	1.56E+03	1.12E+01		mg/Kg	< 2.4	< 0.047
4-Chlorotoluene			1.60E+02	mg/Kg	< 2.4	< 0.047
cis-1,2-DCE	1.56E+02	3.67E-01		mg/Kg	< 2.4	< 0.047
cis-1,3-Dichloropropene	N/A		N/A	mg/Kg	< 2.4	< 0.047
1,2-Dibromo-3-chloropropane	1.86E+00	2.20E-05		mg/Kg	< 4.8	< 0.095
Dibromochloromethane	1.21E+01	6.61E-03		mg/Kg	< 2.4	< 0.047
Dibromomethane (<i>Methylene bromide</i>)	5.16E+01	3.08E-04		mg/Kg	< 4.8	< 0.095
1,2-Dichlorobenzene	2.31E+03	5.60E+00		mg/Kg	< 2.4	< 0.047
1,3-Dichlorobenzene	N/A		N/A	mg/Kg	< 2.4	< 0.047
1,4-Dichlorobenzene	3.17E+01	6.39E-02		mg/Kg	< 2.4	< 0.047
Dichlorodifluoromethane	1.68E+02	7.43E+00		mg/Kg	< 2.4	< 0.047
1,1-Dichloroethane	6.45E+01	1.20E-01		mg/Kg	< 4.8	< 0.095
1,1-Dichloroethene (<i>1,1-Dichloroethylene</i>)	4.49E+02	3.67E-01		mg/Kg	< 2.4	< 0.047
1,2-Dichloropropane	1.52E+01	2.14E-02		mg/Kg	< 2.4	< 0.047
1,3-Dichloropropane		2.48E-02	1.60E+02	mg/Kg	< 2.4	< 0.047
2,2-Dichloropropane	N/A		N/A	mg/Kg	< 4.8	< 0.095
1,1-Dichloropropene	N/A		N/A	mg/Kg	< 4.8	< 0.095
Hexachlorobutadiene (<i>Hexachloro-1,3-butadiene</i>)	6.11E+01	2.57E-01		mg/Kg	< 4.8	< 0.095
2-Hexanone			2.10E+01	mg/Kg	< 24	< 0.47
Isopropylbenzene (<i>Cumene</i>)	2.43E+03	1.73E+01		mg/Kg	< 2.4	0.69
4-Isopropyltoluene	N/A		N/A	mg/Kg	< 2.4	0.28
4-Methyl-2-pentanone			5.30E+02	mg/Kg	< 24	< 0.47
Methylene chloride	4.09E+02	8.24E-01		mg/Kg	< 7.1	< 0.14
n-Butylbenzene			3.90E+02	mg/Kg	< 7.1	0.46
n-Propylbenzene (<i>Propylbenzene</i>)			3.40E+02	mg/Kg	< 2.4	1.1

TABLE F-2
SUMMARY OF SOIL ANALYTICAL RESULTS
TRANSWESTERN COMPRESSOR STATION No. 9 - ROSWELL, CHAVES COUNTY, NEW MEXICO

Analyte	NMED * Residential SSL (mg/Kg)	NMED ** SSL for DAF of 20 (mg/Kg)	EPA Region 6 Resident Soil Screening Level (mg/kg)	Client Sample ID	MPE-38 65'-67'	MPE-40 60'-62'
				Lab ID	1308626-001	1308626-002
				Collection Date	8/6/2013	8/5/2013
				Units	Result	Result
sec-Butylbenzene			7.80E+02	mg/Kg	< 2.4	0.31
Styrene	7.28E+03	2.77E+01		mg/Kg	< 2.4	< 0.047
tert-Butylbenzene			7.80E+02	mg/Kg	< 2.4	< 0.047
1,1,1,2-Tetrachloroethane	2.91E+01	3.29E-02		mg/Kg	< 2.4	< 0.047
1,1,2,2-Tetrachloroethane	8.02E+00	4.26E-03		mg/Kg	< 2.4	< 0.047
Tetrachloroethene (<i>Tetrachloroethylene</i>)	7.02E+00	8.61E-03		mg/Kg	< 2.4	< 0.047
<i>trans</i> -1,2-DCE (<i>trans</i> -1,2-Dichloroethylene)	2.70E+02	5.38E-01		mg/Kg	< 2.4	< 0.047
trans-1,3-Dichloropropene	N/A		N/A	mg/Kg	< 2.4	< 0.047
1,2,3-Trichlorobenzene	N/A		N/A	mg/Kg	< 4.8	< 0.095
1,2,4-Trichlorobenzene	7.30E+01	1.83E-01		mg/Kg	< 2.4	< 0.047
1,1,1-Trichloroethane	1.56E+04	5.82E+01		mg/Kg	< 2.4	< 0.047
1,1,2-Trichloroethane	2.81E+00	2.23E-03		mg/Kg	< 2.4	< 0.047
Trichloroethene (<i>Trichloroethylene</i>)	8.77E+00	2.11E-02		mg/Kg	< 2.4	< 0.047
Trichlorofluoromethane	1.41E+03	1.78E+01		mg/Kg	< 2.4	< 0.047
1,2,3-Trichloropropane	4.97E-02	5.00E-05		mg/Kg	< 4.8	< 0.095
Vinyl chloride	7.28E-01	1.08E-03		mg/Kg	< 2.4	< 0.047
Xylenes	8.14E+02	3.13E+00		mg/Kg	64	45

Analyte synonym provided in *italics*

NMED: February 2012 New Mexico Environmental Department Risk Assessment Guidance for Site Investigation and Remediation

* Residential Soil Screening Level

** Risk-Based Screening Level for a Dilution Attenuation Factor of 20; represents migration to groundwater pathway

EPA: United States Environmental Protection Agency

<: Indicates analyte was not detected above the shown laboratory reporting limit

N/A: not available

Bold font indicates exceedance of the lower standard shown

Cypress Engineering Services Inc.
TWP Roswell Station # 9
New Monitor Well Installation 2013
6381 North Main Street
Roswell, NM 88201

FIELD BOREHOLE LOG

BOREHOLE NO.: **MPE-38**

TOTAL DEPTH: **75'**

PROJECT INFORMATION

PROJECT: **New 4" MPE Well**
 SITE LOCATION: **TWP Roswell Station 9**
 JOB NO.: **02.2012.0037.00**
 LOGGED BY: **CM Barnhill, PG**
 PROJECT MANAGER: **George Robinson, PE**
 DATES DRILLED: **08/07/13**

DRILLING INFORMATION

DRILLING CO.: **Talon LPE**
 DRILLER: **Jose Salas**
 RIG TYPE: **ReichDrill T650 WDII**
 METHOD OF DRILLING: **Air Rotary 8"**
 SAMPLING METHODS: **2' Split Spoon**
 HAMMER WT./DROP: **Direct Push with Rig**

☞ Water level during drilling

☛ Water level in completed well

DEPTH	SOIL SYMBOLS	USCS	SOIL DESCRIPTION	SAMPLE	Rec. / ft.	PID VOC PPM	BORING COMPLETION	WELL DESCRIPTION
0		GM	GM: Tan, Sand, Silt, Silty Gravel, Gravel to 3". 2.5 YR 8/1-8/2. No odor or staining.	0'-10'	Drill Cuttings	0.2		
5				10'-20'	Drill Cuttings	0.2		
10				20'-30'	Drill Cuttings	0.2		
15				30'-40'	Drill Cuttings	0.3		
20		GP	GP: Tan 5 YR 8/3, Gravel, Sand, silt mixture. Gravel to 1", smooth, rounded, river channel gravel. Added 60 gallons of water to help with drilling. No odor or staining.	40'-50'	Drill Cuttings	0.2		
25				50'-52'	2.0'	25.8		
30				55'-57'	1.9'	108.3		
35				60'-62'	2.0'	4402		
40		SC	SC: 2.5 YR 4/6 Brown to reddish brown clayey sand. @ 55' BGS slight odor. @ 60' BGS Strong Odor and green/gray staining of soil. Saturated at 66.4' BGS with strong odor no sceen. PsH @ 63.85' TOC, Water @ 68.88' TOC 08/16/13	65'-67'	2.0'	204.6		
45				70'-72'	1.0'	1670		
50				75'-77'	2.0'	896.5		
55								
60		CH	CH: Brown 2.5 YR 4/6 Fat Clay @ 76.1' BGS. Aquitard?					
65								
70								
75								
80								

CEMENT BENTONITE GROUT 0.5'-50' Estimated = 98.38 gallons Actual = 100 gallons

4" PVC RISER / CASING 0'-55' STAINLESS STEEL CENTRALIZERS @ 20' & 45'

3/8" BENTONITE SEAL: 50'-53' Estimated = 1.08 bags Actual = 3 bags

SAND PACK: 12/20 Sand Filter Pack 53'-75' Estimated = 10.27 bags Actual = 30 bags

4" SCREEN: 0.010 Slot Screen 55'-75'

SAND PACK: Below Well

NOTES: Ambient Air Temperature 96 F

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Cypress Engineering Services Inc.
TWP Roswell Station # 9
New Monitor Well Installation 2013
6381 North Main Street
Roswell, NM 88201

FIELD BOREHOLE LOG

BOREHOLE NO.: **MPE-39**

TOTAL DEPTH: **75'**

PROJECT INFORMATION

PROJECT: **New 4" MPE Well**
 SITE LOCATION: **TWP Roswell Station 9**
 JOB NO.: **02.2012.0037.00**
 LOGGED BY: **CM Barnhill, PG**
 PROJECT MANAGER: **George Robinson, PE**
 DATES DRILLED: **08/08/13**

DRILLING INFORMATION

DRILLING CO.: **Talon LPE**
 DRILLER: **Jose Salas**
 RIG TYPE: **ReichDrill T650 WDII**
 METHOD OF DRILLING: **Air Rotary 8"**
 SAMPLING METHODS: **2' Split Spoon**
 HAMMER WT./DROP: **Direct Push with Rig**

☞ Water level during drilling

☛ Water level in completed well

DEPTH	SOIL SYMBOLS	USCS	SOIL DESCRIPTION	SAMPLE	Rec. / ft.	PID VOC PPM	BORING COMPLETION	WELL DESCRIPTION
0	☒ ☒ ☒ ☒ ☒	GM	GM: Tan, Sand, Silt,, Silty Gravel, Gravel to 3". 2.5 YR 8/1-8/2. No odor or staining.	0'-10'	Drill Cuttings	2.0		
5								
10								
15	☒ ☒ ☒ ☒ ☒	GP	GP: Tan 5 YR 8/3, Gravel, Sand, silt mixture. Gravel to 1", smooth, rounded, river channel gravel. Added 60 gallons of water to help with drilling. No odor or staining.	10'-20'	Drill Cuttings	2.0		
20								
25				20'-30'	Drill Cuttings	2.0		
30								
35	☒ ☒ ☒ ☒ ☒	SC	SC: Gray Green GLE Y2 6/1 clayey sand. Strong Odor and green/gray staining of soil. @ 40' BGS added 60 gallons of water to help with drilling. @ 40' Light brown clayey sand, 2.5 YR 4/6 to red brown clayey sand. Strong hydrocarbon odor, sulfur like, weathered hydrocarbon smell. @ 60' BGS gray black lenses of stained red clayey sand. Strong Mercaptin smell. Water @ 60.45' TOC 08/16/13	30'-40'	Drill Cuttings	650		
40								
45				40'-50'	Drill Cuttings	87		
50								
55				50'-52'	2.0'	4496		
60				55'-57'	2.0'	730		
65				60'-62'	2.0'	233.5		
70				65'-67'	2.0'	912.1		
75				70'-72'	2.0'	646.6		
80				75'-77'	1.0'	1629		

CEMENT BENTONITE GROUT 0.5'-50' Estimated = 98.38 Actual = 100 gallons

4" PVC RISER / CASING 0'-55' STAINLESS STEEL CENTRALIZERS @ 20' & 45'

3/8" BENTONITE SEAL: 50'-53' Estimated = 1.08 bags Actual = 3 bags

SAND PACK: 12/20 Sand Filter Pack 53'-75' Estimated = 10.27 bags Actual = 14 bags

4" SCREEN: 0.010 Slot Screen 55'-75'

SAND PACK: Below Well

NOTES: **Ambient Air Temperature 89 F**

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Cypress Engineering Services Inc.
TWP Roswell Station # 9
New Monitor Well Installation 2013
6381 North Main Street
Roswell, NM 88201

FIELD BOREHOLE LOG

BOREHOLE NO.: **MPE-40**

TOTAL DEPTH: **75'**

PROJECT INFORMATION

PROJECT: **New 4" MPE Well**
 SITE LOCATION: **TWP Roswell Station 9**
 JOB NO.: **02.2012.0037.00**
 LOGGED BY: **CM Barnhill, PG**
 PROJECT MANAGER: **George Robinson, PE**
 DATES DRILLED: **08/08/13**

DRILLING INFORMATION

DRILLING CO.: **Talon LPE**
 DRILLER: **Jose Salas**
 RIG TYPE: **ReichDrill T650 WDII**
 METHOD OF DRILLING: **Air Rotary 8"**
 SAMPLING METHODS: **2' Split Spoon**
 HAMMER WT./DROP: **Direct Push with Rig**

☞ Water level during drilling

☛ Water level in completed well

DEPTH	SOIL SYMBOLS	USCS	SOIL DESCRIPTION	SAMPLE	Rec. / ft.	PID VOC PPM	BORING COMPLETION	WELL DESCRIPTION
0	GM	GM	GM: GM; Tan, Sand, Silt., Silty Gravel, Gravel to 3". 2.5 YR 8/1-8/2 Added 60 gallon os water to help with drilling. No odor or staining.	0'-10'	Drill Cuttings	0.2		
5				10'-20'	Drill Cuttings	0.2		
10	GP	GP	GP: GP: Tan 5 YR 8/3, Gravel, Sand, silt mixture. Gravel to 1", smooth, rounded, river channel gravel. No odor or staining.	20'-30'	Drill Cuttings	0.2		
15				30'-40'	Drill Cuttings	0.0		
20	SP	SP	SP: 2.5 YR Brown Clayey Sand to gray /green stained sand with strong odor.	40'-50'	Drill Cuttings	195		
25				50'-52'	1.8'	1753		
30	SC	SC	SC: 2.5 YR 4/6 Brown to reddish brown clayey sand. @ 55' BGS strong odor poor sample recovery. Saturated at 50' BGS @ 60' BGS Strong Odor and black/gray staining of soil. Strong Mercaptin Odor. Saturated at 60' BGS with strong odor no scheen. Psh @ 61.52' TOC, Water @ 61.95' TOC 08/16/13	55'-57'	1.0'	3525		
35				60'-62'	2.0'	4203		
40				65'-67'	1.0'	1272		
45				70'-72'	1.4'	679.3		
50				75'-77'	1.0'	244.8		
55								
60	CH	CH	CH: Brown 2.5 YR 4/8 Fat Clay @ 76.7' BGS. Aquitard?					
65								
70								
75								
80								

CEMENT BENTONITE GROUT 0.5'-50' Estimated = 98.38 gallons Actual = 100 gallons

4" PVC RISER / CASING 0'-55' STAINLESS STEEL CENTRALIZERS @ 20' & 45'

3/8" BENTONITE SEAL: 50'-53' Estimated = 1.08 Bags Actual = 3 bags

SAND PACK: 12/20 Sand Filter Pack 53'-75' Estimated = 10.27 Actual = 10 Bags

4" SCREEN: 0.010 Slot Screen 55'-75'

SAND PACK: Below Well

NOTES: **Ambient Air Temperature 94 F**

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Cypress Engineering Services Inc.
TWP Roswell Station # 9
New Monitor Well Installation 2013
6381 North Main Street
Roswell, NM 88201

FIELD BOREHOLE LOG

BOREHOLE NO.: **MPE-41**

TOTAL DEPTH: **75'**

PROJECT INFORMATION

PROJECT: **New 4" MPE Well**
 SITE LOCATION: **TWP Roswell Station 9**
 JOB NO.: **02.2012.0037.00**
 LOGGED BY: **CM Barnhill, PG**
 PROJECT MANAGER: **George Robinson, PE**
 DATES DRILLED: **08/07/13**

DRILLING INFORMATION

DRILLING CO.: **Talon LPE**
 DRILLER: **Jose Salas**
 RIG TYPE: **ReichDrill T650 WDII**
 METHOD OF DRILLING: **Air Rotary 8"**
 SAMPLING METHODS: **2' Split Spoon**
 HAMMER WT./DROP: **Direct Push with Rig**

☞ Water level during drilling

☛ Water level in completed well

DEPTH	SOIL SYMBOLS	USCS	SOIL DESCRIPTION	SAMPLE	Rec. / ft.	PID VOC PPM	BORING COMPLETION	WELL DESCRIPTION
0								
5								
10								
15								
20								
25								
30								
35								
40								
45								
50								
55								
60								
65								
70								
75								
80								

0'-10'	Drill Cuttings	0.2						
10'-20'	Drill Cuttings	0.2						
20'-30'	Drill Cuttings	0.2						
30'-40'	Drill Cuttings	0.2						
40'-50'	Drill Cuttings	0.1						
50'-52'	1.8'	5.6						
55'-57'	1.0'	215						
60'-62'	2.0'	4105						
65'-67'	1.0'	613.1						
70'-72'	1.4'	3340						
75'-77'	1.0'	383.9						

GM: GM; Tan, Sand, Silt., Silty Gravel, Gravel to 3". 2.5 YR 8/1-8/3. Added 60 gallon os water to help with drilling. No odor or staining.								
GP: GP: Tan 5 YR 8/3, Gravel, Sand, silt mixture. Gravel to 1", smooth, rounded, river channel gravel. No odor or staining. Added 70 gallons of water to help with drilling								
SP: 2.5 YR Brown Clayey Sand to gray /green stained sand with strong odor.								
SC: 2.5 YR 5/8 Brown to reddish clayey sand. @ 55'-61'BGS strong odor Black stained soil. 55.8'-60' Gypsum								
CH: Brown 2.5 YR 4/8 Fat Clay								
SW: 2.5 YR 5/6 Tan Brown Clean, Med. gr.,will sorted sand with strong odor. Black stains to 3mm.								

CEMENT BENTONITE GROUT: 0.5'-50' Estimated = 98.38 gallons Actual = 100 gallons								
4" PVC RISER / CASING 0'-55' STAINLESS STEEL CENTRALIZERS @ 20' & 45'								
3/8" BENTONITE SEAL: 50'-53' Estimated = 1.08 Bags Actual = 2 Bags								
SAND PACK: 12/20 Sand Filter Pack 53'-75' Estimated = 10.27 Bags Actual = 18 Bags								
4" SCREEN: 0.010 Slot Screen 55'-75'								
SAND PACK: Below Well								

NOTES: **Ambient Air Temperature 95 F**

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Cypress Engineering Services Inc.
TWP Roswell Station # 9
New Monitor Well Installation 2013
6381 North Main Street
Roswell, NM 88201

FIELD BOREHOLE LOG

BOREHOLE NO.: **SB-MPE39A**
TOTAL DEPTH: **75'**

PROJECT INFORMATION

PROJECT: **New MPE Well**
SITE LOCATION: **TWP Roswell Station 9**
JOB NO.: **02.2012.0037.00**
LOGGED BY: **CM Barnhill, PG**
PROJECT MANAGER: **George Robinson, PE**
DATES DRILLED: **08/07/13**

DRILLING INFORMATION

DRILLING CO.: **Talon LPE**
DRILLER: **Jose Salas**
RIG TYPE: **ReichDrill T650 WDII**
METHOD OF DRILLING: **Air Rotary 8"**
SAMPLING METHODS: **2' Split Spoon**
HAMMER WT./DROP: **Direct Push with Rig**

☞ Water level during drilling

☛ Water level in completed well

DEPTH	SOIL SYMBOLS	USCS	SOIL DESCRIPTION	SAMPLE	Rec. / ft.	PID VOC PPM	BORING COMPLETION	WELL DESCRIPTION
0								
5								
10								
15								
20								
25								
30								
35								
40								
45								
50								
55								
60								
65								
70								
75								
80								

0'-10'	Drill Cuttings	0.1		
10'-20'	Drill Cuttings	0.1		
20'-30'	Drill Cuttings	0.10		
30'-40'	Drill Cuttings	270.6		
40'-50'	Drill Cuttings	0		
50'-52'	2.0'	609.9		
55'-57'	2.0'	335.2		
60'-62'	2.0'	71.7		
65'-67'	1.0'	60		
70'-72'	1.6'	30.5		
75'-77'	1.0'	0.0		

CEMENT / BENTONITE GROUT 0.5'-70'	BGS Estimated = 137.73 gallons	Actual = 145 gallons
HYDRATED BENTONITE 70'-75'	Estimated= 1.8 bags	Actual = 2 bags

NOTES: **Ambient Air Temperature 95 F Boring was Plugged & Abandoned**

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WELL RECORD & LOG

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1. GENERAL AND WELL LOCATION	OSE POD NUMBER (WELL NUMBER)				OSE FILE NUMBER(S)						
	WELL OWNER NAME(S)				PHONE (OPTIONAL)						
	WELL OWNER MAILING ADDRESS				CITY		STATE		ZIP		
	WELL LOCATION (FROM GPS)	DEGREES		MINUTES		SECONDS		* ACCURACY REQUIRED: ONE TENTH OF A SECOND * DATUM REQUIRED: WGS 84			
		LATITUDE		N							
LONGITUDE		W									
DESCRIPTION RELATING WELL LOCATION TO STREET ADDRESS AND COMMON LANDMARKS - PLSS (SECTION, TOWNSHIP, RANGE) WHERE AVAILABLE											
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	DRILLING STARTED		DRILLING ENDED		DEPTH OF COMPLETED WELL (FT)		BORE HOLE DEPTH (FT)		DEPTH WATER FIRST ENCOUNTERED (FT)		
	COMPLETED WELL IS: <input type="radio"/> ARTESIAN <input type="radio"/> DRY HOLE <input type="radio"/> SHALLOW (UNCONFINED)						STATIC WATER LEVEL IN COMPLETED WELL (FT)				
	DRILLING FLUID: <input type="radio"/> AIR <input type="radio"/> MUD						ADDITIVES - SPECIFY:				
	DRILLING METHOD: <input type="radio"/> ROTARY <input type="radio"/> HAMMER <input type="radio"/> CABLE TOOL <input type="radio"/> OTHER - SPECIFY:										
	DEPTH (feet bgl)		BORE HOLE DIAM (inches)	CASING MATERIAL AND/OR GRADE (include each casing string, and note sections of screen)	CASING CONNECTION TYPE	CASING INSIDE DIAM. (inches)	CASING WALL THICKNESS (inches)	SLOT SIZE (inches)			
	FROM	TO									
3. ANNULAR MATERIAL	DEPTH (feet bgl)		BORE HOLE DIAM. (inches)	LIST ANNULAR SEAL MATERIAL AND GRAVEL PACK SIZE-RANGE BY INTERVAL	AMOUNT (cubic feet)	METHOD OF PLACEMENT					
	FROM	TO									

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FILE NUMBER		POD NUMBER		TRN NUMBER	
LOCATION				PAGE 1 OF 2	

4. HYDROGEOLOGIC LOG OF WELL	DEPTH (feet bgl)		THICKNESS (feet)	COLOR AND TYPE OF MATERIAL ENCOUNTERED - INCLUDE WATER-BEARING CAVITIES OR FRACTURE ZONES (attach supplemental sheets to fully describe all units)	WATER BEARING? (YES / NO)	ESTIMATED YIELD FOR WATER- BEARING ZONES (gpm)
	FROM	TO				
					<input type="radio"/> Y <input type="radio"/> N	
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	METHOD USED TO ESTIMATE YIELD OF WATER-BEARING STRATA: <input type="radio"/> PUMP <input type="radio"/> AIR LIFT <input type="radio"/> BAILER <input type="radio"/> OTHER – SPECIFY:				TOTAL ESTIMATED WELL YIELD (gpm):	

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	FROM	TO									
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	FROM	TO									

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	FROM	TO				
					<input type="radio"/> Y <input type="radio"/> N	
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	MISCELLANEOUS INFORMATION:	
	PRINT NAME(S) OF DRILL RIG SUPERVISOR(S) THAT PROVIDED ONSITE SUPERVISION OF WELL CONSTRUCTION OTHER THAN LICENSEE:	

6. SIGNATURE	THE UNDERSIGNED HEREBY CERTIFIES THAT, TO THE BEST OF HIS OR HER KNOWLEDGE AND BELIEF, THE FOREGOING IS A TRUE AND CORRECT RECORD OF THE ABOVE DESCRIBED HOLE AND THAT HE OR SHE WILL FILE THIS WELL RECORD WITH THE STATE ENGINEER AND THE PERMIT HOLDER WITHIN 20 DAYS AFTER COMPLETION OF WELL DRILLING: <div style="display: flex; justify-content: space-between; margin-top: 20px;"> <div style="width: 60%; text-align: center;"> _____ SIGNATURE OF DRILLER / PRINT SIGNEE NAME </div> <div style="width: 35%; text-align: center;"> _____ DATE </div> </div>
---------------------	--

FOR OSE INTERNAL USE

WR-20 WELL RECORD & LOG (Version 06/08/2012)

FILE NUMBER	POD NUMBER	TRN NUMBER
LOCATION		PAGE 2 OF 2



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

August 26, 2013

George Robinson
Cypress Engineering
7171 Highway 6 North
Suite 102
Houston, TX 770952422
TEL: (281) 797-3420
FAX (281) 859-1881

RE: TWP Roswell Station 9

OrderNo.: 1308626

Dear George Robinson:

Hall Environmental Analysis Laboratory received 3 sample(s) on 8/14/2013 for the analyses presented in the following report.

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

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

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #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 1308626

Date Reported: 8/26/2013

CLIENT: Cypress Engineering

Client Sample ID: MPE-38 65'-67'

Project: TWP Roswell Station 9

Collection Date: 8/8/2013 8:10:00 AM

Lab ID: 1308626-001

Matrix: SOIL

Received Date: 8/14/2013 9:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 7471: MERCURY							Analyst: IDC
Mercury	ND	0.033		mg/kg	1	8/20/2013 1:22:19 PM	8939
EPA METHOD 6010B: SOIL METALS							Analyst: JLF
Arsenic	ND	2.5		mg/Kg	1	8/21/2013 3:42:11 PM	8910
Barium	62	0.20		mg/Kg	2	8/21/2013 3:45:19 PM	8910
Cadmium	ND	0.10		mg/Kg	1	8/21/2013 3:42:11 PM	8910
Chromium	3.9	0.30		mg/Kg	1	8/21/2013 3:42:11 PM	8910
Lead	1.7	0.25		mg/Kg	1	8/21/2013 3:42:11 PM	8910
Selenium	ND	2.5		mg/Kg	1	8/21/2013 3:42:11 PM	8910
Silver	ND	0.25		mg/Kg	1	8/21/2013 3:42:11 PM	8910
EPA METHOD 8260B: VOLATILES							Analyst: JMP
Benzene	11	2.4		mg/Kg	50	8/17/2013 5:21:30 AM	8879
Toluene	45	2.4		mg/Kg	50	8/17/2013 5:21:30 AM	8879
Ethylbenzene	8.9	2.4		mg/Kg	50	8/17/2013 5:21:30 AM	8879
Methyl tert-butyl ether (MTBE)	ND	2.4		mg/Kg	50	8/17/2013 5:21:30 AM	8879
1,2,4-Trimethylbenzene	9.5	2.4		mg/Kg	50	8/17/2013 5:21:30 AM	8879
1,3,5-Trimethylbenzene	6.1	2.4		mg/Kg	50	8/17/2013 5:21:30 AM	8879
1,2-Dichloroethane (EDC)	ND	2.4		mg/Kg	50	8/17/2013 5:21:30 AM	8879
1,2-Dibromoethane (EDB)	ND	2.4		mg/Kg	50	8/17/2013 5:21:30 AM	8879
Naphthalene	ND	4.8		mg/Kg	50	8/17/2013 5:21:30 AM	8879
1-Methylnaphthalene	ND	9.5		mg/Kg	50	8/17/2013 5:21:30 AM	8879
2-Methylnaphthalene	ND	9.5		mg/Kg	50	8/17/2013 5:21:30 AM	8879
Acetone	ND	36		mg/Kg	50	8/17/2013 5:21:30 AM	8879
Bromobenzene	ND	2.4		mg/Kg	50	8/17/2013 5:21:30 AM	8879
Bromodichloromethane	ND	2.4		mg/Kg	50	8/17/2013 5:21:30 AM	8879
Bromoform	ND	2.4		mg/Kg	50	8/17/2013 5:21:30 AM	8879
Bromomethane	ND	7.1		mg/Kg	50	8/17/2013 5:21:30 AM	8879
2-Butanone	ND	24		mg/Kg	50	8/17/2013 5:21:30 AM	8879
Carbon disulfide	ND	24		mg/Kg	50	8/17/2013 5:21:30 AM	8879
Carbon tetrachloride	ND	4.8		mg/Kg	50	8/17/2013 5:21:30 AM	8879
Chlorobenzene	ND	2.4		mg/Kg	50	8/17/2013 5:21:30 AM	8879
Chloroethane	ND	4.8		mg/Kg	50	8/17/2013 5:21:30 AM	8879
Chloroform	ND	2.4		mg/Kg	50	8/17/2013 5:21:30 AM	8879
Chloromethane	ND	7.1		mg/Kg	50	8/17/2013 5:21:30 AM	8879
2-Chlorotoluene	ND	2.4		mg/Kg	50	8/17/2013 5:21:30 AM	8879
4-Chlorotoluene	ND	2.4		mg/Kg	50	8/17/2013 5:21:30 AM	8879
cis-1,2-DCE	ND	2.4		mg/Kg	50	8/17/2013 5:21:30 AM	8879
cis-1,3-Dichloropropene	ND	2.4		mg/Kg	50	8/17/2013 5:21:30 AM	8879
1,2-Dibromo-3-chloropropane	ND	4.8		mg/Kg	50	8/17/2013 5:21:30 AM	8879

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	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 for VOA and TOC only.
	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 1308626

Date Reported: 8/26/2013

CLIENT: Cypress Engineering

Client Sample ID: MPE-38 65'-67'

Project: TWP Roswell Station 9

Collection Date: 8/8/2013 8:10:00 AM

Lab ID: 1308626-001

Matrix: SOIL

Received Date: 8/14/2013 9:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES					Analyst: JMP		
Dibromochloromethane	ND	2.4		mg/Kg	50	8/17/2013 5:21:30 AM	8879
Dibromomethane	ND	4.8		mg/Kg	50	8/17/2013 5:21:30 AM	8879
1,2-Dichlorobenzene	ND	2.4		mg/Kg	50	8/17/2013 5:21:30 AM	8879
1,3-Dichlorobenzene	ND	2.4		mg/Kg	50	8/17/2013 5:21:30 AM	8879
1,4-Dichlorobenzene	ND	2.4		mg/Kg	50	8/17/2013 5:21:30 AM	8879
Dichlorodifluoromethane	ND	2.4		mg/Kg	50	8/17/2013 5:21:30 AM	8879
1,1-Dichloroethane	ND	4.8		mg/Kg	50	8/17/2013 5:21:30 AM	8879
1,1-Dichloroethene	ND	2.4		mg/Kg	50	8/17/2013 5:21:30 AM	8879
1,2-Dichloropropane	ND	2.4		mg/Kg	50	8/17/2013 5:21:30 AM	8879
1,3-Dichloropropane	ND	2.4		mg/Kg	50	8/17/2013 5:21:30 AM	8879
2,2-Dichloropropane	ND	4.8		mg/Kg	50	8/17/2013 5:21:30 AM	8879
1,1-Dichloropropene	ND	4.8		mg/Kg	50	8/17/2013 5:21:30 AM	8879
Hexachlorobutadiene	ND	4.8		mg/Kg	50	8/17/2013 5:21:30 AM	8879
2-Hexanone	ND	24		mg/Kg	50	8/17/2013 5:21:30 AM	8879
Isopropylbenzene	ND	2.4		mg/Kg	50	8/17/2013 5:21:30 AM	8879
4-Isopropyltoluene	ND	2.4		mg/Kg	50	8/17/2013 5:21:30 AM	8879
4-Methyl-2-pentanone	ND	24		mg/Kg	50	8/17/2013 5:21:30 AM	8879
Methylene chloride	ND	7.1		mg/Kg	50	8/17/2013 5:21:30 AM	8879
n-Butylbenzene	ND	7.1		mg/Kg	50	8/17/2013 5:21:30 AM	8879
n-Propylbenzene	ND	2.4		mg/Kg	50	8/17/2013 5:21:30 AM	8879
sec-Butylbenzene	ND	2.4		mg/Kg	50	8/17/2013 5:21:30 AM	8879
Styrene	ND	2.4		mg/Kg	50	8/17/2013 5:21:30 AM	8879
tert-Butylbenzene	ND	2.4		mg/Kg	50	8/17/2013 5:21:30 AM	8879
1,1,1,2-Tetrachloroethane	ND	2.4		mg/Kg	50	8/17/2013 5:21:30 AM	8879
1,1,2,2-Tetrachloroethane	ND	2.4		mg/Kg	50	8/17/2013 5:21:30 AM	8879
Tetrachloroethene (PCE)	ND	2.4		mg/Kg	50	8/17/2013 5:21:30 AM	8879
trans-1,2-DCE	ND	2.4		mg/Kg	50	8/17/2013 5:21:30 AM	8879
trans-1,3-Dichloropropene	ND	2.4		mg/Kg	50	8/17/2013 5:21:30 AM	8879
1,2,3-Trichlorobenzene	ND	4.8		mg/Kg	50	8/17/2013 5:21:30 AM	8879
1,2,4-Trichlorobenzene	ND	2.4		mg/Kg	50	8/17/2013 5:21:30 AM	8879
1,1,1-Trichloroethane	ND	2.4		mg/Kg	50	8/17/2013 5:21:30 AM	8879
1,1,2-Trichloroethane	ND	2.4		mg/Kg	50	8/17/2013 5:21:30 AM	8879
Trichloroethene (TCE)	ND	2.4		mg/Kg	50	8/17/2013 5:21:30 AM	8879
Trichlorofluoromethane	ND	2.4		mg/Kg	50	8/17/2013 5:21:30 AM	8879
1,2,3-Trichloropropane	ND	4.8		mg/Kg	50	8/17/2013 5:21:30 AM	8879
Vinyl chloride	ND	2.4		mg/Kg	50	8/17/2013 5:21:30 AM	8879
Xylenes, Total	64	4.8		mg/Kg	50	8/17/2013 5:21:30 AM	8879
Surr: 1,2-Dichloroethane-d4	97.2	70-130		%REC	50	8/17/2013 5:21:30 AM	8879
Surr: 4-Bromofluorobenzene	86.1	70-130		%REC	50	8/17/2013 5:21:30 AM	8879

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	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 for VOA and TOC only.
	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 1308626

Date Reported: 8/26/2013

CLIENT: Cypress Engineering

Client Sample ID: MPE-38 65'-67'

Project: TWP Roswell Station 9

Collection Date: 8/8/2013 8:10:00 AM

Lab ID: 1308626-001

Matrix: SOIL

Received Date: 8/14/2013 9:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: JMP	
Surr: Dibromofluoromethane	98.2	70-130		%REC	50	8/17/2013 5:21:30 AM	8879
Surr: Toluene-d8	89.6	70-130		%REC	50	8/17/2013 5:21:30 AM	8879

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	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 for VOA and TOC only.
	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 1308626

Date Reported: 8/26/2013

CLIENT: Cypress Engineering

Client Sample ID: MPE-40 60'-62'

Project: TWP Roswell Station 9

Collection Date: 8/8/2013 4:55:00 PM

Lab ID: 1308626-002

Matrix: SOIL

Received Date: 8/14/2013 9:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 7471: MERCURY							Analyst: IDC
Mercury	ND	0.033		mg/kg	1	8/20/2013 1:27:39 PM	8939
EPA METHOD 6010B: SOIL METALS							Analyst: JLF
Arsenic	ND	5.0		mg/Kg	2	8/21/2013 4:00:30 PM	8910
Barium	71	0.20		mg/Kg	2	8/21/2013 4:00:30 PM	8910
Cadmium	ND	0.20		mg/Kg	2	8/21/2013 4:00:30 PM	8910
Chromium	6.9	0.60		mg/Kg	2	8/21/2013 4:00:30 PM	8910
Lead	2.9	0.50		mg/Kg	2	8/21/2013 4:00:30 PM	8910
Selenium	ND	5.0		mg/Kg	2	8/21/2013 4:00:30 PM	8910
Silver	ND	0.50		mg/Kg	2	8/21/2013 4:00:30 PM	8910
EPA METHOD 8260B: VOLATILES							Analyst: JMP
Benzene	1.1	0.047		mg/Kg	1	8/17/2013 4:24:57 AM	8879
Toluene	30	4.7		mg/Kg	100	8/19/2013 4:13:54 PM	8879
Ethylbenzene	3.9	0.047		mg/Kg	1	8/17/2013 4:24:57 AM	8879
Methyl tert-butyl ether (MTBE)	ND	0.047		mg/Kg	1	8/17/2013 4:24:57 AM	8879
1,2,4-Trimethylbenzene	8.0	4.7		mg/Kg	100	8/19/2013 4:13:54 PM	8879
1,3,5-Trimethylbenzene	3.5	0.047		mg/Kg	1	8/17/2013 4:24:57 AM	8879
1,2-Dichloroethane (EDC)	ND	0.047		mg/Kg	1	8/17/2013 4:24:57 AM	8879
1,2-Dibromoethane (EDB)	ND	0.047		mg/Kg	1	8/17/2013 4:24:57 AM	8879
Naphthalene	0.36	0.095		mg/Kg	1	8/17/2013 4:24:57 AM	8879
1-Methylnaphthalene	0.56	0.19		mg/Kg	1	8/17/2013 4:24:57 AM	8879
2-Methylnaphthalene	0.97	0.19		mg/Kg	1	8/17/2013 4:24:57 AM	8879
Acetone	ND	0.71		mg/Kg	1	8/17/2013 4:24:57 AM	8879
Bromobenzene	ND	0.047		mg/Kg	1	8/17/2013 4:24:57 AM	8879
Bromodichloromethane	ND	0.047		mg/Kg	1	8/17/2013 4:24:57 AM	8879
Bromoform	ND	0.047		mg/Kg	1	8/17/2013 4:24:57 AM	8879
Bromomethane	ND	0.14		mg/Kg	1	8/17/2013 4:24:57 AM	8879
2-Butanone	ND	0.47		mg/Kg	1	8/17/2013 4:24:57 AM	8879
Carbon disulfide	ND	0.47		mg/Kg	1	8/17/2013 4:24:57 AM	8879
Carbon tetrachloride	ND	0.095		mg/Kg	1	8/17/2013 4:24:57 AM	8879
Chlorobenzene	ND	0.047		mg/Kg	1	8/17/2013 4:24:57 AM	8879
Chloroethane	ND	0.095		mg/Kg	1	8/17/2013 4:24:57 AM	8879
Chloroform	ND	0.047		mg/Kg	1	8/17/2013 4:24:57 AM	8879
Chloromethane	ND	0.14		mg/Kg	1	8/17/2013 4:24:57 AM	8879
2-Chlorotoluene	ND	0.047		mg/Kg	1	8/17/2013 4:24:57 AM	8879
4-Chlorotoluene	ND	0.047		mg/Kg	1	8/17/2013 4:24:57 AM	8879
cis-1,2-DCE	ND	0.047		mg/Kg	1	8/17/2013 4:24:57 AM	8879
cis-1,3-Dichloropropene	ND	0.047		mg/Kg	1	8/17/2013 4:24:57 AM	8879
1,2-Dibromo-3-chloropropane	ND	0.095		mg/Kg	1	8/17/2013 4:24:57 AM	8879

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

Qualifiers:	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	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 for VOA and TOC only.
	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 1308626

Date Reported: 8/26/2013

CLIENT: Cypress Engineering

Client Sample ID: MPE-40 60'-62'

Project: TWP Roswell Station 9

Collection Date: 8/8/2013 4:55:00 PM

Lab ID: 1308626-002

Matrix: SOIL

Received Date: 8/14/2013 9:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES							Analyst: JMP
Dibromochloromethane	ND	0.047		mg/Kg	1	8/17/2013 4:24:57 AM	8879
Dibromomethane	ND	0.095		mg/Kg	1	8/17/2013 4:24:57 AM	8879
1,2-Dichlorobenzene	ND	0.047		mg/Kg	1	8/17/2013 4:24:57 AM	8879
1,3-Dichlorobenzene	ND	0.047		mg/Kg	1	8/17/2013 4:24:57 AM	8879
1,4-Dichlorobenzene	ND	0.047		mg/Kg	1	8/17/2013 4:24:57 AM	8879
Dichlorodifluoromethane	ND	0.047		mg/Kg	1	8/17/2013 4:24:57 AM	8879
1,1-Dichloroethane	ND	0.095		mg/Kg	1	8/17/2013 4:24:57 AM	8879
1,1-Dichloroethene	ND	0.047		mg/Kg	1	8/17/2013 4:24:57 AM	8879
1,2-Dichloropropane	ND	0.047		mg/Kg	1	8/17/2013 4:24:57 AM	8879
1,3-Dichloropropane	ND	0.047		mg/Kg	1	8/17/2013 4:24:57 AM	8879
2,2-Dichloropropane	ND	0.095		mg/Kg	1	8/17/2013 4:24:57 AM	8879
1,1-Dichloropropene	ND	0.095		mg/Kg	1	8/17/2013 4:24:57 AM	8879
Hexachlorobutadiene	ND	0.095		mg/Kg	1	8/17/2013 4:24:57 AM	8879
2-Hexanone	ND	0.47		mg/Kg	1	8/17/2013 4:24:57 AM	8879
Isopropylbenzene	0.69	0.047		mg/Kg	1	8/17/2013 4:24:57 AM	8879
4-Isopropyltoluene	0.28	0.047		mg/Kg	1	8/17/2013 4:24:57 AM	8879
4-Methyl-2-pentanone	ND	0.47		mg/Kg	1	8/17/2013 4:24:57 AM	8879
Methylene chloride	ND	0.14		mg/Kg	1	8/17/2013 4:24:57 AM	8879
n-Butylbenzene	0.46	0.14		mg/Kg	1	8/17/2013 4:24:57 AM	8879
n-Propylbenzene	1.1	0.047		mg/Kg	1	8/17/2013 4:24:57 AM	8879
sec-Butylbenzene	0.31	0.047		mg/Kg	1	8/17/2013 4:24:57 AM	8879
Styrene	ND	0.047		mg/Kg	1	8/17/2013 4:24:57 AM	8879
tert-Butylbenzene	ND	0.047		mg/Kg	1	8/17/2013 4:24:57 AM	8879
1,1,1,2-Tetrachloroethane	ND	0.047		mg/Kg	1	8/17/2013 4:24:57 AM	8879
1,1,2,2-Tetrachloroethane	ND	0.047		mg/Kg	1	8/17/2013 4:24:57 AM	8879
Tetrachloroethene (PCE)	ND	0.047		mg/Kg	1	8/17/2013 4:24:57 AM	8879
trans-1,2-DCE	ND	0.047		mg/Kg	1	8/17/2013 4:24:57 AM	8879
trans-1,3-Dichloropropene	ND	0.047		mg/Kg	1	8/17/2013 4:24:57 AM	8879
1,2,3-Trichlorobenzene	ND	0.095		mg/Kg	1	8/17/2013 4:24:57 AM	8879
1,2,4-Trichlorobenzene	ND	0.047		mg/Kg	1	8/17/2013 4:24:57 AM	8879
1,1,1-Trichloroethane	ND	0.047		mg/Kg	1	8/17/2013 4:24:57 AM	8879
1,1,2-Trichloroethane	ND	0.047		mg/Kg	1	8/17/2013 4:24:57 AM	8879
Trichloroethene (TCE)	ND	0.047		mg/Kg	1	8/17/2013 4:24:57 AM	8879
Trichlorofluoromethane	ND	0.047		mg/Kg	1	8/17/2013 4:24:57 AM	8879
1,2,3-Trichloropropane	ND	0.095		mg/Kg	1	8/17/2013 4:24:57 AM	8879
Vinyl chloride	ND	0.047		mg/Kg	1	8/17/2013 4:24:57 AM	8879
Xylenes, Total	45	9.5		mg/Kg	100	8/19/2013 4:13:54 PM	8879
Surr: 1,2-Dichloroethane-d4	58.9	70-130	S	%REC	1	8/17/2013 4:24:57 AM	8879
Surr: 4-Bromofluorobenzene	105	70-130		%REC	1	8/17/2013 4:24:57 AM	8879

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	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 for VOA and TOC only.
	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 1308626

Date Reported: 8/26/2013

CLIENT: Cypress Engineering

Client Sample ID: MPE-40 60'-62'

Project: TWP Roswell Station 9

Collection Date: 8/8/2013 4:55:00 PM

Lab ID: 1308626-002

Matrix: SOIL

Received Date: 8/14/2013 9:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES							Analyst: JMP
Surr: Dibromofluoromethane	69.9	70-130	S	%REC	1	8/17/2013 4:24:57 AM	8879
Surr: Toluene-d8	93.0	70-130		%REC	1	8/17/2013 4:24:57 AM	8879

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	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 for VOA and TOC only.
	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 1308626

Date Reported: 8/26/2013

CLIENT: Cypress Engineering

Client Sample ID: MW-42A 55-57

Project: TWP Roswell Station 9

Collection Date: 8/6/2013 10:45:00 AM

Lab ID: 1308626-003

Matrix: SOIL

Received Date: 8/14/2013 9:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES							Analyst: JMP
Benzene	ND	0.048		mg/Kg	1	8/17/2013 4:53:17 AM	8879
Toluene	ND	0.048		mg/Kg	1	8/17/2013 4:53:17 AM	8879
Ethylbenzene	ND	0.048		mg/Kg	1	8/17/2013 4:53:17 AM	8879
Methyl tert-butyl ether (MTBE)	ND	0.048		mg/Kg	1	8/17/2013 4:53:17 AM	8879
1,2,4-Trimethylbenzene	ND	0.048		mg/Kg	1	8/17/2013 4:53:17 AM	8879
1,3,5-Trimethylbenzene	ND	0.048		mg/Kg	1	8/17/2013 4:53:17 AM	8879
1,2-Dichloroethane (EDC)	ND	0.048		mg/Kg	1	8/17/2013 4:53:17 AM	8879
1,2-Dibromoethane (EDB)	ND	0.048		mg/Kg	1	8/17/2013 4:53:17 AM	8879
Naphthalene	ND	0.095		mg/Kg	1	8/17/2013 4:53:17 AM	8879
1-Methylnaphthalene	ND	0.19		mg/Kg	1	8/17/2013 4:53:17 AM	8879
2-Methylnaphthalene	ND	0.19		mg/Kg	1	8/17/2013 4:53:17 AM	8879
Acetone	ND	0.71		mg/Kg	1	8/17/2013 4:53:17 AM	8879
Bromobenzene	ND	0.048		mg/Kg	1	8/17/2013 4:53:17 AM	8879
Bromodichloromethane	ND	0.048		mg/Kg	1	8/17/2013 4:53:17 AM	8879
Bromoform	ND	0.048		mg/Kg	1	8/17/2013 4:53:17 AM	8879
Bromomethane	ND	0.14		mg/Kg	1	8/17/2013 4:53:17 AM	8879
2-Butanone	ND	0.48		mg/Kg	1	8/17/2013 4:53:17 AM	8879
Carbon disulfide	ND	0.48		mg/Kg	1	8/17/2013 4:53:17 AM	8879
Carbon tetrachloride	ND	0.095		mg/Kg	1	8/17/2013 4:53:17 AM	8879
Chlorobenzene	ND	0.048		mg/Kg	1	8/17/2013 4:53:17 AM	8879
Chloroethane	ND	0.095		mg/Kg	1	8/17/2013 4:53:17 AM	8879
Chloroform	ND	0.048		mg/Kg	1	8/17/2013 4:53:17 AM	8879
Chloromethane	ND	0.14		mg/Kg	1	8/17/2013 4:53:17 AM	8879
2-Chlorotoluene	ND	0.048		mg/Kg	1	8/17/2013 4:53:17 AM	8879
4-Chlorotoluene	ND	0.048		mg/Kg	1	8/17/2013 4:53:17 AM	8879
cis-1,2-DCE	ND	0.048		mg/Kg	1	8/17/2013 4:53:17 AM	8879
cis-1,3-Dichloropropene	ND	0.048		mg/Kg	1	8/17/2013 4:53:17 AM	8879
1,2-Dibromo-3-chloropropane	ND	0.095		mg/Kg	1	8/17/2013 4:53:17 AM	8879
Dibromochloromethane	ND	0.048		mg/Kg	1	8/17/2013 4:53:17 AM	8879
Dibromomethane	ND	0.095		mg/Kg	1	8/17/2013 4:53:17 AM	8879
1,2-Dichlorobenzene	ND	0.048		mg/Kg	1	8/17/2013 4:53:17 AM	8879
1,3-Dichlorobenzene	ND	0.048		mg/Kg	1	8/17/2013 4:53:17 AM	8879
1,4-Dichlorobenzene	ND	0.048		mg/Kg	1	8/17/2013 4:53:17 AM	8879
Dichlorodifluoromethane	ND	0.048		mg/Kg	1	8/17/2013 4:53:17 AM	8879
1,1-Dichloroethane	ND	0.095		mg/Kg	1	8/17/2013 4:53:17 AM	8879
1,1-Dichloroethene	ND	0.048		mg/Kg	1	8/17/2013 4:53:17 AM	8879
1,2-Dichloropropane	ND	0.048		mg/Kg	1	8/17/2013 4:53:17 AM	8879
1,3-Dichloropropane	ND	0.048		mg/Kg	1	8/17/2013 4:53:17 AM	8879
2,2-Dichloropropane	ND	0.095		mg/Kg	1	8/17/2013 4:53:17 AM	8879

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	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 for VOA and TOC only.
	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 1308626

Date Reported: 8/26/2013

CLIENT: Cypress Engineering

Client Sample ID: MW-42A 55-57

Project: TWP Roswell Station 9

Collection Date: 8/6/2013 10:45:00 AM

Lab ID: 1308626-003

Matrix: SOIL

Received Date: 8/14/2013 9:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES							Analyst: JMP
1,1-Dichloropropene	ND	0.095		mg/Kg	1	8/17/2013 4:53:17 AM	8879
Hexachlorobutadiene	ND	0.095		mg/Kg	1	8/17/2013 4:53:17 AM	8879
2-Hexanone	ND	0.48		mg/Kg	1	8/17/2013 4:53:17 AM	8879
Isopropylbenzene	ND	0.048		mg/Kg	1	8/17/2013 4:53:17 AM	8879
4-Isopropyltoluene	ND	0.048		mg/Kg	1	8/17/2013 4:53:17 AM	8879
4-Methyl-2-pentanone	ND	0.48		mg/Kg	1	8/17/2013 4:53:17 AM	8879
Methylene chloride	ND	0.14		mg/Kg	1	8/17/2013 4:53:17 AM	8879
n-Butylbenzene	ND	0.14		mg/Kg	1	8/17/2013 4:53:17 AM	8879
n-Propylbenzene	ND	0.048		mg/Kg	1	8/17/2013 4:53:17 AM	8879
sec-Butylbenzene	ND	0.048		mg/Kg	1	8/17/2013 4:53:17 AM	8879
Styrene	ND	0.048		mg/Kg	1	8/17/2013 4:53:17 AM	8879
tert-Butylbenzene	ND	0.048		mg/Kg	1	8/17/2013 4:53:17 AM	8879
1,1,1,2-Tetrachloroethane	ND	0.048		mg/Kg	1	8/17/2013 4:53:17 AM	8879
1,1,2,2-Tetrachloroethane	ND	0.048		mg/Kg	1	8/17/2013 4:53:17 AM	8879
Tetrachloroethene (PCE)	ND	0.048		mg/Kg	1	8/17/2013 4:53:17 AM	8879
trans-1,2-DCE	ND	0.048		mg/Kg	1	8/17/2013 4:53:17 AM	8879
trans-1,3-Dichloropropene	ND	0.048		mg/Kg	1	8/17/2013 4:53:17 AM	8879
1,2,3-Trichlorobenzene	ND	0.095		mg/Kg	1	8/17/2013 4:53:17 AM	8879
1,2,4-Trichlorobenzene	ND	0.048		mg/Kg	1	8/17/2013 4:53:17 AM	8879
1,1,1-Trichloroethane	ND	0.048		mg/Kg	1	8/17/2013 4:53:17 AM	8879
1,1,2-Trichloroethane	ND	0.048		mg/Kg	1	8/17/2013 4:53:17 AM	8879
Trichloroethene (TCE)	ND	0.048		mg/Kg	1	8/17/2013 4:53:17 AM	8879
Trichlorofluoromethane	ND	0.048		mg/Kg	1	8/17/2013 4:53:17 AM	8879
1,2,3-Trichloropropane	ND	0.095		mg/Kg	1	8/17/2013 4:53:17 AM	8879
Vinyl chloride	ND	0.048		mg/Kg	1	8/17/2013 4:53:17 AM	8879
Xylenes, Total	ND	0.095		mg/Kg	1	8/17/2013 4:53:17 AM	8879
Surr: 1,2-Dichloroethane-d4	93.2	70-130		%REC	1	8/17/2013 4:53:17 AM	8879
Surr: 4-Bromofluorobenzene	86.8	70-130		%REC	1	8/17/2013 4:53:17 AM	8879
Surr: Dibromofluoromethane	101	70-130		%REC	1	8/17/2013 4:53:17 AM	8879
Surr: Toluene-d8	95.0	70-130		%REC	1	8/17/2013 4:53:17 AM	8879

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	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 for VOA and TOC only.
	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#: 1308626

26-Aug-13

Client: Cypress Engineering
Project: TWP Roswell Station 9

Sample ID	mb-8879	SampType:	MBLK	TestCode:	EPA Method 8260B: VOLATILES					
Client ID:	PBS	Batch ID:	8879	RunNo:	12689					
Prep Date:	8/15/2013	Analysis Date:	8/17/2013	SeqNo:	361357	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.050								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Methyl tert-butyl ether (MTBE)	ND	0.050								
1,2,4-Trimethylbenzene	ND	0.050								
1,3,5-Trimethylbenzene	ND	0.050								
1,2-Dichloroethane (EDC)	ND	0.050								
1,2-Dibromoethane (EDB)	ND	0.050								
Naphthalene	ND	0.10								
1-Methylnaphthalene	ND	0.20								
2-Methylnaphthalene	ND	0.20								
Acetone	ND	0.75								
Bromobenzene	ND	0.050								
Bromodichloromethane	ND	0.050								
Bromoform	ND	0.050								
Bromomethane	ND	0.15								
2-Butanone	ND	0.50								
Carbon disulfide	ND	0.50								
Carbon tetrachloride	ND	0.10								
Chlorobenzene	ND	0.050								
Chloroethane	ND	0.10								
Chloroform	ND	0.050								
Chloromethane	ND	0.15								
2-Chlorotoluene	ND	0.050								
4-Chlorotoluene	ND	0.050								
cis-1,2-DCE	ND	0.050								
cis-1,3-Dichloropropene	ND	0.050								
1,2-Dibromo-3-chloropropane	ND	0.10								
Dibromochloromethane	ND	0.050								
Dibromomethane	ND	0.10								
1,2-Dichlorobenzene	ND	0.050								
1,3-Dichlorobenzene	ND	0.050								
1,4-Dichlorobenzene	ND	0.050								
Dichlorodifluoromethane	ND	0.050								
1,1-Dichloroethane	ND	0.10								
1,1-Dichloroethene	ND	0.050								
1,2-Dichloropropane	ND	0.050								
1,3-Dichloropropane	ND	0.050								
2,2-Dichloropropane	ND	0.10								

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 for VOA and TOC only.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1308626

26-Aug-13

Client: Cypress Engineering
Project: TWP Roswell Station 9

Sample ID mb-8879	SampType: MBLK		TestCode: EPA Method 8260B: VOLATILES							
Client ID: PBS	Batch ID: 8879		RunNo: 12689							
Prep Date: 8/15/2013	Analysis Date: 8/17/2013		SeqNo: 361357		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1-Dichloropropene	ND	0.10								
Hexachlorobutadiene	ND	0.10								
2-Hexanone	ND	0.50								
Isopropylbenzene	ND	0.050								
4-Isopropyltoluene	ND	0.050								
4-Methyl-2-pentanone	ND	0.50								
Methylene chloride	ND	0.15								
n-Butylbenzene	ND	0.15								
n-Propylbenzene	ND	0.050								
sec-Butylbenzene	ND	0.050								
Styrene	ND	0.050								
tert-Butylbenzene	ND	0.050								
1,1,1,2-Tetrachloroethane	ND	0.050								
1,1,2,2-Tetrachloroethane	ND	0.050								
Tetrachloroethene (PCE)	ND	0.050								
trans-1,2-DCE	ND	0.050								
trans-1,3-Dichloropropene	ND	0.050								
1,2,3-Trichlorobenzene	ND	0.10								
1,2,4-Trichlorobenzene	ND	0.050								
1,1,1-Trichloroethane	ND	0.050								
1,1,2-Trichloroethane	ND	0.050								
Trichloroethene (TCE)	ND	0.050								
Trichlorofluoromethane	ND	0.050								
1,2,3-Trichloropropane	ND	0.10								
Vinyl chloride	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 1,2-Dichloroethane-d4	0.45		0.5000		90.0	70	130			
Surr: 4-Bromofluorobenzene	0.44		0.5000		88.3	70	130			
Surr: Dibromofluoromethane	0.48		0.5000		96.8	70	130			
Surr: Toluene-d8	0.49		0.5000		98.3	70	130			

Sample ID lcs-8879	SampType: LCS		TestCode: EPA Method 8260B: VOLATILES							
Client ID: LCSS	Batch ID: 8879		RunNo: 12689							
Prep Date: 8/15/2013	Analysis Date: 8/17/2013		SeqNo: 361358		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.94	0.050	1.000	0	93.8	70	130			
Toluene	0.89	0.050	1.000	0	89.5	69.9	139			
Chlorobenzene	0.84	0.050	1.000	0	84.2	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 for VOA and TOC only.
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#: 1308626

26-Aug-13

Client: Cypress Engineering
Project: TWP Roswell Station 9

Sample ID	lcs-8879		SampType: LCS		TestCode: EPA Method 8260B: VOLATILES					
Client ID:	LCSS		Batch ID: 8879		RunNo: 12689					
Prep Date:	8/15/2013		Analysis Date: 8/17/2013		SeqNo: 361358		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1-Dichloroethene	1.0	0.050	1.000	0	104	69.3	131			
Trichloroethene (TCE)	0.87	0.050	1.000	0	87.3	70	130			
Surr: 1,2-Dichloroethane-d4	0.47		0.5000		94.6	70	130			
Surr: 4-Bromofluorobenzene	0.43		0.5000		85.9	70	130			
Surr: Dibromofluoromethane	0.50		0.5000		99.3	70	130			
Surr: Toluene-d8	0.50		0.5000		101	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 for VOA and TOC only.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1308626

26-Aug-13

Client: Cypress Engineering
Project: TWP Roswell Station 9

Sample ID	MB-8939	SampType:	MBLK	TestCode:	EPA Method 7471: Mercury					
Client ID:	PBS	Batch ID:	8939	RunNo:	12748					
Prep Date:	8/20/2013	Analysis Date:	8/20/2013	SeqNo:	363107	Units:	mg/kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	ND	0.033								

Sample ID	LCS-8939	SampType:	LCS	TestCode:	EPA Method 7471: Mercury					
Client ID:	LCSS	Batch ID:	8939	RunNo:	12748					
Prep Date:	8/20/2013	Analysis Date:	8/20/2013	SeqNo:	363108	Units:	mg/kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.16	0.033	0.1667	0	93.5	80	120			

Sample ID	1308626-001AMS	SampType:	ms	TestCode:	EPA Method 7471: Mercury					
Client ID:	MPE-38 65'-67'	Batch ID:	8939	RunNo:	12748					
Prep Date:	8/20/2013	Analysis Date:	8/20/2013	SeqNo:	363110	Units:	mg/kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.16	0.033	0.1657	0.004432	92.6	75	125			

Sample ID	1308626-001AMSD	SampType:	msd	TestCode:	EPA Method 7471: Mercury					
Client ID:	MPE-38 65'-67'	Batch ID:	8939	RunNo:	12748					
Prep Date:	8/20/2013	Analysis Date:	8/20/2013	SeqNo:	363111	Units:	mg/kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.16	0.033	0.1603	0.004432	95.3	75	125	0.379	20	

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 for VOA and TOC only.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1308626

26-Aug-13

Client: Cypress Engineering
Project: TWP Roswell Station 9

Sample ID	MB-8910		SampType: MBLK		TestCode: EPA Method 6010B: Soil Metals					
Client ID:	PBS		Batch ID: 8910		RunNo: 12731					
Prep Date:	8/19/2013		Analysis Date: 8/19/2013		SeqNo: 362428		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	2.5								
Barium	ND	0.10								
Cadmium	ND	0.10								
Chromium	ND	0.30								
Lead	ND	0.25								
Selenium	ND	2.5								
Silver	ND	0.25								

Sample ID	LCS-8910		SampType: LCS		TestCode: EPA Method 6010B: Soil Metals					
Client ID:	LCSS		Batch ID: 8910		RunNo: 12731					
Prep Date:	8/19/2013		Analysis Date: 8/19/2013		SeqNo: 362429		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	25	2.5	25.00	0	100	80	120			
Barium	25	0.10	25.00	0	99.8	80	120			
Cadmium	25	0.10	25.00	0	100	80	120			
Chromium	25	0.30	25.00	0	99.5	80	120			
Lead	24	0.25	25.00	0	96.5	80	120			
Selenium	24	2.5	25.00	0	96.2	80	120			
Silver	4.6	0.25	5.000	0	93.0	80	120			

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 for VOA and TOC only. |
| R RPD outside accepted recovery limits | RL Reporting Detection Limit |
| S Spike Recovery outside accepted recovery limits | |

Sample Log-In Check List

Client Name: CYP

Work Order Number: 1308626

RcptNo: 1

Received by/date:	<i>[Signature]</i>	08/14/13
Logged By:	Lindsay Mangin	8/14/2013 9:45:00 AM
Completed By:	Lindsay Mangin	8/15/2013 7:37:23 AM
Reviewed By:	<i>[Signature]</i>	08/15/13

Chain of Custody

- Custody seals intact on sample bottles? Yes ☐ No ☐ Not Present ☒
- Is Chain of Custody complete? Yes ☒ No ☐ Not Present ☐
- How was the sample delivered? UPS

Log In

- Was an attempt made to cool the samples? Yes ☒ No ☐ NA ☐
- Were all samples received at a temperature of >0° C to 6.0° C Yes ☒ No ☐ NA ☐
- Sample(s) in proper container(s)? Yes ☒ No ☐
- Sufficient sample volume for indicated test(s)? Yes ☒ No ☐
- Are samples (except VOA and ONG) properly preserved? Yes ☒ No ☐
- Was preservative added to bottles? Yes ☐ No ☒ NA ☐
- VOA vials have zero headspace? Yes ☐ No ☐ No VOA Vials ☒
- Were any sample containers received broken? Yes ☐ No ☒
- Does paperwork match bottle labels? Yes ☒ No ☐
(Note discrepancies on chain of custody)
- Are matrices correctly identified on Chain of Custody? Yes ☒ No ☐
- Is it clear what analyses were requested? Yes ☒ No ☐
- 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)

- 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	3.6	Good	Yes			

Turn-Around Time:

☒ Standard ☐ Rush

Project Name: Twsp Roswell Station 9



Project #:	02.2012.0037.00
	Twp Kaswell Station 9

Project Manager: *Stacy Boyette house PK*

George Robinson, PE
Sampler: CMBarnhill, PE
On Ice: ☒ Yes ☐ No
Sample Temperature: 31

Container Type and #	Preservative Type	HEAL No.
1 x 402 E/Jan	None	1308626 -001
1 x 402 E/Jan	None	-002
1 x 402 Jan	None	-003

[illegible]

Received by: 	Date	Time	R
Received by: 	Date	Time	

Relinquished by:	Relinquished by:
Time: 12:00	Time:
Relinquished by:	Relinquished by:
Time:	Time:

If necessary, samples submitted to Hall Environmental may be subcontracted



www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Analysis Request

	✓/N	✓/P	✓/M	✓/N	Air Builbles (✓ or N)
BTEX + MTBE + TMB's (8021)					
BTEX + MTBE + TPH (Gas only)					
TPH 8015B (GRO / DRO / MRO)					
TPH (Method 418.1)					
EDB (Method 504.1)					
PAH's (8310 or 8270 SIMS)					
RCRA 8 Metals	X	X			
Anions (F, Cl, NO ₃ , NO ₂ , PO ₄ , SO ₄)					
8081 Pesticides / 8082 PCB's					
8260B (VOA)	X	X	X		
8270 (Semi-VOA)					

Remarks: Any Question's Please Call
George Robinson
281.797.3420

Any sub-contracted data will be clearly notated on the analytical report. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.



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

September 04, 2013

George Robinson
Cypress Engineering
7171 Highway 6 North
Suite 102
Houston, TX 770952422
TEL: (281) 797-3420
FAX (281) 859-1881

RE: TWP Roswell Station 9

OrderNo.: 1308C34

Dear George Robinson:

Hall Environmental Analysis Laboratory received 7 sample(s) on 8/28/2013 for the analyses presented in the following report.

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

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

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #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 1308C34

Date Reported: 9/4/2013

CLIENT: Cypress Engineering

Client Sample ID: Comp Soil MW-39 - MW-42 S c

Project: TWP Roswell Station 9

Collection Date: 8/27/2013 10:40:00 AM

Lab ID: 1308C34-001

Matrix: SOIL

Received Date: 8/28/2013 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: TCLP COMPOUNDS							Analyst: JMP
Benzene	ND	0.50		ppm	10	8/29/2013 6:13:23 PM	9096
1,2-Dichloroethane (EDC)	ND	0.50		ppm	10	8/29/2013 6:13:23 PM	9096
2-Butanone	ND	200		ppm	10	8/29/2013 6:13:23 PM	9096
Carbon tetrachloride	ND	0.50		ppm	10	8/29/2013 6:13:23 PM	9096
Chlorobenzene	ND	100		ppm	10	8/29/2013 6:13:23 PM	9096
Chloroform	ND	6.0		ppm	10	8/29/2013 6:13:23 PM	9096
1,4-Dichlorobenzene	ND	7.5		ppm	10	8/29/2013 6:13:23 PM	9096
1,1-Dichloroethene	ND	0.70		ppm	10	8/29/2013 6:13:23 PM	9096
Tetrachloroethene (PCE)	ND	0.70		ppm	10	8/29/2013 6:13:23 PM	9096
Trichloroethene (TCE)	ND	0.50		ppm	10	8/29/2013 6:13:23 PM	9096
Vinyl chloride	ND	0.20		ppm	10	8/29/2013 6:13:23 PM	9096
Surr: 1,2-Dichloroethane-d4	90.6	70-130		%REC	10	8/29/2013 6:13:23 PM	9096
Surr: 4-Bromofluorobenzene	94.0	70-130		%REC	10	8/29/2013 6:13:23 PM	9096
Surr: Dibromofluoromethane	94.9	70-130		%REC	10	8/29/2013 6:13:23 PM	9096
Surr: Toluene-d8	93.0	70-130		%REC	10	8/29/2013 6:13:23 PM	9096

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	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 for VOA and TOC only.
	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 1308C34

Date Reported: 9/4/2013

CLIENT: Cypress Engineering

Client Sample ID: MPE-39 Composite 50'-75' BGS

Project: TWP Roswell Station 9

Collection Date: 8/27/2013 9:45:00 AM

Lab ID: 1308C34-002

Matrix: SOIL

Received Date: 8/28/2013 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANGE ORGANICS							Analyst: BCN
Diesel Range Organics (DRO)	15	9.9		mg/Kg	1	8/30/2013 1:10:41 PM	9101
Surr: DNOP	86.9	63-147		%REC	1	8/30/2013 1:10:41 PM	9101
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	320	50		mg/Kg	10	8/30/2013 11:27:18 AM	9096
Surr: BFB	145	80-120	S	%REC	10	8/30/2013 11:27:18 AM	9096
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.50		mg/Kg	10	8/30/2013 11:27:18 AM	9096
Toluene	ND	0.50		mg/Kg	10	8/30/2013 11:27:18 AM	9096
Ethylbenzene	ND	0.50		mg/Kg	10	8/30/2013 11:27:18 AM	9096
Xylenes, Total	2.6	1.0		mg/Kg	10	8/30/2013 11:27:18 AM	9096
Surr: 4-Bromofluorobenzene	102	80-120		%REC	10	8/30/2013 11:27:18 AM	9096
EPA METHOD 8260B: TCLP COMPOUNDS							Analyst: JMP
Benzene	ND	0.50		ppm	10	8/29/2013 11:00:11 PM	9096
1,2-Dichloroethane (EDC)	ND	0.50		ppm	10	8/29/2013 11:00:11 PM	9096
2-Butanone	ND	200		ppm	10	8/29/2013 11:00:11 PM	9096
Carbon tetrachloride	ND	0.50		ppm	10	8/29/2013 11:00:11 PM	9096
Chlorobenzene	ND	100		ppm	10	8/29/2013 11:00:11 PM	9096
Chloroform	ND	6.0		ppm	10	8/29/2013 11:00:11 PM	9096
1,4-Dichlorobenzene	ND	7.5		ppm	10	8/29/2013 11:00:11 PM	9096
1,1-Dichloroethene	ND	0.70		ppm	10	8/29/2013 11:00:11 PM	9096
Tetrachloroethene (PCE)	ND	0.70		ppm	10	8/29/2013 11:00:11 PM	9096
Trichloroethene (TCE)	ND	0.50		ppm	10	8/29/2013 11:00:11 PM	9096
Vinyl chloride	ND	0.20		ppm	10	8/29/2013 11:00:11 PM	9096
Surr: 1,2-Dichloroethane-d4	95.6	70-130		%REC	10	8/29/2013 11:00:11 PM	9096
Surr: 4-Bromofluorobenzene	92.5	70-130		%REC	10	8/29/2013 11:00:11 PM	9096
Surr: Dibromofluoromethane	94.8	70-130		%REC	10	8/29/2013 11:00:11 PM	9096
Surr: Toluene-d8	93.8	70-130		%REC	10	8/29/2013 11:00:11 PM	9096

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	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 for VOA and TOC only.
	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 1308C34

Date Reported: 9/4/2013

CLIENT: Cypress Engineering

Client Sample ID: MPE-38 Composite 50'-75' BGS

Project: TWP Roswell Station 9

Collection Date: 8/27/2013 9:30:00 AM

Lab ID: 1308C34-003

Matrix: SOIL

Received Date: 8/28/2013 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANGE ORGANICS							Analyst: BCN
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	8/30/2013 1:41:47 PM	9101
Surr: DNOP	88.8	63-147		%REC	1	8/30/2013 1:41:47 PM	9101
EPA METHOD 8015D: GASOLINE RANGE							Analyst: RAA
Gasoline Range Organics (GRO)	16	5.0		mg/Kg	1	9/3/2013 1:50:29 PM	9096
Surr: BFB	147	80-120	S	%REC	1	9/3/2013 1:50:29 PM	9096
EPA METHOD 8021B: VOLATILES							Analyst: RAA
Benzene	ND	0.050		mg/Kg	1	9/3/2013 1:50:29 PM	9096
Toluene	ND	0.050		mg/Kg	1	9/3/2013 1:50:29 PM	9096
Ethylbenzene	ND	0.050		mg/Kg	1	9/3/2013 1:50:29 PM	9096
Xylenes, Total	ND	0.10		mg/Kg	1	9/3/2013 1:50:29 PM	9096
Surr: 4-Bromofluorobenzene	106	80-120		%REC	1	9/3/2013 1:50:29 PM	9096
EPA METHOD 8260B: TCLP COMPOUNDS							Analyst: JMP
Benzene	ND	0.50		ppm	10	8/29/2013 10:31:29 PM	9096
1,2-Dichloroethane (EDC)	ND	0.50		ppm	10	8/29/2013 10:31:29 PM	9096
2-Butanone	ND	200		ppm	10	8/29/2013 10:31:29 PM	9096
Carbon tetrachloride	ND	0.50		ppm	10	8/29/2013 10:31:29 PM	9096
Chlorobenzene	ND	100		ppm	10	8/29/2013 10:31:29 PM	9096
Chloroform	ND	6.0		ppm	10	8/29/2013 10:31:29 PM	9096
1,4-Dichlorobenzene	ND	7.5		ppm	10	8/29/2013 10:31:29 PM	9096
1,1-Dichloroethene	ND	0.70		ppm	10	8/29/2013 10:31:29 PM	9096
Tetrachloroethene (PCE)	ND	0.70		ppm	10	8/29/2013 10:31:29 PM	9096
Trichloroethene (TCE)	ND	0.50		ppm	10	8/29/2013 10:31:29 PM	9096
Vinyl chloride	ND	0.20		ppm	10	8/29/2013 10:31:29 PM	9096
Surr: 1,2-Dichloroethane-d4	92.4	70-130		%REC	10	8/29/2013 10:31:29 PM	9096
Surr: 4-Bromofluorobenzene	94.2	70-130		%REC	10	8/29/2013 10:31:29 PM	9096
Surr: Dibromofluoromethane	94.7	70-130		%REC	10	8/29/2013 10:31:29 PM	9096
Surr: Toluene-d8	94.0	70-130		%REC	10	8/29/2013 10:31:29 PM	9096

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	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 for VOA and TOC only.
	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 1308C34

Date Reported: 9/4/2013

CLIENT: Cypress Engineering

Client Sample ID: MPE 40 Composite 01-50' BGS

Project: TWP Roswell Station 9

Collection Date: 8/27/2013 9:00:00 AM

Lab ID: 1308C34-004

Matrix: SOIL

Received Date: 8/28/2013 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANGE ORGANICS							Analyst: JME
Diesel Range Organics (DRO)	15000	990		mg/Kg	100	9/3/2013 12:44:39 PM	9101
Surr: DNOP	0	63-147	S	%REC	100	9/3/2013 12:44:39 PM	9101
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	190	100		mg/Kg	20	8/30/2013 4:42:38 PM	9096
Surr: BFB	152	80-120	S	%REC	20	8/30/2013 4:42:38 PM	9096
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.50		mg/Kg	20	8/30/2013 4:42:38 PM	9096
Toluene	ND	1.0		mg/Kg	20	8/30/2013 4:42:38 PM	9096
Ethylbenzene	1.3	1.0		mg/Kg	20	8/30/2013 4:42:38 PM	9096
Xylenes, Total	4.3	2.0		mg/Kg	20	8/30/2013 4:42:38 PM	9096
Surr: 4-Bromofluorobenzene	106	80-120		%REC	20	8/30/2013 4:42:38 PM	9096
EPA METHOD 8260B: TCLP COMPOUNDS							Analyst: JMP
Benzene	ND	0.50		ppm	10	8/29/2013 11:56:51 PM	9096
1,2-Dichloroethane (EDC)	ND	0.50		ppm	10	8/29/2013 11:56:51 PM	9096
2-Butanone	ND	200		ppm	10	8/29/2013 11:56:51 PM	9096
Carbon tetrachloride	ND	0.50		ppm	10	8/29/2013 11:56:51 PM	9096
Chlorobenzene	ND	100		ppm	10	8/29/2013 11:56:51 PM	9096
Chloroform	ND	6.0		ppm	10	8/29/2013 11:56:51 PM	9096
1,4-Dichlorobenzene	ND	7.5		ppm	10	8/29/2013 11:56:51 PM	9096
1,1-Dichloroethene	ND	0.70		ppm	10	8/29/2013 11:56:51 PM	9096
Tetrachloroethene (PCE)	ND	0.70		ppm	10	8/29/2013 11:56:51 PM	9096
Trichloroethene (TCE)	ND	0.50		ppm	10	8/29/2013 11:56:51 PM	9096
Vinyl chloride	ND	0.20		ppm	10	8/29/2013 11:56:51 PM	9096
Surr: 1,2-Dichloroethane-d4	92.1	70-130		%REC	10	8/29/2013 11:56:51 PM	9096
Surr: 4-Bromofluorobenzene	117	70-130		%REC	10	8/29/2013 11:56:51 PM	9096
Surr: Dibromofluoromethane	95.4	70-130		%REC	10	8/29/2013 11:56:51 PM	9096
Surr: Toluene-d8	91.3	70-130		%REC	10	8/29/2013 11:56:51 PM	9096

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	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 for VOA and TOC only.
	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 1308C34

Date Reported: 9/4/2013

CLIENT: Cypress Engineering

Client Sample ID: MPE-40 Composite 50-75' BGS

Project: TWP Roswell Station 9

Collection Date: 8/27/2013 10:10:00 AM

Lab ID: 1308C34-005

Matrix: SOIL

Received Date: 8/28/2013 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANGE ORGANICS							Analyst: BCN
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	8/30/2013 3:15:33 PM	9101
Surr: DNOP	96.6	63-147		%REC	1	8/30/2013 3:15:33 PM	9101
EPA METHOD 8015D: GASOLINE RANGE							Analyst: RAA
Gasoline Range Organics (GRO)	150	25		mg/Kg	5	9/3/2013 3:45:14 PM	9096
Surr: BFB	152	80-120	S	%REC	5	9/3/2013 3:45:14 PM	9096
EPA METHOD 8021B: VOLATILES							Analyst: RAA
Benzene	ND	0.25		mg/Kg	5	9/3/2013 3:45:14 PM	9096
Toluene	ND	0.25		mg/Kg	5	9/3/2013 3:45:14 PM	9096
Ethylbenzene	ND	0.25		mg/Kg	5	9/3/2013 3:45:14 PM	9096
Xylenes, Total	0.82	0.50		mg/Kg	5	9/3/2013 3:45:14 PM	9096
Surr: 4-Bromofluorobenzene	108	80-120		%REC	5	9/3/2013 3:45:14 PM	9096
EPA METHOD 8260B: TCLP COMPOUNDS							Analyst: JMP
Benzene	ND	0.50		ppm	10	8/30/2013 12:53:32 AM	9096
1,2-Dichloroethane (EDC)	ND	0.50		ppm	10	8/30/2013 12:53:32 AM	9096
2-Butanone	ND	200		ppm	10	8/30/2013 12:53:32 AM	9096
Carbon tetrachloride	ND	0.50		ppm	10	8/30/2013 12:53:32 AM	9096
Chlorobenzene	ND	100		ppm	10	8/30/2013 12:53:32 AM	9096
Chloroform	ND	6.0		ppm	10	8/30/2013 12:53:32 AM	9096
1,4-Dichlorobenzene	ND	7.5		ppm	10	8/30/2013 12:53:32 AM	9096
1,1-Dichloroethene	ND	0.70		ppm	10	8/30/2013 12:53:32 AM	9096
Tetrachloroethene (PCE)	ND	0.70		ppm	10	8/30/2013 12:53:32 AM	9096
Trichloroethene (TCE)	ND	0.50		ppm	10	8/30/2013 12:53:32 AM	9096
Vinyl chloride	ND	0.20		ppm	10	8/30/2013 12:53:32 AM	9096
Surr: 1,2-Dichloroethane-d4	93.5	70-130		%REC	10	8/30/2013 12:53:32 AM	9096
Surr: 4-Bromofluorobenzene	87.9	70-130		%REC	10	8/30/2013 12:53:32 AM	9096
Surr: Dibromofluoromethane	96.7	70-130		%REC	10	8/30/2013 12:53:32 AM	9096
Surr: Toluene-d8	94.3	70-130		%REC	10	8/30/2013 12:53:32 AM	9096

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	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 for VOA and TOC only.
	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 1308C34

Date Reported: 9/4/2013

CLIENT: Cypress Engineering

Client Sample ID: MPE-41 Composite 50'-75' BGS

Project: TWP Roswell Station 9

Collection Date: 8/27/2013 9:25:00 AM

Lab ID: 1308C34-006

Matrix: SOIL

Received Date: 8/28/2013 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANGE ORGANICS							Analyst: BCN
Diesel Range Organics (DRO)	80	10		mg/Kg	1	8/30/2013 3:46:44 PM	9101
Surr: DNOP	94.9	63-147		%REC	1	8/30/2013 3:46:44 PM	9101
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	15	5.0		mg/Kg	1	8/30/2013 6:08:42 PM	9096
Surr: BFB	163	80-120	S	%REC	1	8/30/2013 6:08:42 PM	9096
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.050		mg/Kg	1	8/30/2013 6:08:42 PM	9096
Toluene	ND	0.050		mg/Kg	1	8/30/2013 6:08:42 PM	9096
Ethylbenzene	ND	0.050		mg/Kg	1	8/30/2013 6:08:42 PM	9096
Xylenes, Total	ND	0.10		mg/Kg	1	8/30/2013 6:08:42 PM	9096
Surr: 4-Bromofluorobenzene	105	80-120		%REC	1	8/30/2013 6:08:42 PM	9096
EPA METHOD 8260B: TCLP COMPOUNDS							Analyst: JMP
Benzene	ND	0.50		ppm	10	8/29/2013 8:07:02 PM	9096
1,2-Dichloroethane (EDC)	ND	0.50		ppm	10	8/29/2013 8:07:02 PM	9096
2-Butanone	ND	200		ppm	10	8/29/2013 8:07:02 PM	9096
Carbon tetrachloride	ND	0.50		ppm	10	8/29/2013 8:07:02 PM	9096
Chlorobenzene	ND	100		ppm	10	8/29/2013 8:07:02 PM	9096
Chloroform	ND	6.0		ppm	10	8/29/2013 8:07:02 PM	9096
1,4-Dichlorobenzene	ND	7.5		ppm	10	8/29/2013 8:07:02 PM	9096
1,1-Dichloroethene	ND	0.70		ppm	10	8/29/2013 8:07:02 PM	9096
Tetrachloroethene (PCE)	ND	0.70		ppm	10	8/29/2013 8:07:02 PM	9096
Trichloroethene (TCE)	ND	0.50		ppm	10	8/29/2013 8:07:02 PM	9096
Vinyl chloride	ND	0.20		ppm	10	8/29/2013 8:07:02 PM	9096
Surr: 1,2-Dichloroethane-d4	90.5	70-130		%REC	10	8/29/2013 8:07:02 PM	9096
Surr: 4-Bromofluorobenzene	90.5	70-130		%REC	10	8/29/2013 8:07:02 PM	9096
Surr: Dibromofluoromethane	94.5	70-130		%REC	10	8/29/2013 8:07:02 PM	9096
Surr: Toluene-d8	92.1	70-130		%REC	10	8/29/2013 8:07:02 PM	9096

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	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 for VOA and TOC only.
	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 1308C34

Date Reported: 9/4/2013

CLIENT: Cypress Engineering

Client Sample ID: MPE Wells 38, 39, 40, 41 Comp

Project: TWP Roswell Station 9

Collection Date: 8/27/2013 9:15:00 AM

Lab ID: 1308C34-007

Matrix: SOIL

Received Date: 8/28/2013 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANGE ORGANICS				Analyst: BCN			
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	8/30/2013 4:18:06 PM	9101
Surr: DNOP	66.3	63-147		%REC	1	8/30/2013 4:18:06 PM	9101
EPA METHOD 8015D: GASOLINE RANGE				Analyst: NSB			
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	8/30/2013 6:37:25 PM	9096
Surr: BFB	94.1	80-120		%REC	1	8/30/2013 6:37:25 PM	9096
EPA METHOD 8021B: VOLATILES				Analyst: NSB			
Benzene	ND	0.050		mg/Kg	1	8/30/2013 6:37:25 PM	9096
Toluene	ND	0.050		mg/Kg	1	8/30/2013 6:37:25 PM	9096
Ethylbenzene	ND	0.050		mg/Kg	1	8/30/2013 6:37:25 PM	9096
Xylenes, Total	ND	0.10		mg/Kg	1	8/30/2013 6:37:25 PM	9096
Surr: 4-Bromofluorobenzene	103	80-120		%REC	1	8/30/2013 6:37:25 PM	9096
EPA METHOD 8260B: TCLP COMPOUNDS				Analyst: JMP			
Benzene	ND	0.50		ppm	10	8/29/2013 8:35:25 PM	9096
1,2-Dichloroethane (EDC)	ND	0.50		ppm	10	8/29/2013 8:35:25 PM	9096
2-Butanone	ND	200		ppm	10	8/29/2013 8:35:25 PM	9096
Carbon tetrachloride	ND	0.50		ppm	10	8/29/2013 8:35:25 PM	9096
Chlorobenzene	ND	100		ppm	10	8/29/2013 8:35:25 PM	9096
Chloroform	ND	6.0		ppm	10	8/29/2013 8:35:25 PM	9096
1,4-Dichlorobenzene	ND	7.5		ppm	10	8/29/2013 8:35:25 PM	9096
1,1-Dichloroethene	ND	0.70		ppm	10	8/29/2013 8:35:25 PM	9096
Tetrachloroethene (PCE)	ND	0.70		ppm	10	8/29/2013 8:35:25 PM	9096
Trichloroethene (TCE)	ND	0.50		ppm	10	8/29/2013 8:35:25 PM	9096
Vinyl chloride	ND	0.20		ppm	10	8/29/2013 8:35:25 PM	9096
Surr: 1,2-Dichloroethane-d4	91.0	70-130		%REC	10	8/29/2013 8:35:25 PM	9096
Surr: 4-Bromofluorobenzene	95.6	70-130		%REC	10	8/29/2013 8:35:25 PM	9096
Surr: Dibromofluoromethane	95.7	70-130		%REC	10	8/29/2013 8:35:25 PM	9096
Surr: Toluene-d8	94.8	70-130		%REC	10	8/29/2013 8:35:25 PM	9096

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 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 for VOA and TOC only.
RL	Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1308C34

04-Sep-13

Client: Cypress Engineering
Project: TWP Roswell Station 9

Sample ID	MB-9101		SampType: MBLK		TestCode: EPA Method 8015D: Diesel Range Organics					
Client ID:	PBS		Batch ID: 9101		RunNo: 12963					
Prep Date:	8/29/2013		Analysis Date: 8/29/2013		SeqNo: 370092		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Surr: DNOP	7.9		10.00		78.5	63	147			

Sample ID	LCS-9101		SampType: LCS		TestCode: EPA Method 8015D: Diesel Range Organics					
Client ID:	LCSS		Batch ID: 9101		RunNo: 12963					
Prep Date:	8/29/2013		Analysis Date: 8/29/2013		SeqNo: 370093		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	59	10	50.00	0	119	77.1	128			
Surr: DNOP	4.1		5.000		82.1	63	147			

Sample ID	1308C34-002AMSD		SampType: MSD		TestCode: EPA Method 8015D: Diesel Range Organics					
Client ID:	MPE-39 Composite		Batch ID: 9101		RunNo: 12997					
Prep Date:	8/29/2013		Analysis Date: 8/30/2013		SeqNo: 370991		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	54	10	49.75	15.25	77.1	61.3	138	7.90	20	
Surr: DNOP	4.5		4.975		91.0	63	147	0	0	

Sample ID	1308C34-002AMS		SampType: MS		TestCode: EPA Method 8015D: Diesel Range Organics					
Client ID:	MPE-39 Composite		Batch ID: 9101		RunNo: 12997					
Prep Date:	8/29/2013		Analysis Date: 8/30/2013		SeqNo: 370995		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	50	9.9	49.70	15.25	69.0	61.3	138			
Surr: DNOP	4.2		4.970		85.2	63	147			

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 for VOA and TOC only.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1308C34

04-Sep-13

Client: Cypress Engineering
Project: TWP Roswell Station 9

Sample ID MB-9096	SampType: MBLK			TestCode: EPA Method 8015D: Gasoline Range						
Client ID: PBS	Batch ID: 9096			RunNo: 12996						
Prep Date: 8/28/2013	Analysis Date: 8/30/2013			SeqNo: 371539		Units: mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	860		1000		85.6	80	120			

Sample ID LCS-9096	SampType: LCS			TestCode: EPA Method 8015D: Gasoline Range						
Client ID: LCSS	Batch ID: 9096			RunNo: 12996						
Prep Date: 8/28/2013	Analysis Date: 8/30/2013			SeqNo: 371540		Units: mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	27	5.0	25.00	0	107	74.5	126			
Surr: BFB	1000		1000		102	80	120			

Sample ID MB-9117	SampType: MBLK			TestCode: EPA Method 8015D: Gasoline Range						
Client ID: PBS	Batch ID: 9117			RunNo: 13041						
Prep Date: 8/30/2013	Analysis Date: 9/3/2013			SeqNo: 372358		Units: %REC				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	920		1000		91.9	80	120			

Sample ID LCS-9117	SampType: LCS			TestCode: EPA Method 8015D: Gasoline Range						
Client ID: LCSS	Batch ID: 9117			RunNo: 13041						
Prep Date: 8/30/2013	Analysis Date: 9/3/2013			SeqNo: 372359		Units: %REC				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	1000		1000		100	80	120			

Sample ID 1308C34-003AMS	SampType: MS			TestCode: EPA Method 8015D: Gasoline Range						
Client ID: MPE-38 Composite	Batch ID: 9096			RunNo: 13041						
Prep Date: 8/28/2013	Analysis Date: 9/3/2013			SeqNo: 372364		Units: mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	37	5.0	24.98	15.88	84.0	76	156			
Surr: BFB	1500		999.0		151	80	120			S

Sample ID 1308C34-003AMSD	SampType: MSD			TestCode: EPA Method 8015D: Gasoline Range						
Client ID: MPE-38 Composite	Batch ID: 9096			RunNo: 13041						
Prep Date: 8/28/2013	Analysis Date: 9/3/2013			SeqNo: 372365		Units: mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	38	5.0	24.98	15.88	88.7	76	156	3.09	17.7	
Surr: BFB	1600		999.0		158	80	120	0	0	S

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 for VOA and TOC only. |
| 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#: 1308C34

04-Sep-13

Client: Cypress Engineering
Project: TWP Roswell Station 9

Sample ID	MB-9096		SampType:	MBLK		TestCode:	EPA Method 8021B: Volatiles			
Client ID:	PBS		Batch ID:	9096		RunNo:	12996			
Prep Date:	8/28/2013		Analysis Date:	8/30/2013		SeqNo:	371602		Units: mg/Kg	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.050								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	0.94		1.000		93.6	80	120			

Sample ID	LCS-9096		SampType:	LCS		TestCode:	EPA Method 8021B: Volatiles			
Client ID:	LCSS		Batch ID:	9096		RunNo:	12996			
Prep Date:	8/28/2013		Analysis Date:	8/30/2013		SeqNo:	371603		Units: mg/Kg	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.98	0.050	1.000	0	98.1	80	120			
Toluene	0.98	0.050	1.000	0	98.2	80	120			
Ethylbenzene	0.99	0.050	1.000	0	98.7	80	120			
Xylenes, Total	3.0	0.10	3.000	0	99.5	80	120			
Surr: 4-Bromofluorobenzene	1.0		1.000		103	80	120			

Sample ID	MB-9117		SampType:	MBLK		TestCode:	EPA Method 8021B: Volatiles			
Client ID:	PBS		Batch ID:	9117		RunNo:	13041			
Prep Date:	8/30/2013		Analysis Date:	9/3/2013		SeqNo:	372398		Units: %REC	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	1.0		1.000		103	80	120			

Sample ID	LCS-9117		SampType:	LCS		TestCode:	EPA Method 8021B: Volatiles			
Client ID:	LCSS		Batch ID:	9117		RunNo:	13041			
Prep Date:	8/30/2013		Analysis Date:	9/3/2013		SeqNo:	372399		Units: %REC	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	1.0		1.000		102	80	120			

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 for VOA and TOC only. |
| 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#: 1308C34

04-Sep-13

Client: Cypress Engineering
Project: TWP Roswell Station 9

Sample ID mb-9096	SampType: MBLK		TestCode: EPA Method 8260B: TCLP Compounds							
Client ID: PBS	Batch ID: 9096		RunNo: 12983							
Prep Date: 8/28/2013	Analysis Date: 8/29/2013		SeqNo: 370513		Units: ppm					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.050								
1,2-Dichloroethane (EDC)	ND	0.050								
2-Butanone	ND	20								
Carbon tetrachloride	ND	0.050								
Chlorobenzene	ND	10								
Chloroform	ND	0.60								
1,4-Dichlorobenzene	ND	0.75								
1,1-Dichloroethene	ND	0.070								
Tetrachloroethene (PCE)	ND	0.070								
Trichloroethene (TCE)	ND	0.050								
Vinyl chloride	ND	0.020								
Surr: 1,2-Dichloroethane-d4	0.45		0.5000		90.6	70	130			
Surr: 4-Bromofluorobenzene	0.45		0.5000		90.5	70	130			
Surr: Dibromofluoromethane	0.48		0.5000		95.1	70	130			
Surr: Toluene-d8	0.49		0.5000		98.2	70	130			

Sample ID LCS-9096	SampType: LCS		TestCode: EPA Method 8260B: TCLP Compounds							
Client ID: LCSS	Batch ID: 9096		RunNo: 12983							
Prep Date: 8/28/2013	Analysis Date: 8/29/2013		SeqNo: 370514		Units: ppm					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.0	0.050	1.000	0	104	70	130			
Chlorobenzene	0.98	0.50	1.000	0	97.8	70	130			
1,1-Dichloroethene	1.3	0.070	1.000	0	133	69.3	131			S
Trichloroethene (TCE)	1.0	0.050	1.000	0	101	70	130			
Surr: 1,2-Dichloroethane-d4	0.47		0.5000		94.0	70	130			
Surr: 4-Bromofluorobenzene	0.45		0.5000		90.5	70	130			
Surr: Dibromofluoromethane	0.48		0.5000		96.7	70	130			
Surr: Toluene-d8	0.49		0.5000		97.7	70	130			

Sample ID 1308c34-001ams	SampType: MS		TestCode: EPA Method 8260B: TCLP Compounds							
Client ID: Comp Soil MW-39 -	Batch ID: 9096		RunNo: 12983							
Prep Date: 8/28/2013	Analysis Date: 8/29/2013		SeqNo: 370516		Units: ppm					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.1	0.50	1.000	0	109	65.1	127			
Chlorobenzene	0.88	0.10	1.000	0	88.0	66.8	129			
1,1-Dichloroethene	1.3	0.70	1.000	0.1019	120	44.1	148			
Trichloroethene (TCE)	1.1	0.50	1.000	0.1053	102	63.2	122			
Surr: 1,2-Dichloroethane-d4	4.7		5.000		94.4	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 for VOA and TOC only. |
| 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#: 1308C34

04-Sep-13

Client: Cypress Engineering
Project: TWP Roswell Station 9

Sample ID	1308c34-001ams	SampType:	MS	TestCode:	EPA Method 8260B: TCLP Compounds					
Client ID:	Comp Soil MW-39 -	Batch ID:	9096	RunNo:	12983					
Prep Date:	8/28/2013	Analysis Date:	8/29/2013	SeqNo:	370516	Units:	ppm			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	4.5		5.000		90.8	70	130			
Surr: Dibromofluoromethane	4.9		5.000		97.2	70	130			
Surr: Toluene-d8	4.6		5.000		92.9	70	130			

Sample ID	1308c34-001amsd	SampType:	MSD	TestCode:	EPA Method 8260B: TCLP Compounds					
Client ID:	Comp Soil MW-39 -	Batch ID:	9096	RunNo:	12983					
Prep Date:	8/28/2013	Analysis Date:	8/29/2013	SeqNo:	370517	Units:	ppm			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.1	0.50	1.000	0	105	65.1	127	3.61	20	
Chlorobenzene	0.85	0.10	1.000	0	85.1	66.8	129	3.39	20	
1,1-Dichloroethene	1.2	0.70	1.000	0.1019	112	44.1	148	6.21	20	
Trichloroethene (TCE)	1.1	0.50	1.000	0.1053	94.9	63.2	122	6.44	20	
Surr: 1,2-Dichloroethane-d4	4.6		5.000		92.3	70	130	0	0	
Surr: 4-Bromofluorobenzene	4.6		5.000		92.9	70	130	0	0	
Surr: Dibromofluoromethane	4.8		5.000		96.0	70	130	0	0	
Surr: Toluene-d8	4.8		5.000		95.8	70	130	0	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 for VOA and TOC only. |
| R RPD outside accepted recovery limits | RL Reporting Detection Limit |
| S Spike Recovery outside accepted recovery limits | |



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

Sample Log-In Check List

Client Name: CYP

Work Order Number: 1308C34

RcptNo: 1

Received by/date:

LM

08/28/13

Logged By: Michelle Garcia

8/28/2013 10:00:00 AM

Michelle Garcia

Completed By: Michelle Garcia

8/28/2013 11:41:15 AM

Michelle Garcia

Reviewed By:

[Signature]

08/28/13

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? UPS

Log In

4. Was an attempt made to cool the samples? Yes ☒ No ☐ NA ☐
5. Were all samples received at a temperature of $>0^{\circ}\text{C}$ 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?
(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:
(<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:

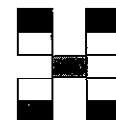
17. Additional remarks:

18. Cooler Information

Cooler No	Temp $^{\circ}\text{C}$	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	4.6	Good	Yes			

Chain-of-Custody Record

Turn-Around Time:



**HALL ENVIRONMENTAL
ANALYSIS LABORATORY**

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Client: CYPRESS ENGINEERING SERVICES INC.

☒ Standard ☐ Rush

ATTN: George Robinson PE

Project Name: Twp Roswell Station 9

Mailing Address: 1171 Highway 6 North Ste 102

Project #: New Monitor + MPE Well Installation 2013
02.2012.0037.00

Houston, Texas 77045

Phone #: 281.797.3420

Project Manager: George Robinson, PE
Stacy Boultinghouse, PE ETP

email or Fax#: george.robinson@

QA/QC Package: Cypress Inc. US-

☒ Standard ☐ Level 4 (Full Validation)

Accreditation

☐ NELAP ☐ Other _____

☐ EDD (Type) _____

Sampler: CM Barnhill, PE

On Ice: ☒ Yes ☐ No

Sample Temperature: 4.5

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No	BTEX + MT	BTEX + MT	TPH 8015B	TPH (Metho	EDB (Metho	PAH's (831	RCRA 8 Met	Anions (F, O	8081 Pestic	8260B (VO	8270 (Semi	TCLP	BTEX
8/27/13	10:40	SOIL	Composite Soil Sample MW-39 thru MW-42 Soil Cuttings 0'-70' BGS	2x402 6/1 Jar	None	-001												X	
8/27/13	0945	SOIL	MPE-39 Composite 50'-75' BGS	2x402 6/1 Jar	None	-002			X									X	X
8/27/13	0930	SOIL	MPE-38 Composite 50'-75' BGS	2x402 6/1 Jar	None	-003			X									X	X
8/27/13	0900	SOIL	MPE-40 Composite 0'-50' BGS	2x402 6/1 Jar	None	-004			X									X	X
8/27/13	1010	SOIL	MPE-40 Composite 50'-75' BGS	2x402 6/1 Jar	None	-005			X									X	X
8/27/13	0925	SOIL	MPE-41 Composite 50'-75' BGS	2x402 6/1 Jar	None	-006			X									X	X
8/27/13	0915	SOIL	MPE Wells 38, 39, 40, 41 Composite 0'-50' BGS	2x402 6/1 Jar	None	-007			X									X	X

Date: 8/27/13 Time: 1500 Relinquished by: [Signature]

Received by: [Signature] Date: 8/28/13 Time: 1000

Remarks: Any Questions Please Call
George Robinson
281.797.3420

Contaminated Soils Shipment Manifest

1. Manifest Document No.

010212 2013

2.

Page ____ of ____

3. Generator's Name and Mailing Address

TWP ROSWELL STATION #9
NORTH MAIN STREET
ROSWELL, NM 88201

4. Generator Phone No.

5. Generator Contact

6. Transporter 1 Company Name

A. Murky LLC

7. ID No.

1670486

8. Transporter 2 Company Name

9. ID No.

10. Designated Disposal Facility Name and Site Address

Gandy Marley, Inc. Contaminated Soils Landfarm

7200 East Second Street

PO Box 1658

Roswell, NM 88201

11. Facility Permit Number

NM 711-1-0020

12. Facility Phone No.

(575) 398-0107

13. Description of Waste

14. Containers

15. Total
Quantity

16. Unit
Wt. Vol.

a.

Hg description Contaminated Soil

9 dm

9 LMS

b.

c.

17. Special Handling Instructions and Additional Information

18. Generator's Certification:

I hereby declare that the contents of the consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable federal, state, and international laws.

FURTHER, I represent and warrant that the waste material as described on this manifest is either exempt from the Resource Conservation and Recovery Act of 1976, OR has been characterized as non-hazardous material by virtue of appropriate laboratory analysis done in accordance with EPA-approved testing methods.

Printed/Typed Name

Bill Murky

Signature

Date

19. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name

Bill Murky

Signature

Date

10/22/13

20. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name

Signature

Date

21. Discrepancy Information

22. Facility Owner or Operator Certification of receipt of materials described on this manifest except as noted in item 21.

Printed/Typed Name

Bob Riley

Signature

Date

11/02/13

GENERATOR

TRANSPORTER

GMI

N.M.E.D. - DP-1041

Gandy Marley, Inc.

P.O. BOX 1658 · ROSWELL, NM 88202

LOAD INSPECTION FORM No. 15189Date of Receipt: 10-22-13 Time of Receipt: _____ AM
PM Cell Placement: #7Quantity: 9 T/CY: clm Description: Wst SoilName/Address of Generator: TWP Roswell Station #9Origin of Materials (if different): Roswell NM, 6381 N Main St.Transporter Name: R Marley SCC ID No. _____

Name of Laboratory Performing Sample Analysis: _____

TCLP (EPA Method 1311) _____ BTEX _____ MTBE _____ TPH _____ Non-Hazardous ✓ Exempt ✓

Verification of No Free Liquids _____ Paint Filter Liquids Test Performed _____

Verification of Property Completed Manifest ✓ Generator Manifest Number 0102220131

As a condition to Gandy Marley, Inc's acceptance of the materials shipped as represented on this Load Inspection Form, Generator represents and warrants that the waste material shipped herewith is exempt from the Resource Conservation and Recovery Act of 1976, as amended from time to time, 40 U.S.C Section 6901, et seq., The New Mexico Health and Safety Code, section 391.001, et seq., and regulations related thereto, OR has been characterized as non-hazardous material by virtue of appropriate laboratory analysis done in accordance with EPA-approved testing methods.

Further, as a condition to Gandy Marley, Inc's acceptance of the materials shipped as represented on this Load Inspection Form, Transporter represents and warrants that only the material delivered by Generator to Transporter to Gandy Marley, Inc.'s facility for disposal.

THIS WILL CERTIFY that the above Transporter loaded the material as represented on this Load Inspection Form at the above described location, and that it was tendered by the above described Generator. THIS WILL CERTIFY that no additional materials were added to this load, and that the material was delivered without incident.

Transporter: Bill Marley Print Name [Signature] SignatureGMI Employee: Bert Riley Print Name [Signature] Signature