3R – 173

2013 AGWMR

08 / 22 / 2014

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ConocoPhillips

Mr. Glenn von Gonten
New Mexico Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

August 22, 2014

Re: NMOCD Case No. 3R-173, 2013 Annual Groundwater Monitoring Report

Dear Mr. von Gonten:

Enclosed is the 2013 Annual Groundwater Monitoring Report for the Flora Vista No. 1 site. This report, prepared by Conestoga-Rovers & Associates (CRA), contains the results of groundwater monitoring from March, June, September, and December 2013.

Please let me know if you have any questions.

Sincerely,

David C. Hathaway, P.E.

Enc

CONESTOGA-ROVERS & ASSOCIATES

www.CRAworld.com

Final Report

2013 Annual Groundwater Monitoring Report

ConocoPhillips Flora Vista No. 1
San Juan County, New Mexico
API# 30-045-20073
NMOCD# 3R-173

Prepared for: ConocoPhillips Company

Conestoga-Rovers & Associates
6121 Indian School Road, NE Suite 200
Albuquerque, New Mexico 87110

September 2014 • 074926 • Report No. 5

Partners in Sustainability

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Section 1.0 Introduction

This annual report presents the results of the quarterly groundwater monitoring events conducted by Conestoga-Rovers & Associates (CRA) during 2013 at the Flora Vista No. 1 natural gas well site (Site), operated by Burlington Resources Oil & Gas Company LP (Burlington), a wholly owned subsidiary of ConocoPhillips Company (ConocoPhillips) (**Figure 1**). The Site is located on private property in Unit Letter F, Section 22, Township 30N, Range 12W, of San Juan County, New Mexico. The Site consists of a gas well and associated equipment and installations. A detailed Site layout map is provided as **Figure 2**.

1.1 Background

A previous operator removed an earthen dehydrator pit from service in March 1994. Hydrocarbon impacted soil was subsequently excavated in April 1994 and again in November 1995. A pit closure report was submitted to New Mexico Oil Conservation Division (NMOCD) in August 1996 by El Paso Field Services. NMOCD issued a letter to El Paso Field Services on January 24, 1997 approving pit closure and remediation.

Burlington encountered hydrocarbon-impacted soil at the Site during a production facility resetting activity in early 2003. Burlington subsequently directed the excavation of approximately 9,443 cubic yards of soil in an attempt to remove impacted soils. Groundwater was observed in the bottom of the excavation at approximately 25 feet below the ground surface. Field screening was conducted during excavation to determine the extent of impacted soil. To enhance the remediation of the remaining amounts of residual hydrocarbon contamination in the excavated area, approximately 80 barrels (bbls) of a potassium permanganate were sprayed on the soil.

In September 2003, Envirotech installed a groundwater monitor well (MW-1) slightly downgradient from the center of the excavation (**Figure 2**). Subsequent monitoring during September 2003 included analyses for benzene, toluene, ethylbenzene, and total xylenes (BTEX), as well as total petroleum hydrocarbons (TPH). Groundwater analyses indicated the presence of benzene and total xylenes above regulatory standards. Monitor Wells MW-2, MW-3, and MW-4 were installed at the Site in August 2008 in response to an April 2008 request from NMOCD for Site characterization and enhanced laboratory analyses.

A generalized geologic cross section was prepared using boring logs from the August 2008 monitor well installation and is presented as **Figure 3**. In an attempt to actively remediate soil and groundwater at the Site, mobile dual phase extraction (MDPE) was conducted on August 21st and 22nd, 2013. A report detailing this event is included in **Appendix A**.

The Flora Vista No. 1 Site history is summarized in **Table 1**.

Section 2.0 Mobile Dual Phase Extraction

In addition to annual groundwater sampling during September 2013, CRA provided oversight for an MDPE event conducted on August 21st and 22nd, 2013 by AcuVac of Houston, TX. MDPE is a process combining soil vapor extraction (SVE) with groundwater depression to maximize mass removal of liquid and vapor phase hydrocarbons. A submersible pump is used to simultaneously remove dissolved-phase contaminated groundwater, induce a hydraulic gradient toward the extraction well, and to create the groundwater depression, exposing the capillary fringe, or smear zone, to SVE. Recovered liquids were discharged to the on-site produced water tank. Recovered vapors were used as fuel and burned in the MDPE internal combustion engine (ICE). Power generated by the ICE is used to create the induced vacuum for SVE.

During the two days of MDPE, an estimated 0.53 gallons of light non-aqueous phase liquid (LNAPL) (liquid and vapor) were extracted from Monitor Wells MW-1 and MW-4; and approximately 1,292 gallons of water were removed. High oxygen readings from both wells suggest short-circuiting from the surface. One event at MW-1 was performed for 4.5 hours. Two events at MW-4 were performed for a total of 12.5 hours. Data from the September 2013 groundwater monitoring event indicate that, while the MDPE event was effective in removing a significant mass of hydrocarbon-impacted water, elevated concentrations remain in the groundwater in the vicinity of MW-1 and MW-4 (see Section 3.2). The complete report for MDPE activities performed at the Site was provided by AcuVac and is included as **Appendix A.**

Section 3.0 Groundwater Monitoring Summary Methodology and Analytical Results

3.1 Groundwater Monitoring Summary

During 2013 quarterly sampling events conducted on March 20, June 12, September 11, and December 13, groundwater elevation measurements were recorded in Monitor Wells MW-1, MW-2, MW-3, and MW-4 using an oil/water interface probe. Groundwater elevations are detailed in **Table 2**. Groundwater potentiometric surface maps created from 2013 data are presented as **Figures 4, 5, 6,** and **7.** Based on the 2013 monitoring events data, groundwater flow is to the southwest and is consistent with historical monitoring event records for this Site.

3.2 Groundwater Monitoring Methodology

During monitoring events, at least three well volumes were purged from Site Monitor Wells with a dedicated polyethylene 1.5-inch disposable bailer prior to sampling. If three well volumes could not be purged, wells were purged until dry and allowed to recharge prior to sampling. Purge water generated during purging of Site monitor wells was disposed of in the on-Site produced water tank (**Figure 2**).

Groundwater samples were placed in laboratory prepared bottles, packed on ice, and shipped under chain-of-custody documentation to Pace Analytical Services, Inc. of Lenexa, KS. Samples were analyzed for the presence of BTEX by Environmental Protection Agency (EPA) Method 8260, and dissolved iron and dissolved manganese by EPA Method 6010. CRA groundwater sampling field forms are included as **Appendix A**.

Additionally, groundwater samples were collected from two down-gradient domestic irrigation wells. Domestic irrigation wells DW-1 and DW-2, located at 32 Road 3581 and 34 Road 3581, Flora Vista, NM, respectively, were sampled on June 12, 2013. Groundwater samples collected from DW-1 and DW-2 were analyzed for the presence of BTEX by EPA Method 8260.

3.3 Groundwater Monitoring Analytical Results

Groundwater samples collected during 2013 quarterly sampling events from Monitor Wells MW-2 and MW-3 and domestic irrigation wells DW-1 and DW-2 did not exceed New Mexico Water Quality Control Commission (NMWQCC) groundwater quality standards for any target constituents. Groundwater collected from Monitor Wells MW-1 and MW-4 exceeded the NMWQCC standards for the following constituents:

March 2013

- **Benzene** – The NMWQCC standard for benzene is 0.010 milligrams per liter (mg/L). The concentration of benzene found in the groundwater sample collected from MW-1 was 0.182 mg/L.
- **Dissolved Iron** – The NMWQCC standard for dissolved iron is 1 mg/L. The concentrations of dissolved iron found in groundwater samples collected from MW-1 and MW-4 were 9.39 mg/L and 1.82 mg/L, respectively.
- **Dissolved Manganese** – The NMWQCC standard for dissolved manganese is 0.2 mg/L. The concentrations of dissolved manganese found in groundwater samples collected from MW-1 and MW-4 were 1.08 mg/L and 4.37 mg/L, respectively.

June 2013

- **Benzene** – The concentrations of benzene found in groundwater samples collected from MW-1 and MW-4 were 0.698 mg/L and 0.0588 mg/L, respectively.
- **Xylenes** – The concentration of xylenes found in the groundwater sample collected from MW-1 was 0.633 mg/L.
- **Dissolved Iron** – The concentrations of dissolved iron found in groundwater samples collected from MW-1 and MW-4 were 12.8 mg/L and 1.53 mg/L, respectively.
- **Dissolved Manganese** – The concentrations of dissolved manganese found in groundwater samples collected from MW-1 and MW-4 were 1.12 mg/L and 4.29 mg/L, respectively.

September 2013

- **Benzene** – The concentrations of benzene found in groundwater samples collected from MW-1 and MW-4 were 1.5 mg/L and 0.0166 mg/L, respectively.
- **Ethylbenzene** – The NMWQCC standard for benzene is 0.75 milligrams per liter (mg/L). The concentration of ethylbenzene found in the groundwater sample collected from MW-1 was 0.670 mg/L.
- **Xylenes** – The concentration of xylenes found in the groundwater sample collected from MW-1 was 5.10 mg/L.
- **Dissolved Iron** – The concentrations of dissolved iron found in groundwater samples collected from MW-1 and MW-4 were 18.0 mg/L and 3.10 mg/L, respectively.
- **Dissolved Manganese** – The concentrations of dissolved manganese found in groundwater samples collected from MW-1 and MW-4 were 1.05 mg/L and 4.35 mg/L, respectively.

December 2013

- **Benzene** – The concentrations of benzene found in groundwater samples collected from MW-1 and MW-4 were 0.591 mg/L and 0.362 mg/L, respectively.
- **Xylenes** – The concentration of xylenes found in the groundwater sample collected from MW-1 was 1.790 mg/L.
- **Dissolved Iron** – The concentrations of dissolved iron found in groundwater samples collected from MW-1 and MW-4 were 25.4 mg/L and 2.7 mg/L, respectively.
- **Dissolved Manganese** – The concentrations of dissolved manganese found in groundwater samples collected from MW-1 and MW-4 were 0.88 mg/L and 4.8 mg/L, respectively.

Benzene concentration maps for the 2013 quarterly groundwater monitoring events are presented in **Figures 8, 9, 10, and 11.** A summary of the historical groundwater laboratory analytical results is presented in **Table 3**. The 2013 laboratory analytical reports are included in **Appendix B**.

Section 4.0 Conclusions and Recommendations

Groundwater samples collected from MW-1 and MW-4 and have consistently exceeded NMWQCC groundwater quality standards for benzene, dissolved iron, and dissolved manganese from October 2008 through December 2013 and have intermittently exceeded the NMWQCC groundwater quality standard for dissolved iron. Groundwater samples from MW-1 have also historically exceeded the NMWQCC groundwater quality standard for xylenes and have intermittently exceeded the standard for ethylbenzene. BTEX constituent concentrations exhibit a decreasing trend over time in MW-1 and MW-4.

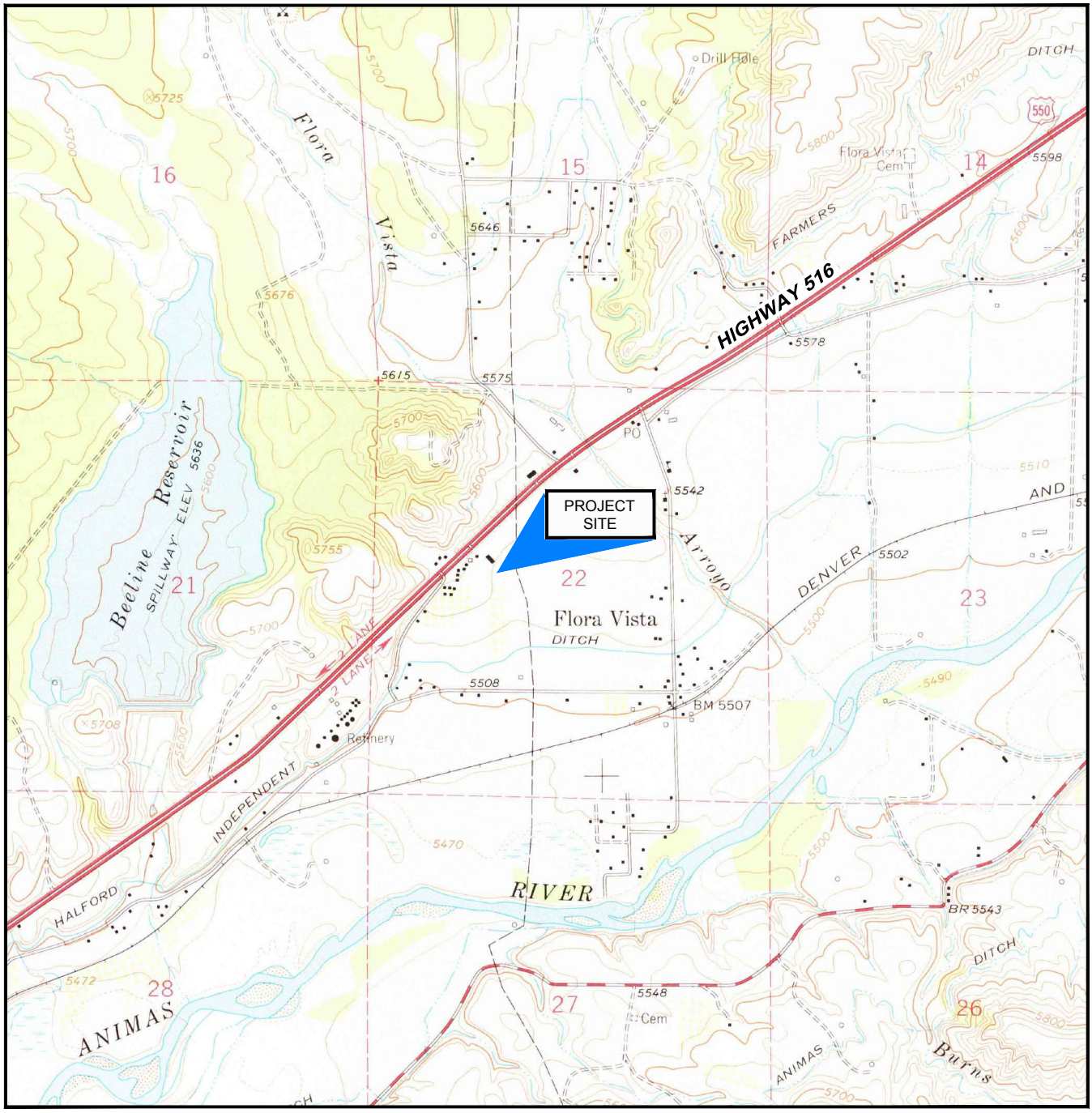
Based on the historical groundwater quality data, groundwater samples collected from MW-2, MW-3, DW-1 and DW-2 have never exceeded NMWQCC groundwater quality standards for any target groundwater quality constituents.

The MDPE event during August 2013 was successful at removing significant quantities of impacted groundwater from MW-1 and MW-4. Due to apparent short-circuiting of air from the surface, however, MDPE does not appear to be an optimal method of remediation at the Site.

CRA recommends the installation of a groundwater monitoring well between Monitor Well MW-1 and the storage tank to the north of MW-1 (Figure 12) to assess subsurface soils and groundwater quality conditions in this area. Collected soil and groundwater samples would be analyzed for hydrocarbons.

CRA recommends the continuation of quarterly sampling of all Site monitor wells and periodic sampling of DW-1 and DW-2 in order to monitor ongoing natural attenuation at the Site. The next sampling event will take place in March 2014. CRA will collect samples for BTEX, dissolved iron, and dissolved manganese. The results of the monitoring for 2014 will be summarized in an annual report and submitted to the NMOCD during the first half of 2015.

Figures



SOURCE: USGS 7.5 MINUTE QUADS
"FLORA VISTA, NEW MEXICO"

N

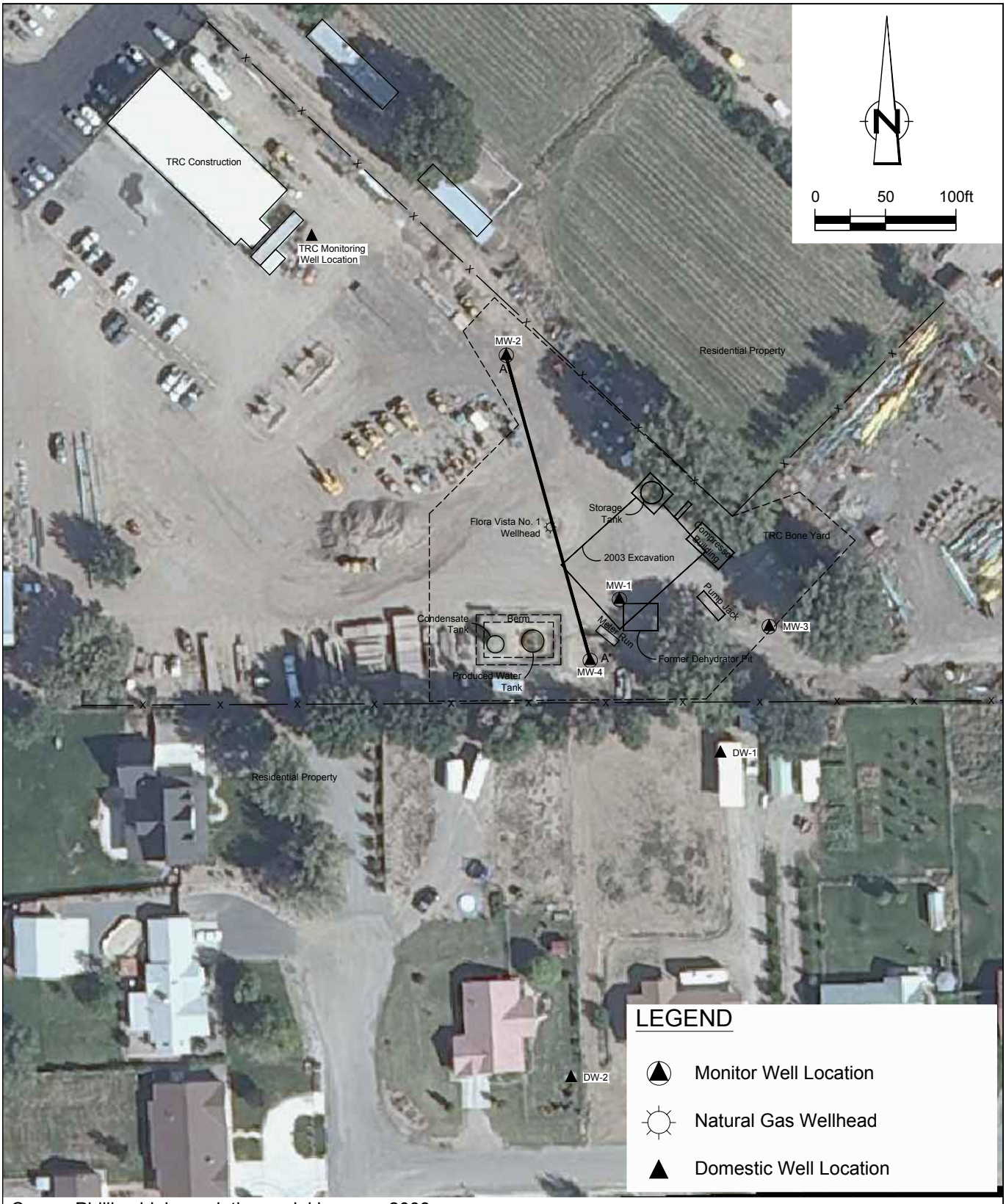
0 1000 2000ft

Figure 1

SITE VICINITY MAP
FLORA VISTA NO. 1 NATURAL GAS WELL SITE
SECTION 22, T30N-R12W, SAN JUAN COUNTY, NEW MEXICO
ConocoPhillips Company

CPA

074926-95(004)GN-DL001_Topo JUL 27/2012



ConocoPhillips high resolution aerial imagery 2008.

Figure 2

SITE PLAN
FLORA VISTA NO. 1 NATURAL GAS WELL SITE
SECTION 22, T30N-R12W, SAN JUAN COUNTY, NEW MEXICO
ConocoPhillips Company

074926-95(004)GN-DL002_SD JUL 27/2012

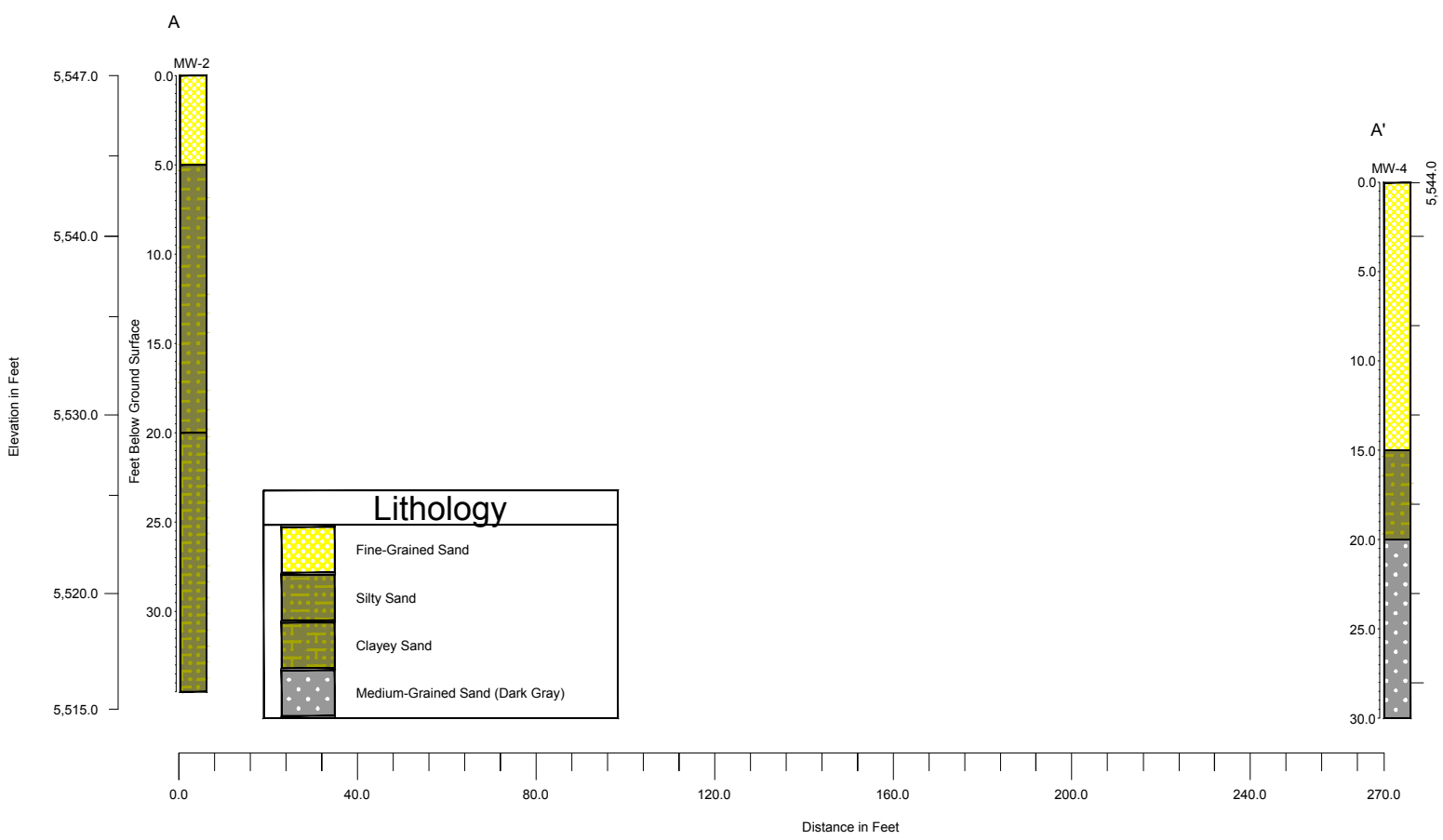


Figure 3

GEOLOGICAL CROSS SECTION
FLORA VISTA NO. 1 NATURAL GAS WELL SITE
SECTION 22, T30N-R12W, SAN JUAN COUNTY, NEW MEXICO
ConocoPhillips Company

074926-95(004)GN-DL003_X-sec JUL 27/2012

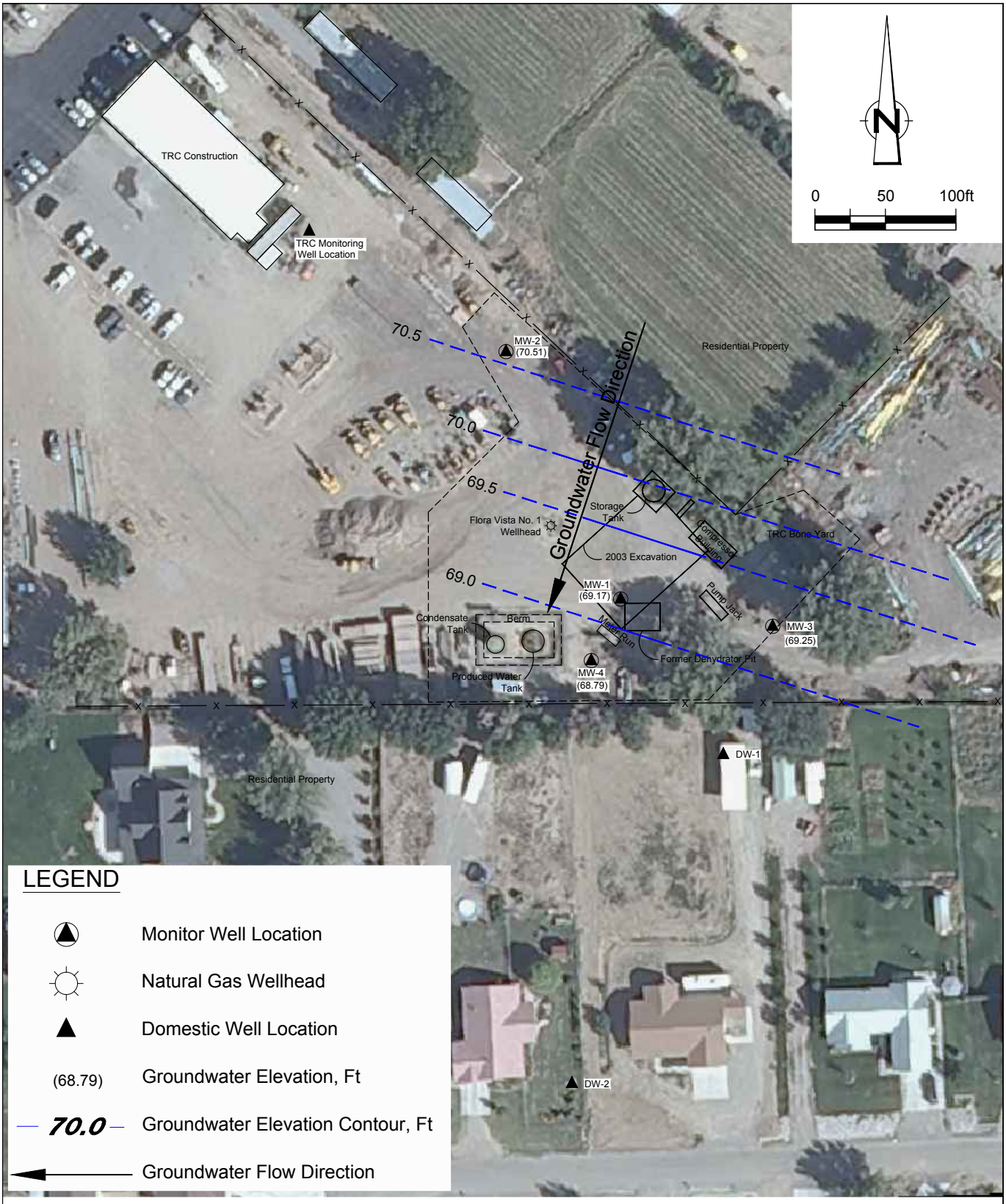


Figure 4

MARCH 2013 GROUNDWATER POTENTIOMETRIC SURFACE MAP
FLORA VISTA NO. 1 NATURAL GAS WELL SITE
SECTION 22, T30N-R12W, SAN JUAN COUNTY, NEW MEXICO
ConocoPhillips Company

074926-95(005)GN-DL004_GG AUG 28/2013

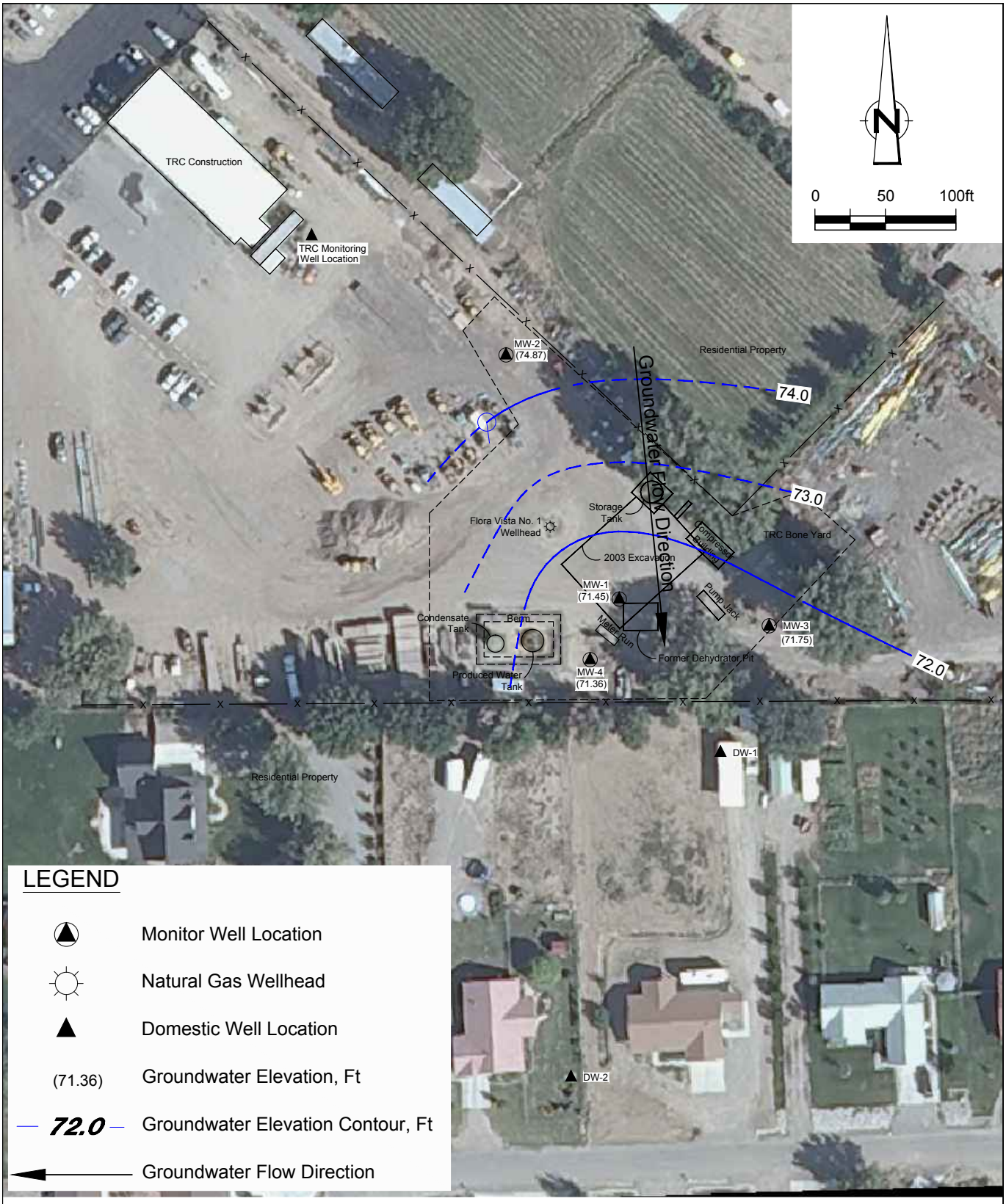


Figure 5

JUNE 2013 GROUNDWATER POTENTIOMETRIC SURFACE MAP
FLORA VISTA NO. 1 NATURAL GAS WELL SITE
SECTION 22, T30N-R12W, SAN JUAN COUNTY, NEW MEXICO
ConocoPhillips Company

074926-95(005)GN-DL004_GG APR 2/2014

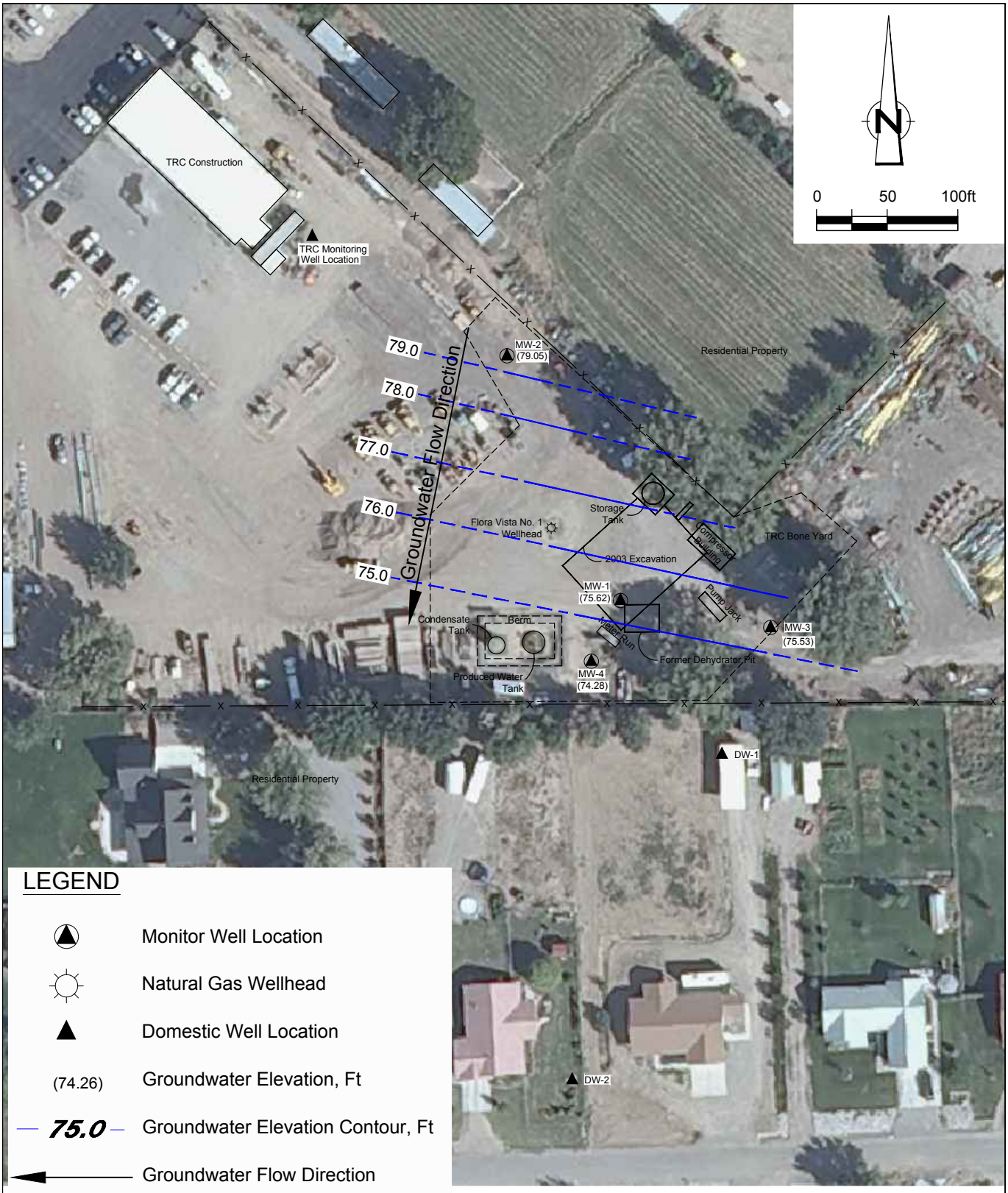


Figure 6

SEPTEMBER 2013 GROUNDWATER POTENTIOMETRIC SURFACE MAP
FLORA VISTA NO. 1 NATURAL GAS WELL SITE
SECTION 22, T30N-R12W, SAN JUAN COUNTY, NEW MEXICO
ConocoPhillips Company

074926-95(005)GN-DL004_GG APR 2/2014

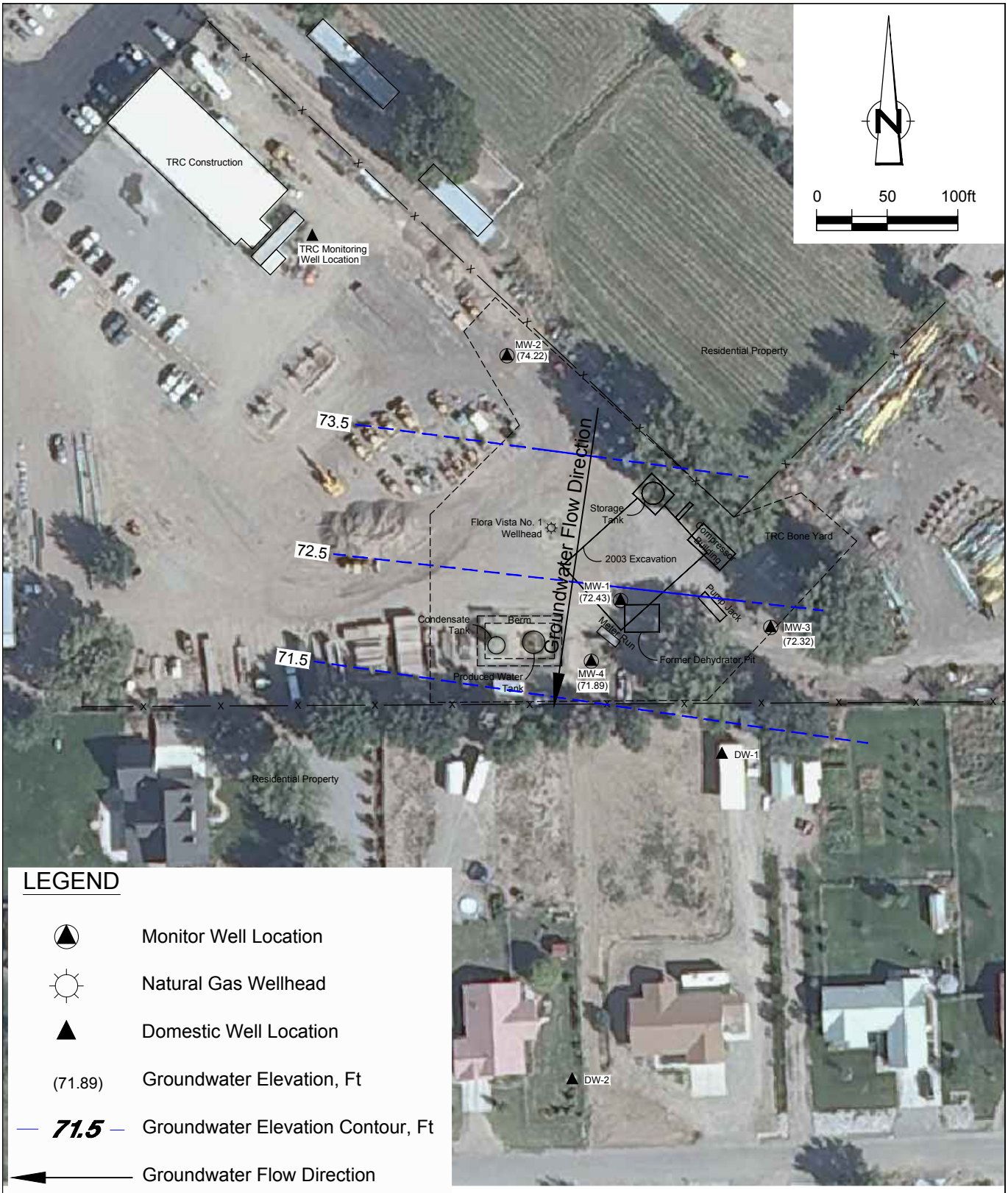


Figure 7

DECEMBER 2013 GROUNDWATER POTENTIOMETRIC SURFACE MAP
FLORA VISTA NO. 1 NATURAL GAS WELL SITE
SECTION 22, T30N-R12W, SAN JUAN COUNTY, NEW MEXICO
ConocoPhillips Company

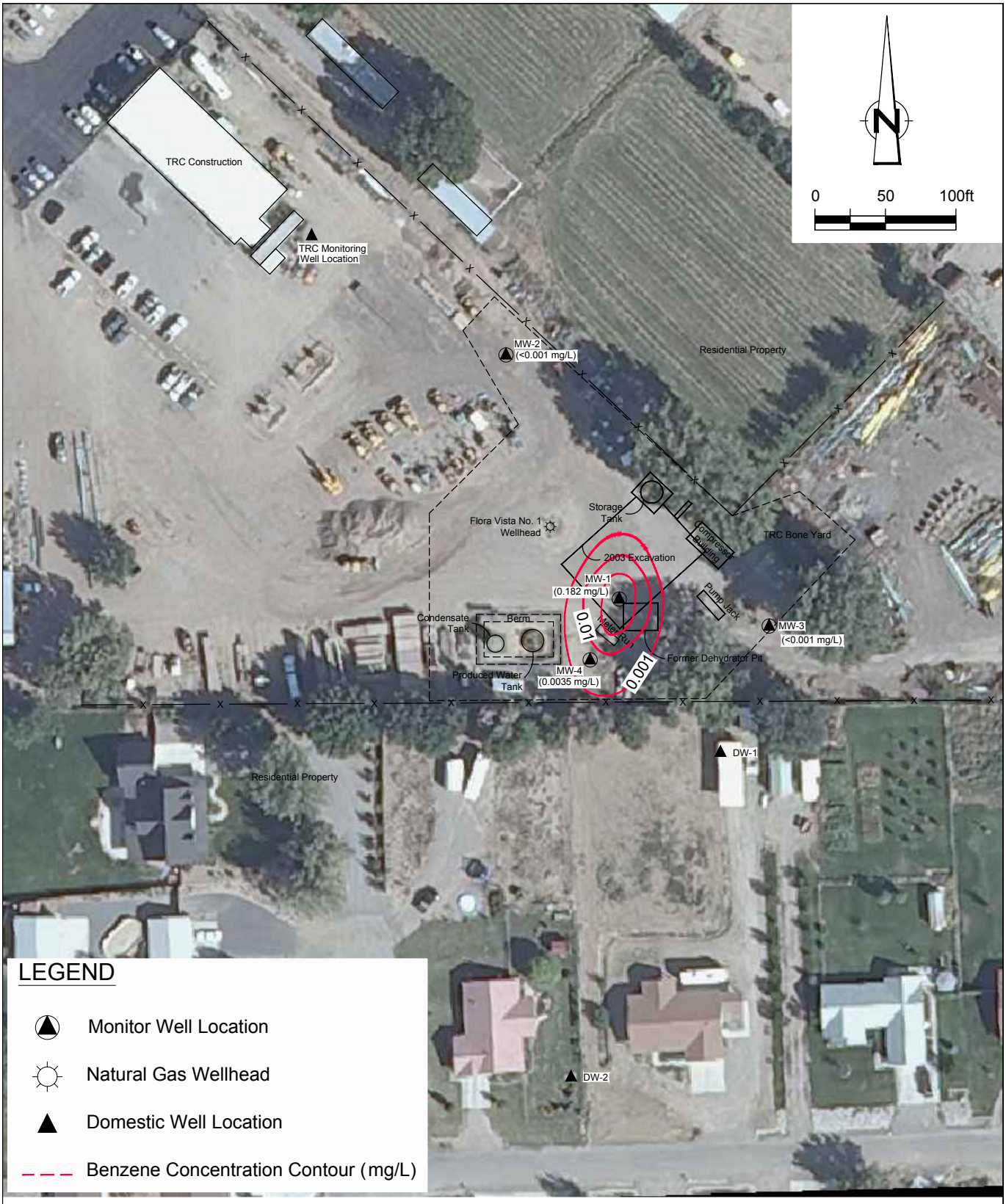


Figure 8

MARCH 2013 BENZENE CONCENTRATION MAP
FLORA VISTA NO. 1 NATURAL GAS WELL SITE
SECTION 22, T30N-R12W, SAN JUAN COUNTY, NEW MEXICO
ConocoPhillips Company

074926-95(005)GN-DL005_BENZ APR 2/2014

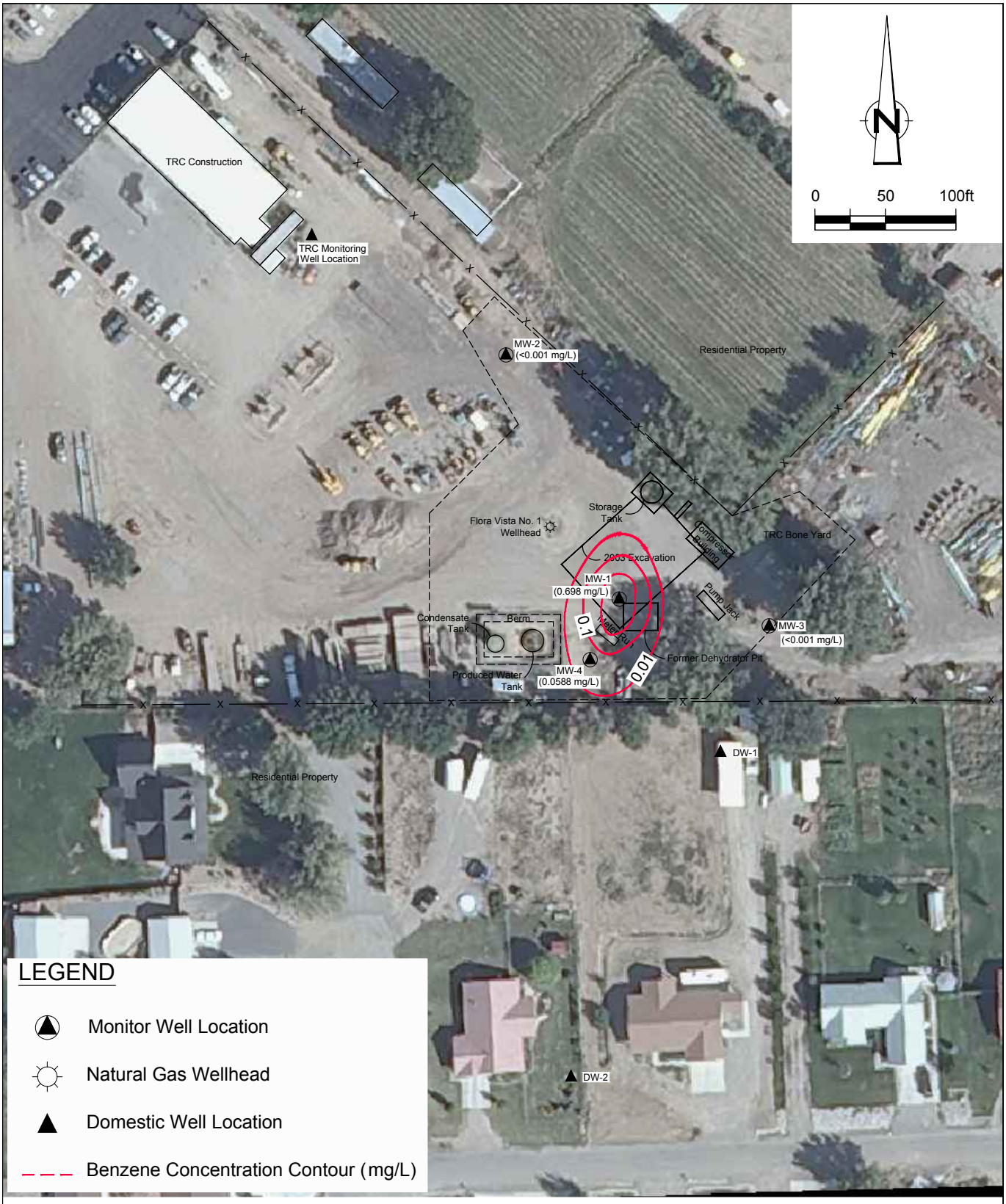


Figure 9

JUNE 2013 BENZENE CONCENTRATION MAP
FLORA VISTA NO. 1 NATURAL GAS WELL SITE
SECTION 22, T30N-R12W, SAN JUAN COUNTY, NEW MEXICO
ConocoPhillips Company

074926-95(005)GN-DL005_BENZ APR 2/2014

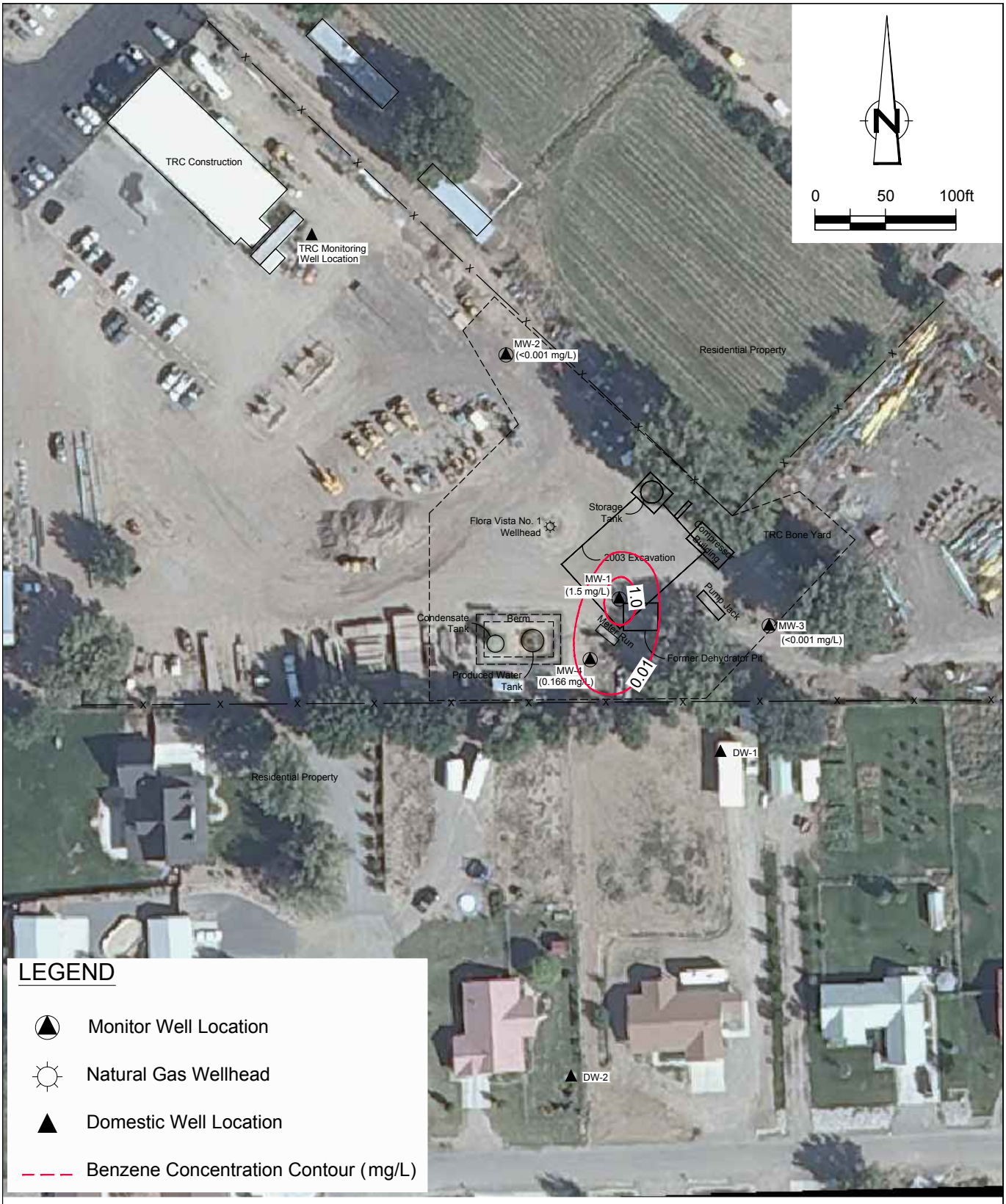


Figure 10

SEPTEMBER 2013 BENZENE CONCENTRATION MAP
FLORA VISTA NO. 1 NATURAL GAS WELL SITE
SECTION 22, T30N-R12W, SAN JUAN COUNTY, NEW MEXICO
ConocoPhillips Company

074926-95(005)GN-DL005_BENZ APR 2/2014

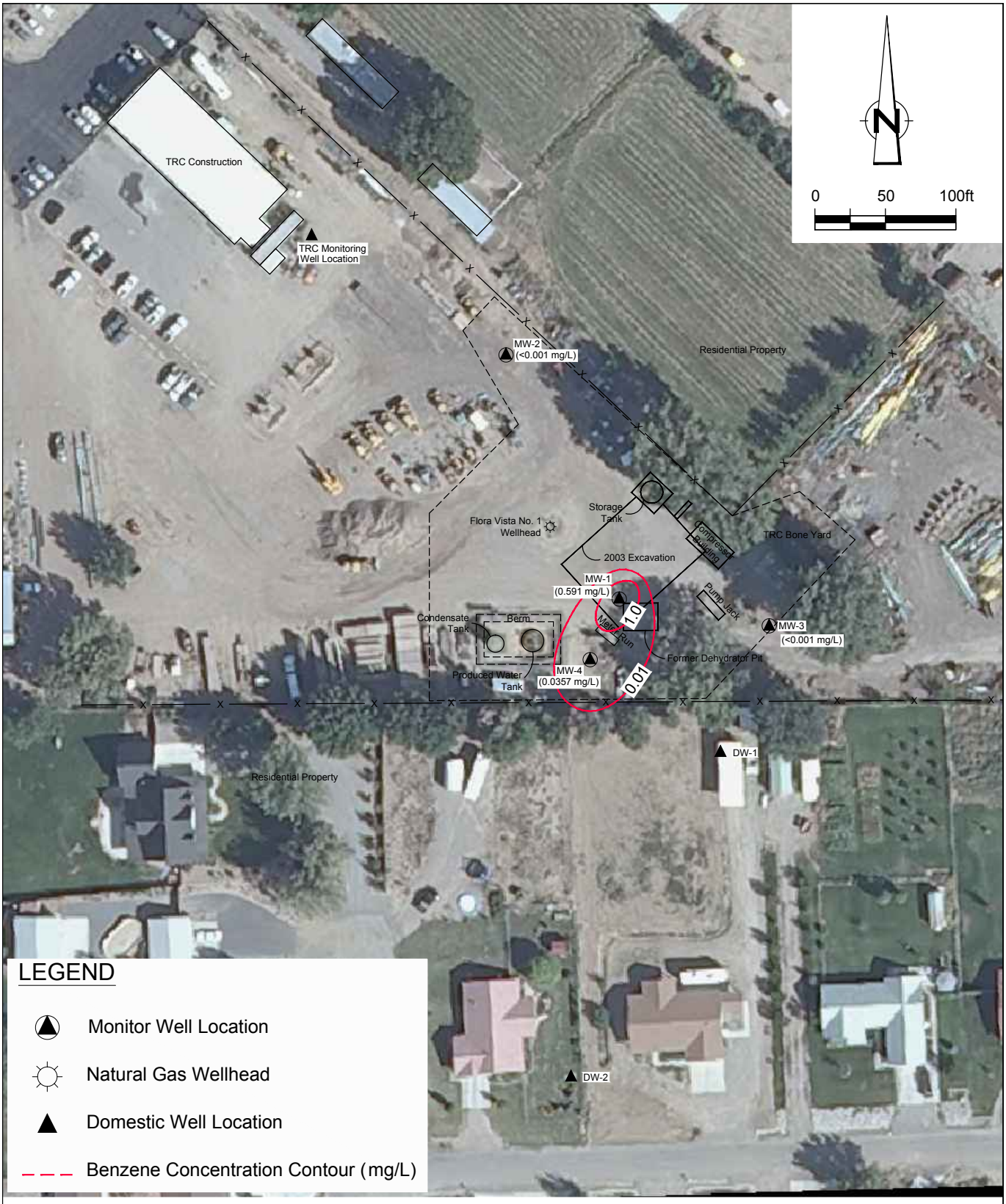
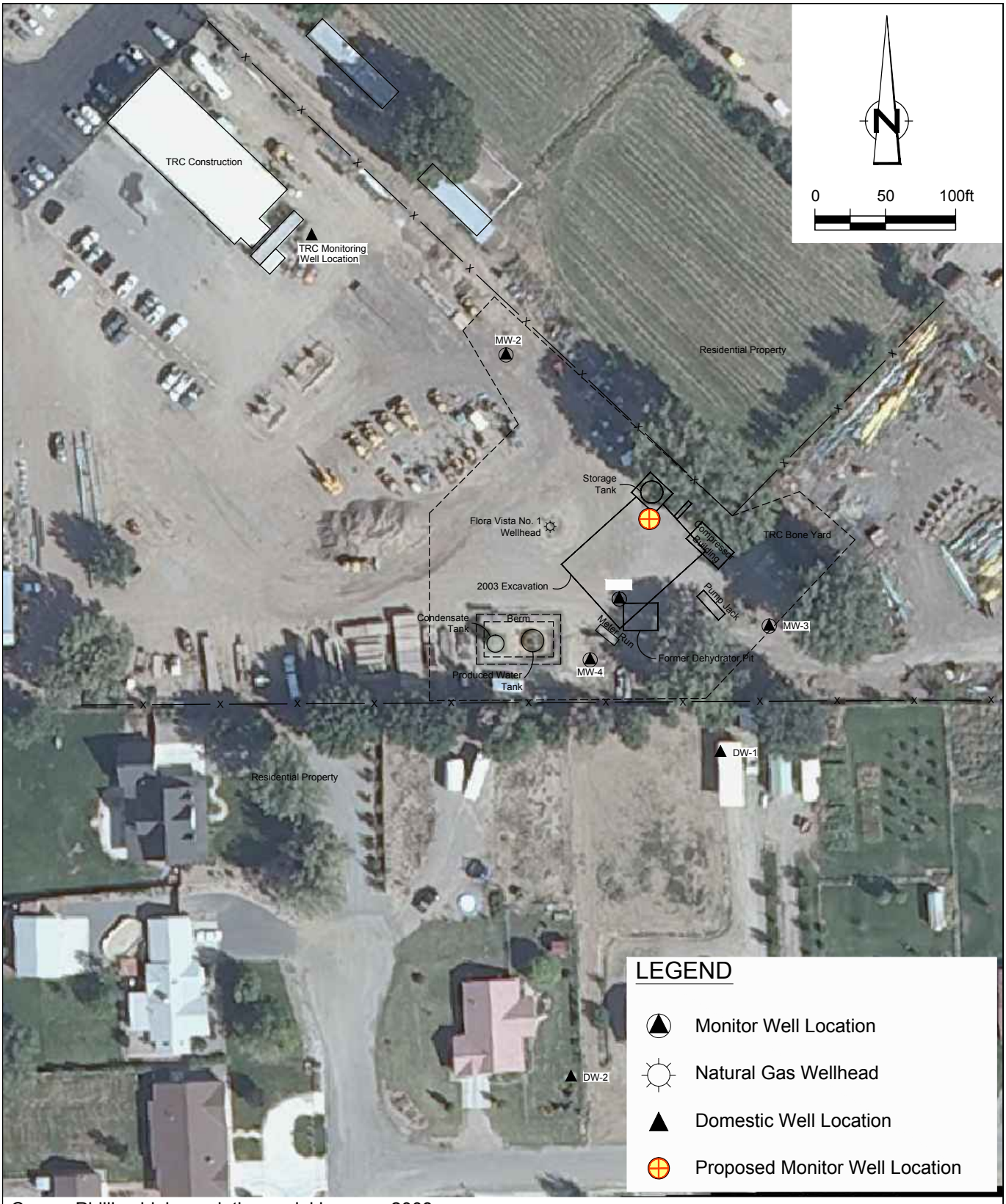


Figure 11

DECEMBER 2013 BENZENE CONCENTRATION MAP
FLORA VISTA NO. 1 NATURAL GAS WELL SITE
SECTION 22, T30N-R12W, SAN JUAN COUNTY, NEW MEXICO
ConocoPhillips Company

074926-95(005)GN-DL005_BENZ APR 2/2014



ConocoPhillips high resolution aerial imagery 2008.

Figure 12

PROPOSED MONITOR WELL LOCATION MAP
FLORA VISTA NO. 1 NATURAL GAS WELL SITE
SECTION 22, T30N-R12W, SAN JUAN COUNTY, NEW MEXICO
ConocoPhillips Company

074926-95(004)GN-DL006 APR 29/2014

Tables

TABLE 1

SITE HISTORY TIMELINE
CONOCOPHILLIPS COMPANY
FLORA VISTA NO. 1
SAN JUAN COUNTY, NM

Date/Time Period	*Event/Action*	*Description/Comments*
November 28, 1995	Pit Closure Activities	Philip Environmental excavated and removed approximatley 850 cubic yards of soil from the area where the Flora Vista No. 1 dehydrator pit was located. Excavation activities were stopped in the north and west directions due to the positions of the compressor and meter run equipment.
July and August 1996	Submital of Pit Closure	El Paso Field Services submits Pit Closure Reports to the New Mexico Oil Conservation Division outlining the excavation and closure of the dehydrator pit at the site.
January 24, 1997	Pit Closure Approval	El Paso Field Services receives approval of pit closure from the New Mexico Oil Conservation Division.
June and July 2003	Initial Site Assessment	Historical petroleum contaminated soil discovered during a production facility resetting activity. Environmental investigation began with the excavation of approximately 4,986 cubic yards of impacted soil and 4,446 cubic yards of clean soil. Groundwater was encountered at approximately 25 feet below the ground surface. The impacted soil was taken to a commercial landfill facility located on Crouch Mesa in Farmington, New Mexico. Approximately 80 bbls of potassium permanganate was sprayed on the soils to breakdown any minor amounts of residual petroleum contaminants. The excavation area was backfilled with clean soil.
September 2, 2003	Groundwater Monitor Well Installation	One ground water Monitor Well, MW-1, was installed slightly down-gradient from the center of the soil excavation by Envirotech. Total depth of well is 26 feet.
September of 2003 through December 13, 2006	Quarterly Groundwater Monitoring	Quarterly groundwater monitoring of MW-1 for analysis of BTEX constituents. MW-1 remained above standards for benzene, ethylbenzene, and total xylenes.
March 31, 2006	Site Transfer	ConocoPhillips Company completes acquisition of Burlington Resources.
March 2007 through January 2008	Consultant Change and Groundwater Monitoring	After the acquisition of Burlington Resources by ConocoPhillips, consulting responsibilities were transferred from Lode Star LLC of Farmington, NM to Tetra Tech of Albuquerque, NM. Tetra Tech began sampling the Flora Vista site quarterly in March of 2007. Four consecutive quarters of goundwater sampling were conducted at the Flora Vista site. Groundwater was sampled from MW-1 and was analyzed for BTEX constituents during all sampling events. MW-1 remained above standards for benzene, ethylbenzene, and total xylenes.
March 28, 2008	Reporting	Annual report for 2007 is submitted to the Oil Conservation Division of NM Energy, Minerals, and Resources Department (OCD).
April 1, 2008	Additional Monitoring Requested by OCD	Oil Conservation Division of NM Energy, Minerals, and Resources Dept. indicates additional investigation and sampling is necessary for closure consideration during a meeting with Glenn Von Gonten.
July 23, 2008	Groundwater Monitoring	Groundwater monitoring of MW-1. One sample and a duplicate were collected. Benzene and Xylenes are above NMWQCC standards.
August 12 and 13, 2008	Groundwater Monitor Well Installation and Groundwater Monitoring	Three additional groundwater Monitor Wells, MW-2, MW-3 and MW-4 were installed by WDC and overseen by Tetra Tech. MW-2 was installed upgradient of MW-1. Both MW-3 and MW-4 were installed downgradient of MW-1. Soil samples were collected from just above the groundwater interface for each boring location and sent to Southern Petroleum Laboratory for a baseline soil analysis. All wells were developed by purging approximately 80 gallons of fluid using a surge block and hand bailer/purge pump.
October 21, 2008	Groundwater Monitoring	Third quarter 2008 groundwater monitoring was completed and was the first quarter of sampling to include all four monitor wells on site. A baseline suite was completed including major ions, total metals, semi-volatile organic compounds (SVOCs), volatile organic compounds (VOCs) including BTEX, diesel range organics, and gasoline range organics. There were 3 constituents that returned results above NMWQCC limits, Benzene (MW-1 and MW-4), Total Xylenes (MW-1), and Sulfate (MW-1).

TABLE 1

SITE HISTORY TIMELINE
CONOCOPHILLIPS COMPANY
FLORA VISTA NO. 1
SAN JUAN COUNTY, NM

Date/Time Period	*Event/Action*	*Description/Comments*
January 28, 2009	Groundwater Monitoring	Tetra Tech conducted fourth quarter 2008 groundwater monitoring at the site for BTEX constituents in all four monitor wells. Benzene (MW-1 and MW-4), Ethylbenzene (MW-1) and Xylenes (MW-1) were above NMWQCC standards.
March 1, 2009	Initiate Annual Sampling	The Flora Vista No. 1 site is put on an annual monitoring schedule. The next sampling event was scheduled for September 2009.
September 30, 2009	Groundwater Monitoring	Tetra Tech conducted 2009 annual groundwater monitoring at the site for BTEX constituents, dissolved iron and manganese, and sulfate. Benzene (MW-1 and MW-4), xylenes (MW-1) and manganese (MW-1 and MW-4) were above NMWQCC standards.
December 16, 2009	Private Irrigation Well Sampling	Tetra Tech collected a groundwater sample from a domestic well (DW-1) located to the south of the site to be analyzed for BTEX. All constituents were found to be below laboratory detection limits and NMWQCC standards.
May 14, 2010	Initiate Quarterly Sampling	The Flora Vista No. 1 site is put on a semi-annual monitoring schedule. Private domestic irrigation well sampling is also to be included in semi-annual sampling events.
June 10, 2010	Private Irrigation Well Sampling	Tetra Tech collected a groundwater sample from a second private down-gradient domestic well (DW-2) to be sampled for BTEX. All constituents were found to be below laboratory detection limits and NMWQCC standards.
June 10 and 11, 2010	Groundwater Monitoring	Tetra Tech conducted groundwater monitoring at the site for BTEX constituents, dissolved iron and manganese, and sulfate. Benzene (MW-1 and MW-4), xylenes (MW-1) and manganese (MW-1 and MW-4) were above NMWQCC standards.
September 27, 2010	Groundwater Monitoring	Tetra Tech conducted groundwater monitoring at the site for BTEX constituents, dissolved iron and manganese, and sulfate. Benzene (MW-1 and MW-4), xylenes (MW-1), dissolved iron and manganese (MW-1 and MW-4) were above NMWQCC standards.
December 14, 2010	Groundwater Monitoring	Tetra Tech conducted groundwater monitoring at the site for BTEX constituents, dissolved iron and manganese, and sulfate. Benzene (MW-1 and MW-4), xylenes (MW-1), dissolved iron and manganese (MW-1 and MW-4) were above NMWQCC standards.
March 17, 2011	Groundwater Monitoring	Tetra Tech conducted groundwater monitoring at the site for BTEX constituents, dissolved iron, dissolved manganese, and sulfate. Groundwater collected from MW-1 exceeded the NMWQCC standards for benzene, xylenes, dissolved iron and dissolved manganese. Groundwater collected from MW-4 exceeded the NMWQCC standards from benzene and dissolved manganese. Tetra Tech also collected a groundwater sample from a domestic well (DW-2) located to the south of the site to be analyzed for BTEX. All constituents were found to be below laboratory detection limits and NMWQCC standards in the domestic well sample.
June 15, 2011	Transfer of Site Consulting Responsibilites	On June 15, 2011, Site consulting responsibilities were transferred from Tetra Tech of Albuquerque, NM to Conestoga-Rovers & Associates (CRA) of Albuquerque, NM.
June 24, 2011	Groundwater Monitoring	CRA conducted groundwater monitoring at the site for BTEX constituents, dissolved iron and manganese, and sulfate. Benzene (MW-1 and MW-4), xylenes (MW-1), dissolved iron (MW-4) and dissolved manganese (MW-1 and MW-4) were above NMWQCC standards. CRA also collected a groundwater sample from Domestic Well DW-1 located south of the site to be analyzed for BTEX. All constituents were found to be below laboratory detection limits and NMWQCC standards in the domestic well sample.
September 29, 2011	Groundwater Monitoring	CRA conducted groundwater monitoring at the site for BTEX constituents, dissolved iron and manganese, and sulfate. Benzene (MW-1 and MW-4), xylenes (MW-1), dissolved iron (MW-1 and MW-4) and dissolved manganese (MW-1 and MW-4) were above NMWQCC standards.

TABLE 1

SITE HISTORY TIMELINE
CONOCOPHILLIPS COMPANY
FLORA VISTA NO. 1
SAN JUAN COUNTY, NM

Date/Time Period	*Event/Action*	*Description/Comments*
December 14, 2011	Groundwater Monitoring	CRA conducted groundwater monitoring at the site for BTEX constituents, dissolved iron and manganese, and sulfate. Benzene (MW-1 and MW-4), xylenes (MW-1), dissolved iron (MW-1 and MW-4) and dissolved manganese (MW-1 and MW-4) were above NMWQCC standards.
March 9, 2012	Groundwater Monitoring	CRA conducted groundwater monitoring at the site for BTEX constituents, dissolved iron and manganese. Benzene (MW-1 and MW-4), xylenes (MW-1), dissolved iron (MW-1 and MW-4) and dissolved manganese (MW-1 and MW-4) were above NMWQCC standards. The well vault of MW-2 is found to be destroyed.
April 25, 2012	Well Pad Repair	CRA on site to oversee repair of MW-2.
June 7, 2012	Groundwater Monitoring	CRA conducted groundwater monitoring at the site for BTEX constituents, dissolved iron and manganese. Benzene (MW-1 and MW-4), xylenes (MW-1), dissolved iron (MW-1 and MW-4) and dissolved manganese (MW-1 and MW-4) were above NMWQCC standards. CRA also collected a groundwater sample from Domestic Well DW-2 located south of the site to be analyzed for BTEX. All constituents were found to be below laboratory detection limits and NMWQCC standards in the domestic well sample.
July 27, 2012	Private Irrigation Well Sampling	CRA collected a groundwater sample from Domestic Well DW-1 located south of the site to be analyzed for BTEX. All constituents were found to be below laboratory detection limits and NMWQCC standards in the domestic well sample.
September 19, 2012	Groundwater Monitoring	CRA conducted groundwater monitoring at the site for BTEX constituents, dissolved iron and manganese. Benzene (MW-1), xylenes (MW-1), dissolved iron (MW-1 and MW-4) and dissolved manganese (MW-1 and MW-4) were above NMWQCC standards.
December 13, 2012	Groundwater Monitoring	CRA conducted groundwater monitoring at the site for BTEX constituents, dissolved iron and manganese. Benzene (MW-1 and MW-4), xylenes (MW-1), ethylbenzene (MW-1), dissolved iron (MW-1 and MW-4) and dissolved manganese (MW-1 and MW-4) were above NMWQCC standards.
March 20, 2013	Groundwater Monitoring	CRA conducted groundwater monitoring at the site for BTEX constituents, dissolved iron and manganese. Benzene (MW-1), dissolved iron (MW-1 and MW-4) and dissolved manganese (MW-1 and MW-4) were above NMWQCC standards.
June 12, 2013	Groundwater Monitoring	CRA conducted groundwater monitoring at the site for BTEX constituents, dissolved iron and manganese. Benzene (MW-1 and MW-4), xylenes (MW-1), dissolved iron (MW-1 and MW-4) and dissolved manganese (MW-1 and MW-4) were above NMWQCC standards.
August 21-22, 2013	Dual-Phase Extraction	CRA and subcontractor AccuVac conducted Mobile Dual-Phase Extraction from MW-1 and MW-4. 1292 gallons pumped from these wells and 0.5 gallons equivalent product removed via SVE during the two-day even t.
September 11, 2013	Groundwater Monitoring	CRA conducted groundwater monitoring at the site for BTEX constituents, dissolved iron and manganese. Benzene (MW-1 and MW-4), xylenes (MW-1), dissolved iron (MW-1 and MW-4) and dissolved manganese (MW-1 and MW-4) were above NMWQCC standards.
December 13, 2013	Groundwater Monitoring	CRA conducted groundwater monitoring at the site for BTEX constituents, dissolved iron and manganese. Benzene (MW-1 and MW-4), xylenes (MW-1), dissolved iron (MW-1 and MW-4) and dissolved manganese (MW-1 and MW-4) were above NMWQCC standards.

TABLE 2

MONITOR WELL SPECIFICATIONS AND GROUNDWATER ELEVATIONS
CONOCOPHILLIPS COMPANY
FLORA VISTA NO. 1
SAN JUAN COUNTY, NM

Well ID	*Total Depth (ft below TOC)*	*Elevation**	*Screen Interval (ft bgs)*	*Date Measured*	*Depth to Groundwater (ft below TOC)*	*Relative Water Level*
MW-1	26.02	94.38	11.02 - 26.02	6/20/2003	NM	NM
				9/23/2003	17.03	77.35
				12/16/2003	20.11	74.27
				3/16/2004	23.69	70.69
				6/21/2004	19.92	74.46
				9/30/2004	16.82	77.56
				12/13/2004	20.40	73.98
				3/22/2005	24.32	70.06
				6/22/2005	NM	NM
				10/24/2005	NM	NM
				12/13/2005	21.24	73.14
				3/22/2006	24.75	69.63
				6/22/2006	20.48	73.90
				10/20/2006	19.13	75.25
				12/13/2006	21.24	73.14
				11/9/2007	19.71	74.67
				1/15/2008	NM	NM
				3/19/2008	24.35	70.03
				7/23/2008	19.89	74.49
				10/21/2008	19.48	74.90
				1/28/2009	23.96	70.42
				9/30/2009	18.16	76.22
				6/10/2010	21.64	72.74
				9/27/2010	19.31	75.07
				12/14/2010	21.41	72.97
				3/17/2011	24.95	69.43
				6/24/2011	22.55	71.83
				9/29/2011	18.37	76.01
				12/14/2011	20.63	73.75
				3/9/2012	24.12	70.26
		93.96		6/7/2012	23.08	70.88
				9/19/2012	18.94	75.02
				12/13/2012	21.22	72.74
				3/20/2013	24.79	69.17
				6/12/2013	22.51	71.45
				9/11/2013	18.34	75.62
				12/13/2013	21.53	72.43
MW-2	31.35	97.1	12.35 - 27.35	10/21/2008	20.71	76.39
				1/28/2009	22.75	74.35
				9/30/2009	18.83	78.27
				6/11/2010	22.09	75.01
				9/27/2010	20.12	76.98
				12/14/2010	NM	NM
				3/17/2011	NM	NM
				6/24/2011	22.50	74.60
				9/29/2011	18.95	75.43
				12/14/2011	21.79	75.31
				3/9/2012	25.60	71.50
		97.00		6/7/2012	22.46	74.54
				9/19/2012	17.70	79.30
				12/13/2012	22.43	74.57
				3/20/2013	26.49	70.51
				6/12/2013	22.13	74.87
				9/11/2013	17.95	79.05
				12/13/2013	22.78	74.22

TABLE 2

MONITOR WELL SPECIFICATIONS AND GROUNDWATER ELEVATIONS
CONOCOPHILLIPS COMPANY
FLORA VISTA NO. 1
SAN JUAN COUNTY, NM

Well ID	*Total Depth (ft below TOC)*	*Elevation**	*Screen Interval (ft bgs)*	*Date Measured*	*Depth to Groundwater (ft below TOC)*	*Relative Water Level*
MW-3	30.87	92.9	11.87 - 26.87	10/21/2008	17.92	74.98
				1/28/2009	21.53	71.37
				9/30/2009	16.43	76.47
				6/10/2010	19.71	73.19
				9/27/2010	17.81	75.09
				12/14/2010	19.61	73.29
				3/17/2011	23.32	69.58
				6/24/2011	20.55	72.35
				9/29/2011	16.84	77.54
				12/14/2011	19.13	73.77
				3/9/2012	22.51	70.39
		92.43		6/7/2012	20.93	71.50
				9/19/2012	17.48	74.95
				12/13/2012	19.78	72.65
				3/20/2013	23.18	69.25
				6/12/2013	20.68	71.75
				9/11/2013	16.90	75.53
				12/13/2013	20.11	72.32
MW-4	30.42	93.6	11.42 - 26.42	10/21/2008	18.06	75.54
				1/28/2009	24.55	69.05
				9/30/2009	17.89	75.71
				6/10/2010	21.02	72.58
				9/27/2010	18.93	74.67
				12/14/2010	21.04	72.56
				3/17/2011	24.58	69.02
				6/24/2011	21.80	71.80
				9/29/2011	17.94	76.44
				12/14/2011	20.28	73.32
				3/9/2012	23.70	69.90
		93.17		6/7/2012	22.19	70.98
				9/19/2012	18.60	74.57
				12/13/2012	20.96	72.21
				3/20/2013	24.38	68.79
				6/12/2013	21.81	71.36
				9/11/2013	18.89	74.28
				12/13/2013	21.28	71.89

Notes:
1. *Casing elevations are based on an arbitrary 100 ft relative surface elevation set at the gas well head
2. ft = Feet
3. TOC = Top of casing
4. bgs = below ground surface
5. NM = Not measured

TABLE 3

GROUNDWATER ANALYTICAL RESULTS SUMMARY
CONOCOPHILLIPS COMPANY
FLORA VISTA NO. 1
SAN JUAN COUNTY, NM

Well ID	*Sample ID*	*Date*	*Sample Type*	*Benzene (mg/L)*	*Ethylbenzene (mg/L)*	*Toluene (mg/L)*	*Xylenes (total) (mg/L)*	*Sulfate (mg/L)*	*Iron (dissolved) (mg/L)*	*Manganese (dissolved) (mg/L)*
MW-1	MW-1	6/20/2003	(orig)	**1.7**	0.49	0.3	**5.09**	--	--	--
	MW-1	9/23/2003	(orig)	**7.5**	0.66	0.02	**9.22**	--	--	--
	MW-1	12/16/2003	(orig)	**7.93**	**1.18**	0.01	**0.864**	--	--	--
	MW-1	3/16/2004	(orig)	**6.86**	**1.16**	ND	**8.47**	--	--	--
	MW-1	6/21/2004	(orig)	**4.14**	0.43	ND	**3.12**	--	--	--
	MW-1	9/30/2004	(orig)	**9.08**	**1.41**	0.03	**9.98**	--	--	--
	MW-1	12/13/2004	(orig)	**8.52**	**1.34**	ND	**9.39**	--	--	--
	MW-1	3/22/2005	(orig)	**4.55**	**0.85**	ND	**5.95**	--	--	--
	MW-1	6/22/2005	(orig)	--	--	0.02188	--	--	--	--
	MW-1	10/24/2005	(orig)	**6.39**	**1.01**	ND	**7.416**	--	--	--
	MW-1	12/13/2005	(orig)	**6.17**	**1.01**	ND	**7.57**	--	--	--
	MW-1	3/22/2006	(orig)	**3.58**	**0.77**	ND	**5.84**	--	--	--
	MW-1	6/22/2006	(orig)	**3.1**	0.5	ND	**3.5**	--	--	--
	MW-1	10/20/2006	(orig)	**6.6**	**1.22**	0.01	**8.91**	--	--	--
	MW-1	12/13/2006	(orig)	**4.23**	**1.09**	0.01	**8.13**	--	--	--
	MW-1	3/27/2007	(orig)	**2.37**	0.504	0.007	**3.749**	--	--	--
	MW-1	6/25/2007	(orig)	**2.87**	0.51	0.14	**3.89**	--	--	--
	MW-1	11/9/2007	(orig)	**5.6**	**0.91**	< 0.0007	**6.8**	--	--	--
	MW-1	1/15/2008	(orig)	**4.2**	**0.89**	< 0.0007	**5.7**	--	--	--
	MW-1	3/19/2008	(orig)	**2.7**	0.59	< 0.005	**4.7**	--	--	--
	MW-1	7/23/2008	(orig)	**2**	0.38	< 0.005	**1.4**	--	--	--
	MW-1	10/21/2008	(orig)	**4.5**	0.63	< 0.005	**5.3**	--	--	--
	MW-1	1/28/2009	(orig)	**4**	**0.88**	< 0.005	**8.7**	--	--	--
	MW-1	9/30/2009	(orig)	**4.2**	0.53	0.0016	**5.1**	11.7	**2.08**	**1.09**
	MW-1	6/10/2010	(orig)	**1.7**	0.33	0.0012	**0.99**	27	0.126	**1.28**
	MW-1	9/27/2010	(orig)	**3.2**	0.53	0.002	**4.2016**	1.8	**7.73**	**1.19**
	MW-1	12/14/2010	(orig)	**3.2**	0.62	0.0012	**5.3016**	1.03	**4.13**	**0.888**
	MW-1	3/17/2011	(orig)	**1.7**	0.48	0.0037	**4.3092**	2.27	**1.11**	**1.07**
	GW-74926-062411-PG-01	6/24/2011	(orig)	**2.1**	0.494	0.0025	**2.03**	18.4	< 0.1	**0.894**
	GW-74926-062411-PG-02	6/24/2011	(Duplicate)	**1.97**	0.458	0.0026	**1.94**	--	--	**--**
	GW-074926-092911-CM-009	9/29/2011	(orig)	**2.44**	0.519	< 0.005	**3.65**	< 1.0	**25.2**	**1.02**
	GW-074926-121411-CB-MW-1	12/14/2011	(orig)	**2.31**	0.508	0.0055	**3.93**	13.2	**25.4**	**0.945**
	GW-074926-3912-CB-MW-1	3/9/2012	(orig)	**1.59**	0.636	<0.001	**5.04**	--	**25.3**	**1.03**
	GW-074926-060712-CB-MW-1	6/7/2012	(orig)	**1.77**	0.182	0.127	**0.633**	--	**21.4**	**0.914**
	GW-074926-091912-JP-MW-1	9/19/2012	(orig)	**1.52**	0.414	<0.020	**2.49**	--	**19.0**	**0.86**
	GW-074926-121312-CM-MW-1	12/13/2012	(orig)	**2.02**	**0.809**	< 0.025	**5.02**	--	**23.8**	**0.75**
	GW-074926-032013-CM-MW-1	3/20/2013	(orig)	**0.182**	0.0406	<0.002	0.0914	--	**9.39**	**1.08**
	GW-074926-061213-JR-MW1	6/12/2013	(orig)	**0.698**	0.160	<0.001	**0.873**	--	**12.8**	**1.12**
	GW-074926-091113-CM-MW1	9/11/2013	(orig)	**1.050**	**0.831**	<0.020	**5.100**	--	**18.000**	**1.050**
	GW-074926-121313-CM-MW-1	12/13/2013	(orig)	**0.591**	0.670	0.0015	**1.790**	--	**25.4**	**0.88**
MW-2	MW-2	10/21/2008	(orig)	< 0.0005	< 0.0005	< 0.0005	< 0.0005	115	--	--
	MW-2	1/28/2009	(orig)	< 0.0005	< 0.0005	< 0.0005	< 0.0005	ND	ND	ND
	MW-2	9/30/2009	(orig)	< 0.0005	< 0.0005	< 0.0005	< 0.0005	123	0.0223	< 0.005
	MW-2	6/11/2010	(orig)	< 0.001	< 0.001	< 0.001	< 0.001	156	< 0.02	< 0.005
	MW-2	9/27/2010	(orig)	< 0.001	< 0.001	< 0.001	< 0.001	179	< 0.02	< 0.005
	GW-74926-062411-PG-05	6/24/2011	(orig)	< 0.0010	< 0.0010	< 0.0010	< 0.0030	176	0.191	< 0.015
	GW-074926-092911-CM-006	9/29/2011	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	151	< 0.05	< 0.005
	GW-074926-121411-CB-MW-2	12/14/2011	(orig)	0.00031 J	0.0002 J	< 0.001	0.0022 J	135	0.0133 J	0.0022 J
	GW-074926-3912-CB-MW-2	3/9/2012	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	--	<0.05	<0.005
	GW-074926-060712-CB-MW-2	6/7/2012	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	--	0.0822	0.0052
	GW-074926-091912-JP-MW-2	9/19/2012	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	--	<0.05	<0.005
	GW-074926-121312-CM-MW-2	12/13/2012	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	--	<0.05	<0.005
	GW-074926-032013-CM-MW-2	3/20/2013	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	--	<0.05	<0.005
	GW-074926-061213-JR-MW2	6/12/2013	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	--	0.0665	<0.005
	GW-074926-091113-CM-MW2	9/11/2013	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	--	<0.050	<0.005
	GW-074926-121313-CM-MW-2	12/13/2013	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	--	<0.050	<0.0050

TABLE 3

GROUNDWATER ANALYTICAL RESULTS SUMMARY
CONOCOPHILLIPS COMPANY
FLORA VISTA NO. 1
SAN JUAN COUNTY, NM

Well ID	Sample ID	Date	Sample Type	Benzene (mg/L)	Ethylbenzene (mg/L)	Toluene (mg/L)	Xylenes (total) (mg/L)	Sulfate (mg/L)	Iron (dissolved) (mg/L)	Manganese (dissolved) (mg/L)
MW-3	MW-3	10/21/2008	(orig)	< 0.0005	< 0.0005	< 0.0005	< 0.0005	93	--	--
	MW-3	1/28/2009	(orig)	< 0.0005	< 0.0005	< 0.0005	< 0.0005	ND	ND	ND
	MW-3	9/30/2009	(orig)	< 0.0005	< 0.0005	< 0.0005	< 0.0005	144	0.0543	< 0.005
	MW-3	6/10/2010	(orig)	< 0.0005	< 0.001	< 0.001	< 0.001	122	0.0425	< 0.005
	MW-3	9/27/2010	(orig)	< 0.001	< 0.001	< 0.001	< 0.001	170	< 0.02	< 0.005
	MW-3	12/14/2010	(orig)	< 0.001	< 0.001	< 0.001	< 0.001	142	< 0.02	< 0.005
	MW-3	3/17/2011	(orig)	< 0.001	< 0.001	< 0.001	< 0.001	119	< 0.02	< 0.005
	GW-74926-062411-PG-03	6/24/2011	(orig)	< 0.0010	< 0.0010	< 0.0010	< 0.0030	127	0.189	< 0.015
	GW-074926-092911-CM-007	9/29/2011	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	160	< 0.05	0.0063
	GW-074926-121411-CB-MW-3	12/14/2011	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	136	0.0288 J	0.0207
	GW-074926-3912-CB-MW-3	3/9/2012	(orig)	< 0.001	<0.001	<0.001	<0.003	--	<0.05	<0.005
	GW-074926-060712-CB-MW-3	6/7/2012	(orig)	< 0.001	<0.001	<0.001	<0.003	--	<0.05	<0.005
	GW-074926-091912-JP-MW-3	9/19/2012	(orig)	< 0.001	<0.001	<0.001	<0.003	--	<0.05	<0.005
	GW-074926-121312-CM-MW-3	12/13/2012	(orig)	< 0.001	<0.001	<0.001	<0.003	--	0.0605	0.026
	GW-074926-032013-CM-MW-3	3/20/2013	(orig)	< 0.001	<0.001	<0.001	<0.003	--	<0.05	0.0149
	GW-074926-061213-JR-MW3	6/12/2013	(orig)	< 0.001	<0.001	<0.001	<0.003	--	0.189	0.0094
	GW-074926-091113-CM-MW3	9/11/2013	(orig)	< 0.001	<0.001	<0.001	<0.003	--	<0.050	<0.005
	GW-074926-121313-CM-MW-3	12/13/2013	(orig)	< 0.001	< 0.001	< 0.001	<0.003	--	<0.050	0.013
MW-4	MW-4	10/21/2008	(orig)	**0.039**	0.031	< 0.0005	0.18	90.1	--	--
	MW-4	1/28/2009	(orig)	**0.66**	0.064	< 0.0005	0.583	ND	ND	ND
	MW-4	9/30/2009	(orig)	**0.34**	0.054	< 0.0005	0.572	48.9	0.148	**4.48**
	MW-4	6/10/2010	(orig)	**0.14**	0.027	< 0.001	0.252	53.3	0.0566	**4.65**
	MW-4	9/27/2010	(orig)	**0.033**	0.041	< 0.001	0.274	92.5	**1.22**	**4.34**
	MW-4	12/14/2010	(orig)	**0.13**	0.093	< 0.001	**0.899**	67.5	**1.75**	**4.69**
	MW-4	3/17/2011	(orig)	**0.017**	0.018	< 0.001	0.1966	83	0.0852	**4.46**
	GW-74926-062411-PG-04	6/24/2011	(orig)	**0.0296**	0.0371	< 0.0010	0.472	130	**1.5**	**4.9**
	GW-074926-092911-CM-008	9/29/2011	(orig)	**0.0392**	0.0039	< 0.001	0.0536	96.1	**2.55**	**4.1**
	GW-074926-092911-CM-010	9/29/2011	(Duplicate)	**0.043**	0.0035	< 0.001	0.0483	--	--	--
	GW-074926-121411-CB-MW-4	12/14/2011	(orig)	**0.101**	0.0443	< 0.001	0.378	81.2	**2.62**	**4.58**
	GW-074926-121411-CB-DUP	12/14/2011	(Duplicate)	**0.104**	0.0437	< 0.005	0.372	--	**--**	**--**
	GW-074926-3912-CB-MW-4	3/9/2012	(orig)	**0.0264**	0.0066	<0.001	0.0651	--	**2.46**	**4.73**
	GW-074926-3912-CB-DUP	3/9/2012	(Duplicate)	**0.0234**	0.0056	<0.001	0.058	--	--	**--**
	GW-074926-060712-CB-MW-4	6/7/2012	(orig)	**0.044**	0.0245	<0.001	0.303	--	**2.07**	**4.02**
	GW-074926-060712-CB-DUP	6/7/2012	(Duplicate)	**0.026**	0.0124	<0.001	0.155	--	--	**--**
	GW-074926-091912-JP-MW-4	9/19/2012	(orig)	0.0029	0.0048	<0.001	0.0576	--	**1.93**	**4.5**
	GW-074926-091912-JP-DUP	9/19/2012	(Duplicate)	0.0028	0.0045	<0.001	0.0551	--	**--**	**--**
	GW-074926-121312-CM-MW-4	12/13/2012	(orig)	**0.0941**	0.0399	<0.002	0.385	--	**2.92**	**4.9**
	GW-074926-121312-CM-DUP	12/13/2012	(Duplicate)	**0.197**	0.0712	<0.001	0.550	--	--	**--**
	GW-074926-032012-CM-MW-4	3/20/2013	(orig)	0.0035	0.0020	<0.001	0.0211	--	**1.82**	**4.37**
	GW-074926-032012-CM-DUP	3/20/2013	(Duplicate)	0.0034	0.0022	<0.001	0.0212	--	--	**--**
	GW-074926-061213-JR-MW4	6/12/2013	(orig)	**0.0588**	0.0509	<0.005	0.545	--	**1.53**	**4.29**
	GW-074926-061213-JR-DUP	6/12/2013	(Duplicate)	**0.0215**	0.0213	<0.001	0.218	--	**--**	**--**
	GW-074926-091113-CM-MW4	9/11/2013	(orig)	**0.0166**	0.0231	<0.001	0.226	--	**3.100**	**4.350**
	GW-074926-091113-CM-DUP	9/11/2013	(Duplicate)	**0.0156**	0.0162	<0.001	0.158	--	--	**--**
	GW-074926-121313-CM-MW-4	12/13/2013	(orig)	**0.0362**	0.0199	<0.001	0.169	--	**2.7**	**4.8**
	GW-074926-121313-CM-DUP	12/13/2013	(Duplicate)	**0.0357**	0.0185	<0.001	0.160	--	--	**--**
DW-1	DW-1	12/16/2009	(orig)	< 0.001	< 0.001	< 0.001	< 0.001	--	--	**--**
	RS-74926-062411-CB-01	6/24/2011	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	--	--	**--**
	GW-074926-072712-JK-DW-17	7/27/2012	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	--	--	**--**
	DW-074926-061213-JR-32	6/12/2013	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	--	--	**--**
DW-2	#34	6/10/2010	(orig)	< 0.001	< 0.001	< 0.001	< 0.001	--	--	**--**
	Domestic #34	3/17/2011	(orig)	< 0.001	< 0.001	< 0.001	< 0.001	--	--	**--**
	GW-074926-061712-CB-DW34	6/7/2012	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	--	--	**--**
	DW-074926-061213-JR-34	6/12/2013	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	--	--	**--**
NMWQCC Groundwater Quality Standards				**0.01**	**0.75**	**0.75**	**0.62**	**600**	**1**	**0.2**

Notes:

1. MW = monitoring well
2. NMWQCC = New Mexico Water Quality Control Commission
3. Constituents in **BOLD** are in excess of NMWQCC groundwater quality standards
4. mg/L = milligrams per liter (parts per million)
5. < 1.0 = Below laboratory detection limit of 1.0 mg/L
6. ND = not detected
7. -- = not analyzed

Appendix A

August 21ST and 22ND, 2013 Mobile Dual Phase Extraction Events Reports

AcuVac Remediation, LLC.

1656-H Townhurst, Houston, Texas 77043
713.468.6688 • Fax: 713.468.6689 • www.acuvac.com

August 30, 2013

Mr. Jeff Walker
Project Manager
Conestoga-Rovers & Associates
6121 Indian School Road NE
Albuquerque, NM 67110

Dear Jeff:

Re: MDP Events, Flora Vista No. 1, San Juan County, NM

Enclosed is a copy of the Operating Data collected during the Mobile Dual Phase (MDP) Events #1A, 1B and 2, at the above location on August 21 and 22, 2013. Table #1 is the Well Data Information on wells MW-1 and MW-4. PSH is referred to LNAPL in this report. GW samples are taken frequently in a 2,000 ml beaker, to determine the average LNAPL percentage and volume.

Summary of MDP Event #1A - Well MW-4

- The total Event time was 4.5 hours. There is no comparative data. The Event was conducted on August 21, 2013.
- The total liquid volume recovered was 591 gals, none of which were LNAPL.
- Total vapor LNAPL burned as IC engine fuel was 0.18 gals, **for a total liquid and vapor LNAPL recovery of 0.18 gals. This equates to an average of 0.04 gals/hr.**
- Average HORIBA Analytical Data from the influent vapor samples was: HC = 1,306 ppmv, CO_2 = 8.27%, CO = 0%, O_2 = 12.4% and H_2S = 0.30 ppm.
- The Average Induced Vacuum was 135.0"H_2O with a maximum vacuum of 200"H_2O and the average EW well vapor flow was 15.34 scfm.
- The GW pump was set at 28.0 ft BTOC. The average GW pump rate was 2.22 gpm.
- The average GW depression, based on the positioning of the GW pump, was 9.0 ft below static level.
- No LNAPL was recorded prior to the start of Event #1A and no LNAPL was recorded at the conclusion of the Event.

The total LNAPL removed, including liquid and vapor, during the 4.5 hour Event #1A Well MW-4 was 0.18 gals.

Additional Information:

- No LNAPL was recovered during the Event period.
- The HC (TPH) levels in the influent vapors varied from a low of 680 ppmv to a high of 1,640 ppmv. This is considered in the exceptionally low range.
- The high O_2 levels in the influent vapors indicate SVE short circuiting from ground surface most likely occurred.

Summary of MDP Event #1B: Well MW-1

- The total Event time was 4.5 hours. There is no comparative data. The Event was conducted on August 21, 2013.
- The total liquid volume recovered was 40.5 gals, of which none were LNAPL.
- Total vapor LNAPL burned as IC engine fuel was 0.05 gals, **for a total liquid and vapor LNAPL recovery of 0.05 gals. This equates to an average of 0.01 gals/hr.**
- Average HORIBA Analytical Data from the influent vapor samples was: HC = 146 ppmv, CO_2 = 12.10%, CO =0.04%, O_2 =11.3% and H_2S = 0 ppm.
- The Average Induced Vacuum was 160"H_2O with a maximum vacuum of 175"H_2O and the average EW well vapor flow was 21.11 scfm.
- The GW pump was set at 25.20 ft BTOC. The average GW pump rate was 0.15 gpm.
- The average GW depression, based on the positioning of the GW pump, was 7.0 ft below static level.
- No LNAPL was recorded prior to the start of Event #1B and no LNAPL was recorded at the conclusion of the Event.

The total LNAPL removed, including liquid and vapor, during the 4.5 hour Event #1B Well MW-1 was 0.05 gals.

Additional Information:

- No LNAPL was recovered during the Event period.
- The HC (TPH) levels in the influent vapors varied from a low of 118 ppmv to a high of 188 ppmv. This is considered in the exceptionally low range.
- This well may be located in a perched zone.
- The high O_2 levels in the influent vapors indicate SVE short circuiting from ground surface most likely occurred.

Summary of MDP Event #2: Well MW-4

- The total Event time was 8.0 hours. The Event was conducted on August 22, 2013. The data is compared to Event #1A conducted on August 21, 2013 which had a total Event time of 4.5 hours.
- The total liquid volume recovered was 660 gals, of which none were LNAPL.
- Total vapor LNAPL burned as IC engine fuel was 0.36 gals, **for a total liquid and vapor LNAPL recovery of 0.36 gals. This equates to an average of 0.05 gals/hr.**
- Average HORIBA Analytical Data from the influent vapor samples was: HC = 1,158 ppmv, CO_2 = 5.26%, CO =0%, O_2 = 13.41% and H_2S = 0 ppm.
- Compared with MDP Event #1A data, the TPH levels decreased 148 ppmv, CO_2 decreased 3.02%, CO was steady at 0%, O_2 decreased 1.01% and H_2S decreased 0.30 ppm.
- The Average Induced Vacuum was 195"H_2O with a maximum vacuum of 220"H_2O and the average EW well vapor flow was 20.20 scfm.
- Compared with Event #1A data, the Average Induced Vacuum increased 60"H_2O and the average well vapor flow increased 4.86 scfm.
- The GW pump was set at 28.5 ft BTOC. The average GW pump rate was 1.41 gpm.
- The average GW depression, based on the positioning of the GW pump, was 9.0 ft below static level.
- No LNAPL was recorded prior to the start of Event #2 and no LNAPL was recorded at the conclusion of the Event.

The total LNAPL removed, including liquid and vapor, during the 8.0 hour Event #2 Well MW-4 was 0.36 gals.

Additional Information:

- The HC (TPH) levels in the influent vapors varied from a low of 954 ppmv to a high of 1,284 ppmv. This is considered in the exceptionally low range. The low reading was recorded at the end of the Event period.
- An occasional slug of LNAPL was recovered with the groundwater. Total LNAPL recovered during the 8.0 hour Event is estimated to be less than 3 gallons.
- There was not vacuum or hydraulic communication between MW-1 & MW-4.
- The high O_2 levels in the influent vapors indicate SVE short circuiting from the ground surface most likely occurred.

Other Information - Events #1A, 1B & 2

The total LNAPL removed, including liquid and vapor, during the 17.0 hr Events (wells MW-4 and MW-1) was 0.53 gals. This equates to 0.03 gals/hr.

The HORIBA Analytical instrument is calibrated with Hexane and CO_2. In all subsequent Events, the test data will be compared to the previous Event to evaluate the progress for this remediation project.

The formula used to calculate the emission rate is:

$$ER = HC\ (ppmv) \times MW\ (Hexane) \times Flow\ Rate\ (scfm) \times 1.58E^{-7} \frac{(min)(lb\ mole)}{(hr)(ppmv)(ft^3)} = lbs/hr$$

Additional information included with Report

- Recorded Data
- Photographs of the MDP System and wells MW-1 and MW-4.

After you have reviewed the report and if you have any questions, please contact me. We appreciate you selecting AcuVac to provide this service.

Sincerely,

James E. Sadler, VP
Engineering/Environmental

130036.REP

Well and Recovery Data Information

Table #1

Event		1A	1B	2
WELL NO.		**MW-4**	**MW-1**	**MW-4**
Total Event Hours		4.5	4.5	8.0
TD	ft	30.3	26.2	30.3
Well Screen	ft	Unknown	Unknown	Unknown
Well Size	in	2.0	2.0	2.0
DTGW - Static - Start Event	ft	18.16	18.51	18.41
DTLNAPL - Static - Start Event	ft	-	-	-
LNAPL	ft	-	-	-
DTGW - End Event	ft	18.98	22.21	20.31
DTLNAPL - End Event	ft	-	-	-
LNAPL	ft	-	-	-
Average Extraction Well Vacuum	"H_2O	135.0	160.0	195.0
Average Extraction Well Vapor Flow	scfm	15.34	20.61	20.20
Average GW/LNAPL Pump Rate	gpm	2.22	0.15	1.41
Total Liquid Volume Recovered	gals	591	41	660
Average TPH	ppmv	1,306	146	1,158
Average CO_2	%	8.27	12.1	5.26
Average CO	%	-	0.04	-
Average O_2	%	12.4	11.3	13.41
Average H_2S	ppm	0.30	-	-
Total Liquid LNAPL Recovered	gals	-	-	-
Total Liquid LNAPL Recovered	%	-	-	-
Total Vapor and Liquid LNAPL Recovered	gals	0.18	0.05	0.36
Total LNAPL Recovered	lbs	1.2	0.3	2.5
Total Volume of Well Vapors	cu. ft	4,142	5,565	9,696

OPERATING DATA - EVENT # 1A **PAGE # 1** **ACUVAC MOBILE DUAL PHASE SYSTEM**

Location: Flora Vista #1, San Juan County, NM **Project Managers: Sadler/Faucher**

	Date:	8-21-13	-	-	-	-	-
	Parameters	Time 0800	Time 0830	Time 0900	Time 0930	Time 1000	Time 1030
	WELL # **MW- 4**	Hr Meter 6520.5	Hr Meter 6521.0	Hr Meter 6521.5	Hr Meter 6522.0	Hr Meter 6522.5	Hr Meter 6523.0
ENGINE/BLOWER	R.P.M.	2000	2000	2000	2000	2000	2000
	Oil Pressure psi	50	50	50	50	50	50
	Water Temp °F	160	160	160	160	160	160
	Volts	13	13	13	13	13	13
	Intake Vacuum "Hg	19	19	19	19	19	19
	Gas Flow Fuel/Propane cfh	120	120	120	120	110	110
ATMOSPHERE/VACUUM/AIR PUMP/VOLUME	GW Pump **ON/OFF**	ON	ON	ON	ON	ON	ON
	Extraction Well Flow scfm	12.47	12.47	12.47	12.47	12.47	16.82
	Extraction Well Vacuum "H_2O	100	100	100	100	100	150
	Pump Rate gals/min	3.0	2.6	2.5	2.0	1.6	3.0
	Total Volume gals	-	90	168	228	276	366
	Influent Vapor Temp. °F	60	62	62	62	63	63
	Air Temperature °F	66.7	65.8	73.2	77.6	79.7	80.2
	Barometric Pressure "Hg	30.15	30.15	30.15	30.15	30.14	30.14
	Absolute Pressure "Hg	24.58	24.58	24.58	24.58	24.58	24.58
VAPOR /INFLUENT	HC ppmv	680	1050	1275	1220	1216	1390
	CO_2 %	9.60	9.56	9.08	8.22	2.56	7.82
	CO %	0	0	0	0	0	0
	O_2 %	9.5	10.6	11.6	11.8	12.2	12.8
	H_2S ppm	0	0	0	0	0	0
MANIFOLD	LNAPL % Vol Gals	0	0	0	0	0	0
	Depth of GW Depression ft	-9.0	-9.0	-9.0	-9.0	-9.0	-9.0
	Extraction Well DTLNAPL ft	←					
	Extraction Well DTGW ft	18.16					

NOTES

Arrived @ location @ 0630 Hrs - Positioned Acuvac System near well MW-4 as the extraction well - Installed safety cones - Tailgate safety meeting - Installed total fluids pump in EW-4 @ 20ft BTOC - Connected liquid discharge hose to collection tank. Mobilized dual phase equipment - 0755 - SAFETY CHECK - ALL OK 0800 START MDP Event # 1A - Initial EW vacuum @ 100 "Hg - VMP = 12.47 scfm GW Pump Rate (PR) = 3.0 gpm - on decreasing level - Plugged well MW-4 - 0.05 "Hg STATIC 1000 HRS - INCREASED EW vacuum = 150 "Hg, VMP = 14.96 scfm - GWPR = 3.0 gpm

( ) Indicates Well Pressure

TD = 30.30

OPERATING DATA - EVENT # 1A **PAGE # 2** **ACUVAC MOBILE DUAL PHASE SYSTEM**

Location: Flora Vista #1, San Juan County, NM **Project Managers: Sadler/Faucher**

	Date:	8-21-13	"	"	"		
	Parameters	Time 1100	Time 1130	Time 1200	Time 1230	Time	Time
	WELL # **MW-4**	Hr Meter 6523.5	Hr Meter 6524.0	Hr Meter 6524.5	Hr Meter 6525.0	Hr Meter	Hr Meter
ENGINE/BLOWER	R.P.M.	2000	2000	2000	2000		
	Oil Pressure psi	50	50	50	50		
	Water Temp °F	160	160	160	160		
	Volts	13	13	13	13		
	Intake Vacuum "Hg	18	18	18	18		
	Gas Flow Fuel/Propane cfh	110	120	120	120		
ATMOSPHERE/VACUUM/AIR PUMP/VOLUME	GW Pump **ON/OFF**	ON	ON	ON	ON		
	Extraction Well Flow scfm	16.82	16.82	20.29	20.29		
	Extraction Well Vacuum "H_2O	150	150	200	200		
	Pump Rate gals/min	2.5	2.0	1.8	1.2		
	Total Volume gals	441	501	555	591		
	Influent Vapor Temp. °F	63	63	61	61		
	Air Temperature °F	81.7	82.7	84.3	84.9		
	Barometric Pressure "Hg	30.13	30.13	30.12	30.11		
	Absolute Pressure "Hg	24.57	24.56	24.56	24.55		
VAPOR /INFLUENT	HC ppmv	1446	1530	1610	1640		
	CO_2 %	7.44	7.56	7.72	7.68		
	CO %	0	0	0	0		
	O_2 %	13.9	13.4	13.9	14.3		
	H_2S ppm	0	0	0	0		
MANIFOLD	LNAPL % Vol Gals						
	Depth of GW Depression ft	-9.0	-9.0	-9.0	-9.0		
	Extraction Well DTLNAPL ft				—		
	Extraction Well DTGW ft				18.98		

NOTES

EW induced vacuum and UWF steady @ 150" H_2O, 14.96 scfm - GWPR 2.5 gpm
1130 Hrs - INCREASED EW induced vacuum = 200" H_2O, UWF 20.29 scfm
GWPR = 2.0 gpm - decreasing to 1.8 gpm - Decreased to 1.2 gpm
1230 Hrs DISCONTINUED SVE/GW Recovery - Event # 1A completed - Mobilized
Acuvac System on well MW-1

( ) Indicates Well Pressure

OPERATING DATA - EVENT # 1B **PAGE # 1** **ACUVAC MOBILE DUAL PHASE SYSTEM**

Location: Flora Vista #1, San Juan County, NM **Project Managers: Sadler/Faucher**

		Date:	8-21-13	-	-	-	-	-
	Parameters		Time 1300	Time 1330	Time 1400	Time 1430	Time 1500	Time 1530
	WELL # MW-1		Hr Meter 62250	Hr Meter 62255	Hr Meter 62260	Hr Meter 62265	Hr Meter 62270	Hr Meter 62275
ENGINE/BLOWER	R.P.M.		2200	2200	2200	2200	2200	2200
	Oil Pressure	psi	50	50	50	50	50	50
	Water Temp	°F	160	160	160	160	160	160
	Volts		13	13	13	13	13	13
	Intake Vacuum	"Hg	15	15	15	15	15	15
	Gas Flow Fuel/Propane	cfh	130	130	130	130	130	130
ATMOSPHERE/VACUUM/AIR PUMP/VOLUME	GW Pump	ON/OFF	ON	ON	ON	ON	ON	ON
	Extraction Well Flow	scfm	18.52	18.52	18.52	19.67	20.52	21.45
	Extraction Well Vacuum	"H_2O	150	150	150	150	150	150
	Pump Rate	gals/min	0.15	0.15	0.15	0.15	0.15	0.15
	Total Volume	gals	-	4.5	9.0	13.5	18	22.5
	Influent Vapor Temp.	°F	72	72	72	72	72	72
	Air Temperature	°F	85.8	87.1	89.9	91.0	91.8	92.6
	Barometric Pressure	"Hg	30.09	30.08	30.06	30.04	30.02	30.01
	Absolute Pressure	"Hg	24.53	24.52	24.51	24.50	24.48	24.47
VAPOR /INFLUENT	HC	ppmv	114	118	121	128	137	126
	CO_2	%	12.9	12.6	11.9	11.2	10.8	10.60
	CO	%	.04	.04	.04	.04	.04	.04
	O_2	%	11.1	10.9	11.1	11.3	11.2	11.4
	H_2S	ppm	0	0	0	0	0	0

NOTES

1245 HRS - Mobilized AcuVac System on well MW-1 as the extraction well - Gauged well - Set GW pump inlet @ 25.20 ft BTOC - Initial EW induced vacuum @ 150" H_2O, VWF = 18.52scfm - GWPR = 0.15gpm

1430 HRS - VWF on increasing trend with induced vacuum steady @ 150" H_2O

1530 HRS Increased EW vacuum = 175 " H_2O, VWF = 23.46 scfm

GWPR = 0.15 gpm

MANIFOLD								
	LNAPL % Vol Gals		-	-	-	-	-	-
	Depth of GW Depression	ft	-7.0	7.0	-7.0	-7.0	-7.0	-7.0
	Extraction Well DTLNAPL	ft						
	Extraction Well DTGW	ft	18.51					

( ) Indicates Well Pressure

7FORMS/TestForms/1210017B

TO = 76.22

OPERATING DATA - EVENT # 1B **PAGE # 2** **ACUVAC MOBILE DUAL PHASE SYSTEM**

Location: Flora Vista #1, San Juan County, NM **Project Managers: Sadler/Faucher**

	Date:	8-21-13	–	–	–		
	Parameters	Time 1600	Time 1630	Time 1700	Time 1730	Time	Time
	WELL # **MW- 1**	Hr Meter 6228.0	Hr Meter 6228.5	Hr Meter 6229.0	Hr Meter 6229.5	Hr Meter	Hr Meter
ENGINE/BLOWER	R.P.M.	2300	2300	2300	2300		
	Oil Pressure psi	50	50	50	50		
	Water Temp °F	170	170	170	170		
	Volts	13	13	13	13		
	Intake Vacuum "Hg	13	13	13	13		
	Gas Flow Fuel/Propane cfh	150	150	150	150		
ATMOSPHERE/VACUUM/AIR PUMP/VOLUME	GW Pump **ON/OFF**	ON	ON	ON	ON		
	Extraction Well Flow scfm	23.46	23.46	23.46	23.46		
	Extraction Well Vacuum "H_2O	175	175	175	175		
	Pump Rate gals/min	.15	.15	.15	.15		
	Total Volume gals	27	31.5	36	40.5		
	Influent Vapor Temp. °F	74	74	74	74		
	Air Temperature °F	93.1	93.3	cloudy 90.2	cloudy 88.3		
	Barometric Pressure "Hg	30.00	29.99	30.00	30.01		
	Absolute Pressure "Hg	24.46	24.46	24.46	24.47		
VAPOR /INFLUENT	HC ppmv	182	178	188	165		
	CO_2 %	14.04	12.23	12.72	12.01		
	CO %	.05	.04	.04	.03		
	O_2 %	10.9	11.4	11.6	11.8		
	H_2S ppm	0	0	0	0		
NOTES	EW vacuum and vapor well flow steady @ 175"H2O, 23.46 scfm HORIBA TPH continues to below 200 ppmv - GWPRE 0.15 gpm NOTE: Decreasing BP below 30.00"Hg 1730 Hrs Discontinue MDP Event # 1B to allow time for demob. and out of gate by 1830 Hrs - Also, heavy electrical storm in area.						
MANIFOLD	LNAPL % Vol Gals	–	–	–	–		
	Depth of GW Depression ft	-7.0	-7.0	-7.0	-7.0		
	Extraction Well DTLNAPL ft				–		
	Extraction Well DTGW ft				22.21		

( ) Indicates Well Pressure

NO CNAPL

7FORMS/TestForms/1210017B

OPERATING DATA - EVENT # 2 **PAGE # 1** **ACUVAC MOBILE DUAL PHASE SYSTEM**

Location: Flora Vista #1, San Juan County, NM **Project Managers: Sadler/Faucher**

	Date:	8-22-13	-	-	-	-	-
	Parameters	Time 0900	Time 0930	Time 1000	Time 1030	Time 1100	Time 1130
	WELL # **MW-4**	Hr Meter 6530.0	Hr Meter 6530.5	Hr Meter 6531.0	Hr Meter 6531.5	Hr Meter 6532.0	Hr Meter 6532.5
ENGINE/BLOWER	R.P.M.	2000	2000	2000	2000	2000	2000
	Oil Pressure psi	50	50	50	50	50	50
	Water Temp °F	130	160	160	160	160	160
	Volts	13	13	13	13	13	13
	Intake Vacuum "Hg	18	18	18	18	18	18
	Gas Flow Fuel/Propane cfh	120	120	120	120	110	110
ATMOSPHERE/VACUUM/AIR PUMP/VOLUME	GW Pump **ON/OFF**	ON	ON	ON	ON	ON	ON
	Extraction Well Flow scfm	16.82	16.82	16.82	16.82	20.11	20.11
	Extraction Well Vacuum "H_2O	150	150	150	150	200	200
	Pump Rate gals/min	2.5	2.0	2.0	1.5	2.0	1.5
	Total Volume gals	-	75	135	180	240	285
	Influent Vapor Temp. °F	59	59	59	60	60	60
	Air Temperature °F	69.7	70.4	73.8	75.2	74.4	75.1
	Barometric Pressure "Hg	30.21	30.21	30.22	30.22	30.22	30.21
	Absolute Pressure "Hg	24.64	24.64	24.64	24.64	24.64	24.63
VAPOR /INFLUENT	HC ppmv	1080	1194	1272	1260	1250	1276
	CO_2 %	6.44	6.96	6.94	5.62	4.98	5.24
	CO %	0	0	0	0	0	0
	O_2 %	13.5	13.6	13.9	13.7	13.8	13.8
	H_2S ppm	0	0	0	0	0	0
NOTES	Arrived @ site @ 0825 - Positioned AcuVac System over well MW-4 as the extraction well - Tailgate Safety - Installed GW pump @ 28.5' BTOC - Mobilized SVE & Pumping equipment - Checked all connections - All ok - Safety Checks - OK						
	Initial EW induced vacuum set @ 150 "H2O VOF = 16.82 scfm - GWPR = 2.5 gpm decreasing to 2.0 gpm - 1030 Hrs INCREASED EW vacuum = 200 "H2O VOF = 20.11 scfm GWPR = 1.5 gpm						
	DTGW - MW-1 = 18.56' BTOC (0845 Hrs) = 18.48 (1650 Hrs) + 0.08' NOTE BP ↓						
MANIFOLD	LNAPL % Vol Gals	-	-	-	-	-	-
	Depth of GW Depression ft	-9.0	-9.0	-9.0	-9.0	-9.0	-9.0
	Extraction Well DTLNAPL ft	-					
	Extraction Well DTGW ft	18.41					

( ) Indicates Well Pressure

OPERATING DATA - EVENT # 2 **PAGE # 2** **ACUVAC MOBILE DUAL PHASE SYSTEM**

Location: Flora Vista #1, San Juan County, NM **Project Managers: Sadler/Faucher**

	Date:	8-22-13	–	–	–	–	–
	Parameters	Time 1200	Time 1230	Time 1300	Time 1330	Time 1400	Time 1430
	WELL # **MW- 4**	Hr Meter 6533.0	Hr Meter 6533.5	Hr Meter 6534.0	Hr Meter 6534.5	Hr Meter 6535.0	Hr Meter 6535.5
ENGINE/BLOWER	R.P.M.	2000	2000	2000	2000	2000	2100
	Oil Pressure psi	50	50	50	50	50	50
	Water Temp °F	160	160	160	160	160	160
	Volts	13	13	13	13	13	13
	Intake Vacuum "Hg	18	18	18	18	18	17
	Gas Flow Fuel/Propane cfh	110	110	110	110	110	120
ATMOSPHERE/VACUUM/AIR PUMP/VOLUME	GW Pump **ON/OFF**	ON	ON	ON	ON	ON	ON
	Extraction Well Flow scfm	20.11	20.11	20.11	20.11	20.11	22.57
	Extraction Well Vacuum "H_2O	200	200	200	200	200	220
	Pump Rate gals/min	1.3	1.0	1.0	1.0	1.0	1.2
	Total Volume gals	324	354	384	414	444	480
	Influent Vapor Temp. °F	60	60	60	60	60	58
	Air Temperature °F	76.4	78.6	80.9	82.4	84.4	86.1
	Barometric Pressure "Hg	30.20	30.18	30.17	30.16	30.14	30.13
	Absolute Pressure "Hg	24.63	24.62	24.60	24.59	24.58	24.57
VAPOR /INFLUENT	HC ppmv	1,284	1,230	1,226	1,218	1,202	1134
	CO_2 %	5.39	5.54	5.56	5.50	5.41	4.82
	CO %	0	0	0	0	0	0
	O_2 %	13.4	13.4	13.3	13.4	13.5	12.6
	H_2S ppm	0	0	0	0	0	0
NOTES	EW induced vacuum and well flow steady @ 200 "H2O, 20.11 scfm						
	GWPR @ 1.3 gpm ↓ - Note: 1230 hrs - GWPR @ 1.0 gpm						
	1400 HRS - Increased EW induced vacuum = 220 "H2O, VWF = 23.87 scfm						
	GWPR = 1.2 gpm						
MANIFOLD	LNAPL % Vol Gals	–	–	–	–	–	–
	Depth of GW Depression ft	-9.0	-9.0	-9.0	-9.0	-9.0	-9.0
	Extraction Well DTLNAPL ft						
	Extraction Well DTGW ft						

( ) Indicates Well Pressure

OPERATING DATA - EVENT # 2 **PAGE # 3** **ACUVAC MOBILE DUAL PHASE SYSTEM**

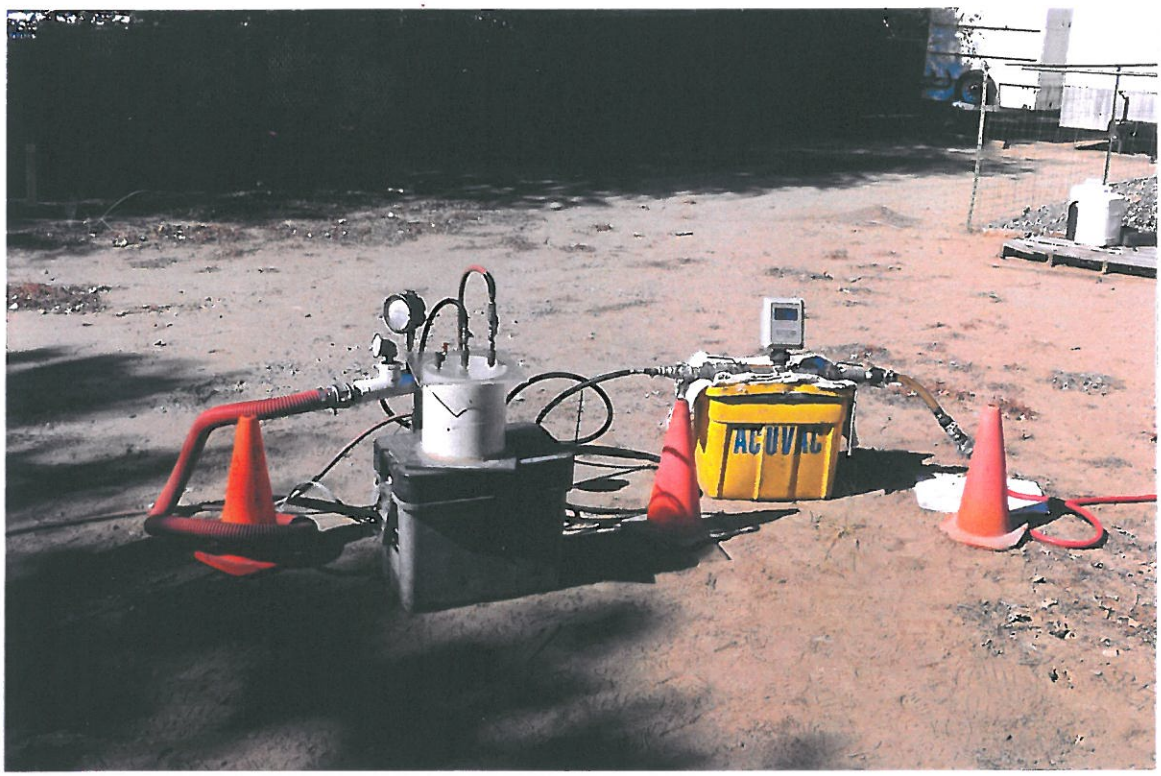
Location: Flora Vista #1, San Juan County, NM **Project Managers: Sadler/Faucher**

	Date:	8-22-13	–	–	–	–	
	Parameters	Time 1500	Time 1530	Time 1600	Time 1630	Time 1700	Time
	WELL # **MW-4**	Hr Meter 6536.0	Hr Meter 6536.5	Hr Meter 6537.0	Hr Meter 6537.5	Hr Meter 6538.0	Hr Meter
ENGINE/BLOWER	R.P.M.	2100	2100	2100	2100	2100	
	Oil Pressure psi	50	50	50	50	50	
	Water Temp °F	160	160	160	160	160	
	Volts	13	13	13	13	13	
	Intake Vacuum "Hg	17	17	17	17	17	
	Gas Flow Fuel/Propane cfh	120	120	120	120	120	
ATMOSPHERE/VACUUM/AIR PUMP/VOLUME	GW Pump **ON/OFF**	ON	ON	ON	ON	ON	
	Extraction Well Flow scfm	22.57	22.57	22.57	22.57	22.57	
	Extraction Well Vacuum "H_2O	220	220	220	220	220	
	Pump Rate gals/min	1.2	1.2	1.2	1.2	1.2	
	Total Volume gals	516	552	588	624	660	
	Influent Vapor Temp. °F	58	58	58	58	58	
	Air Temperature °F	87.8	88.2	89.3	90.4	91.8	
	Barometric Pressure "Hg	30.11	30.10	30.08	30.05	30.03	
	Absolute Pressure "Hg	24.56	24.55	24.53	24.51	24.49	
VAPOR /INFLUENT	HC ppmv	1080	10.28	1,004	9.86	954	
	CO_2 %	4.42	4.26	4.22	4.10	3.96	
	CO %	0	0	0	0	0	
	O_2 %	12.9	13.1	13.3	13.4	13.4	
	H_2S ppm	0	0	0	0	0	
NOTES	EW induced vacuum steady @ 220 "H_2O, VWR @ 22.57 scfm PR = 1.2 gpm						
	GW PR mostly steady @ 1.2 gpm average						
	NOTE HORIBA TPH continues on decreasing ppmv trend						
	1630 Hrs - GAUGED WELL MW-1 =						
	1700 Hrs - Discontinued SVE & GW recovery - Event # 2 Completed						
	Gauged well MW-4 - Demob - Secured all wells -						
	1745 Hrs - Departed site –						
MANIFOLD	LNAPL % Vol / Gals	–	–	–	–	–	
	Depth of GW Depression ft	-9.0	-9.0	-9.0	-9.0	-9.0	
	Extraction Well DTLNAPL ft					–	
	Extraction Well DTGW ft					20.31	

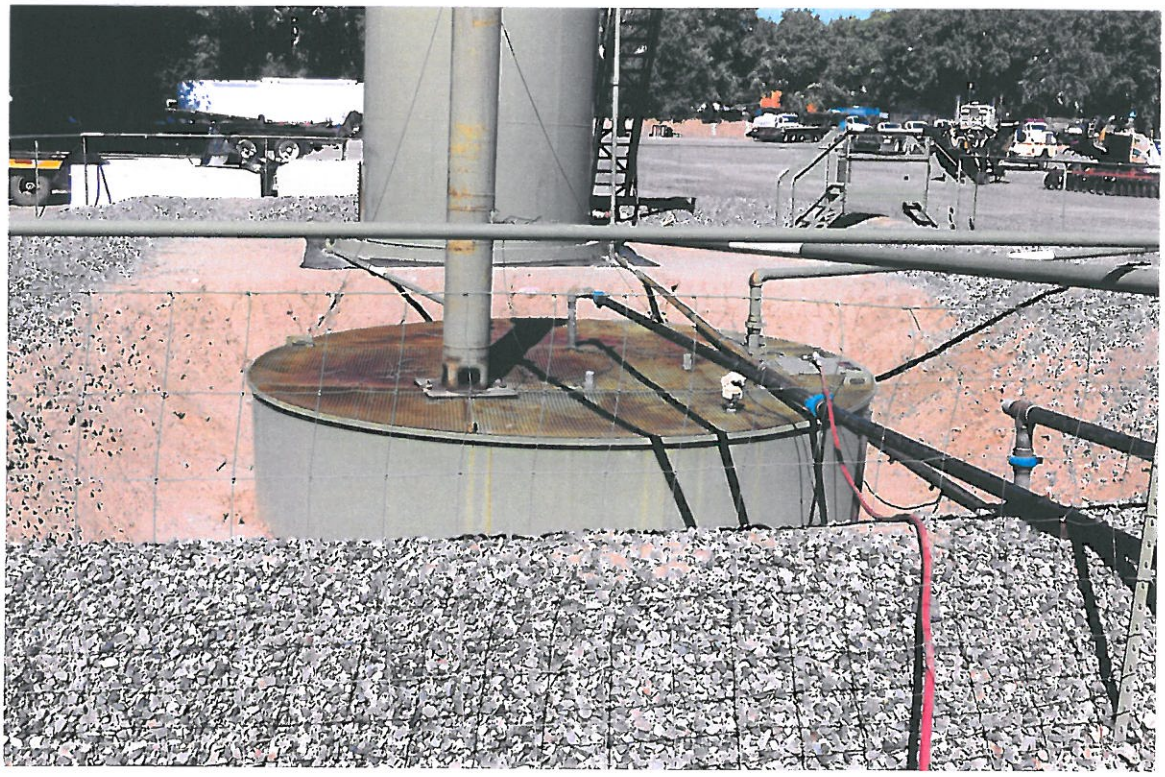
( ) Indicates Well Pressure

FLORA VISTA NO. 1 SITE
AZTEC, NM

FLORA VISTA NO. 1 SITE
AZTEC, NM



FLORA VISTA NO. 1 SITE
AZTEC, NM



Appendix B

2013 Quarterly Groundwater Sampling Field Forms

WELL SAMPLING FIELD INFORMATION FORM

SITE/PROJECT NAME: Flora Vista No. 1 JOB# 074926

SAMPLE ID: GW-074926-032013-(M)-mw-1 WELL# MW-1

WELL PURGING INFORMATION

PURGE DATE (MM DD YY)	SAMPLE DATE (MM DD YY)	SAMPLE TIME (24 HOUR)	WATER VOL. IN CASING (GALLONS)	ACTUAL VOL. PURGED (GALLONS)
3-20-13	3-20-13	1710	0.230	.25

PURGING AND SAMPLING EQUIPMENT

PURGING EQUIPMENT.....DEDICATED (Y) N (CIRCLE ONE)

SAMPLING EQUIPMENT.....DEDICATED (Y) N (CIRCLE ONE)

PURGING DEVICE	G	A - SUBMERSIBLE PUMP B - PERISTALTIC PUMP	D - GAS LIFT PUMP E - PURGE PUMP	G - BAILER H - WATERRA®
SAMPLING DEVICE	G	C - BLADDER PUMP	F - DIPPER BOTTLE	X - OTHER
PURGING MATERIAL	E	A - TEFLON B - STAINLESS STEEL	D - PVC E - POLYETHYLENE	
SAMPLING MATERIAL	E	C - POLYPROPYLENE	X - OTHER	
PURGE TUBING	C	A - TEFLON B - TYGON	D - POLYPROPYLENE E - POLYETHYLENE	G - COMBINATION TEFLON/POLYPROPYLENE
SAMPLING TUBING	C	C - ROPE	F - SILICONE	X - OTHER
FILTERING DEVICES 0.45	A	A - IN-LINE DISPOSABLE	B - PRESSURE	for metals only

X= PURGING DEVICE OTHER (SPECIFY)

X= SAMPLING DEVICE OTHER (SPECIFY)

X= PURGING MATERIAL OTHER (SPECIFY)

X= SAMPLING MATERIAL OTHER (SPECIFY)

X= PURGE TUBING OTHER (SPECIFY)

X= SAMPLING TUBING OTHER (SPECIFY)

FIELD MEASUREMENTS

DEPTH TO WATER: 24.79 (feet) WELL ELEVATION: (feet)

WELL DEPTH: 26.23 (feet) GROUNDWATER ELEVATION: (feet)

TEMPERATURE	pH	TDS		DO	ORP	VOLUME
(°C)	(std)	(g/L)	(µS/cm)	(mg/L)	(mV)	(gal)
(°C)	(std)	(g/L)	(µS/cm)	(mg/L)	(mV)	(gal)
(°C)	(std)	(g/L)	(µS/cm)	(mg/L)	(mV)	(gal)
(°C)	(std)	(g/L)	(µS/cm)	(mg/L)	(mV)	(gal)
(°C)	(std)	(g/L)	(µS/cm)	(mg/L)	(mV)	(gal)

FIELD COMMENTS

SAMPLE APPEARANCE: cloudy ODOR: Sulfury/bio COLOR: black SHEEN Y/N: no

WEATHER CONDITIONS: TEMPERATURE 55° WINDY Y/N: no PRECIPITATION Y/N (IF Y TYPE): no

SPECIFIC COMMENTS: no parameters due to low volume & slow recharge

1/4 gallon removed from well and then dry. Will wait for recharge and then sample.

0.230 x3 = 0.691

I CERTIFY THAT SAMPLING PROCEDURES WERE IN ACCORDANCE WITH APPLICABLE CRA PROTOCOLS

DATE 3/20/13 PRINT Christine Matthews SIGNATURE Christine Matthews

WELL SAMPLING FIELD INFORMATION FORM

SITE/PROJECT NAME: Flora Vista No. 1 JOB# 074926
SAMPLE ID: GW-074926-032013-BM-MW-2 WELL# MW-2

WELL PURGING INFORMATION

PURGE DATE (MM DD YY)	SAMPLE DATE (MM DD YY)	SAMPLE TIME (24 HOUR)	WATER VOL. IN CASING (GALLONS)	ACTUAL VOL. PURGED (GALLONS)
3-20-13	3-20-13	1725	0.862	2.25

PURGING AND SAMPLING EQUIPMENT

PURGING EQUIPMENT.....DEDICATED (Y) N (CIRCLE ONE)

SAMPLING EQUIPMENT.....DEDICATED (Y) N (CIRCLE ONE)

PURGING DEVICE	G	A - SUBMERSIBLE PUMP B - PERISTALTIC PUMP	D - GAS LIFT PUMP E - PURGE PUMP	G - BAILER H - WATERRA®	X= PURGING DEVICE OTHER (SPECIFY)
SAMPLING DEVICE	G	C - BLADDER PUMP	F - DIPPER BOTTLE	X - OTHER	X= SAMPLING DEVICE OTHER (SPECIFY)
PURGING MATERIAL	E	A - TEFLON B - STAINLESS STEEL	D - PVC E - POLYETHYLENE		X= PURGING MATERIAL OTHER (SPECIFY)
SAMPLING MATERIAL	E	C - POLYPROPYLENE	X - OTHER		X= SAMPLING MATERIAL OTHER (SPECIFY)
PURGE TUBING	C	A - TEFLON B - TYGON	D - POLYPROPYLENE E - POLYETHYLENE	G - COMBINATION TEFLON/POLYPROPYLENE	X= PURGE TUBING OTHER (SPECIFY)
SAMPLING TUBING	C	C - ROPE	F - SILICONE	X - OTHER	X= SAMPLING TUBING OTHER (SPECIFY)
FILTERING DEVICES 0.45	A	A - IN-LINE DISPOSABLE	B - PRESSURE	- for metals only	

FIELD MEASUREMENTS

DEPTH TO WATER: 26.49 (feet) WELL ELEVATION: (feet)

WELL DEPTH: 31.88 (feet) GROUNDWATER ELEVATION: (feet)

TEMPERATURE	pH	TDS	SC	DO	ORP	VOLUME
17.01 (°C)	7.20 (std)	0.470 (g/L)	612 (µS/cm)	3.08 (mg/L)	-15.3 (mV)	1.5 (gal)
~~16.64~~ (°C)	~~7.39~~ (std)	~~0.46~~ (g/L)	(µS/cm)	(mg/L)	(mV)	~~2.0~~ (gal)
16.71 (°C)	7.36 (std)	0.468 (g/L)	607 (µS/cm)	3.11 (mg/L)	-22.3 (mV)	2.0 (gal)
(°C)	(std)	(g/L)	(µS/cm)	(mg/L)	(mV)	(gal)
(°C)	(std)	(g/L)	(µS/cm)	(mg/L)	(mV)	(gal)

FIELD COMMENTS

SAMPLE APPEARANCE: cloudy ODOR: none COLOR: brown SHEEN Y/N: no

WEATHER CONDITIONS: TEMPERATURE: 60° WINDY Y/N: no PRECIPITATION Y/N (IF Y TYPE): no

SPECIFIC COMMENTS: well dry @ 1.5 gallons. will wait for recharge and then sample

0.862 x 3 = 2.587

I CERTIFY THAT SAMPLING PROCEDURES WERE IN ACCORDANCE WITH APPLICABLE CRA PROTOCOLS

DATE 3/20/13 PRINT Christin Mathews SIGNATURE Christin Mathews

WELL SAMPLING FIELD INFORMATION FORM

SITE/PROJECT NAME: Flora Vista No. 1 JOB# 074926

SAMPLE ID: GW-074926-032013-CM-MW-3 WELL# MW-3

WELL PURGING INFORMATION

PURGE DATE (MM DD YY)	SAMPLE DATE (MM DD YY)	SAMPLE TIME (24 HOUR)	WATER VOL. IN CASING (GALLONS)	ACTUAL VOL. PURGED (GALLONS)
3.20.13	3.20.13	1620	1.075	3.25

PURGING AND SAMPLING EQUIPMENT

PURGING EQUIPMENT.....DEDICATED (Y) N (CIRCLE ONE)

SAMPLING EQUIPMENT.....DEDICATED (Y) N (CIRCLE ONE)

PURGING DEVICE	G	A - SUBMERSIBLE PUMP B - PERISTALTIC PUMP	D - GAS LIFT PUMP E - PURGE PUMP	G - BAILER H - WATERRA®	X= PURGING DEVICE OTHER (SPECIFY)
SAMPLING DEVICE	G	C - BLADDER PUMP	F - DIPPER BOTTLE	X - OTHER	X= SAMPLING DEVICE OTHER (SPECIFY)
PURGING MATERIAL	E	A - TEFLON B - STAINLESS STEEL	D - PVC E - POLYETHYLENE		X= PURGING MATERIAL OTHER (SPECIFY)
SAMPLING MATERIAL	E	C - POLYPROPYLENE	X - OTHER		X= SAMPLING MATERIAL OTHER (SPECIFY)
PURGE TUBING	C	A - TEFLON B - TYGON	D - POLYPROPYLENE E - POLYETHYLENE	G - COMBINATION TEFLON/POLYPROPYLENE	X= PURGE TUBING OTHER (SPECIFY)
SAMPLING TUBING	C	C - ROPE	F - SILICONE	X - OTHER	X= SAMPLING TUBING OTHER (SPECIFY)
FILTERING DEVICES 0.45	A	A - IN-LINE DISPOSABLE	B - PRESSURE	- for metals only	

FIELD MEASUREMENTS

DEPTH TO WATER: 23.18 (feet) WELL ELEVATION: (feet)

WELL DEPTH: 29.90 (feet) GROUNDWATER ELEVATION: (feet)

TEMPERATURE	pH	TDS	SC	DO	ORP	VOLUME
15.37 (°C)	7.60 (std)	0.512 (g/L)	643 (µS/cm)	7.33 (mg/L)	50.2 (mV)	2.50 (gal)
15.29 (°C)	7.21 (std)	0.496 (g/L)	620 (µS/cm)	6.89 (mg/L)	-27.2 (mV)	3.00 (gal)
15.39 (°C)	7.09 (std)	0.486 (g/L)	611 (µS/cm)	5.27 (mg/L)	-11.0 (mV)	3.25 (gal)
(°C)	(std)	(g/L)	(µS/cm)	(mg/L)	(mV)	(gal)
(°C)	(std)	(g/L)	(µS/cm)	(mg/L)	(mV)	(gal)

FIELD COMMENTS

SAMPLE APPEARANCE: cloudy ODOR: none COLOR: brown SHEEN Y/N no

WEATHER CONDITIONS: TEMPERATURE 60° WINDY Y/N no PRECIPITATION Y/N (IF Y TYPE) no

SPECIFIC COMMENTS:

1.075 x 3 = 3.225

I CERTIFY THAT SAMPLING PROCEDURES WERE IN ACCORDANCE WITH APPLICABLE CRA PROTOCOLS

DATE 3/20/13 PRINT Christine Mathews SIGNATURE Christine Mathews

WELL SAMPLING FIELD INFORMATION FORM

SITE/PROJECT NAME: Flora Vista No. 1 JOB# 074926

SAMPLE ID: GW-074926-032013-CM-MW-4 WELL# MW-4

WELL PURGING INFORMATION

PURGE DATE (MM DD YY)	SAMPLE DATE (MM DD YY)	SAMPLE TIME (24 HOUR)	WATER VOL. IN CASING (GALLONS)	ACTUAL VOL. PURGED (GALLONS)
3-20-13	3-20-13	1655	0.954	3.0

PURGING AND SAMPLING EQUIPMENT

PURGING EQUIPMENT.....DEDICATED (Y) N (CIRCLE ONE)

SAMPLING EQUIPMENT.....DEDICATED (Y) N (CIRCLE ONE)

PURGING DEVICE	G	A - SUBMERSIBLE PUMP B - PERISTALTIC PUMP	D - GAS LIFT PUMP E - PURGE PUMP	G - BAILER H - WATERRA®	X= PURGING DEVICE OTHER (SPECIFY)
SAMPLING DEVICE	G	C - BLADDER PUMP	F - DIPPER BOTTLE	X - OTHER	X= SAMPLING DEVICE OTHER (SPECIFY)
PURGING MATERIAL	E	A - TEFLON B - STAINLESS STEEL	D - PVC E - POLYETHYLENE		X= PURGING MATERIAL OTHER (SPECIFY)
SAMPLING MATERIAL	E	C - POLYPROPYLENE	X - OTHER		X= SAMPLING MATERIAL OTHER (SPECIFY)
PURGE TUBING	C	A - TEFLON B - TYGON	D - POLYPROPYLENE E - POLYETHYLENE	G - COMBINATION TEFLON/POLYPROPYLENE	X= PURGE TUBING OTHER (SPECIFY)
SAMPLING TUBING	C	C - ROPE	F - SILICONE	X - OTHER	X= SAMPLING TUBING OTHER (SPECIFY)
FILTERING DEVICES 0.45	A	A - IN-LINE DISPOSABLE	B - PRESSURE	For metals only	

FIELD MEASUREMENTS

DEPTH TO WATER 24.38 (feet) WELL ELEVATION (feet)

WELL DEPTH 30.34 (feet) GROUNDWATER ELEVATION (feet)

TEMPERATURE	pH	TDS	SC	DO	ORP	VOLUME
15.28 (°C)	6.89 (std)	0.506 (g/L)	634 (µS/cm)	2.02 (mg/L)	-150.2 (mV)	2.0 (gal)
15.33 (°C)	6.88 (std)	0.507 (g/L)	636 (µS/cm)	1.98 (mg/L)	-147.1 (mV)	2.5 (gal)
15.01 (°C)	6.91 (std)	0.509 (g/L)	633 (µS/cm)	1.85 (mg/L)	-147.9 (mV)	3.0 (gal)
(°C)	(std)	(g/L)	(µS/cm)	(mg/L)	(mV)	(gal)
(°C)	(std)	(g/L)	(µS/cm)	(mg/L)	(mV)	(gal)

FIELD COMMENTS

SAMPLE APPEARANCE: Cloudy ODOR: sulfury/bio COLOR: dark gray SHEEN Y/N no

WEATHER CONDITIONS: TEMPERATURE 55° WIND Y/N no PRECIPITATION Y/N (IF Y TYPE) no

SPECIFIC COMMENTS: Duplicate collected @ 1700
GW-074926-032013-CM-DUP

0.954 x 3 = 2.861

I CERTIFY THAT SAMPLING PROCEDURES WERE IN ACCORDANCE WITH APPLICABLE CRA PROTOCOLS

DATE 3/20/13 PRINT Christine Mathias SIGNATURE [signature]

WELL SAMPLING FIELD INFORMATION FORM

SITE/PROJECT NAME: FLORA VISTA #1 JOB# 074926
SAMPLE ID: 074926 JK-061213-MW1 WELL# MW-1

WELL PURGING INFORMATION

PURGE DATE (MM DD YY)	SAMPLE DATE (MM DD YY)	SAMPLE TIME (24 HOUR)	WATER VOL IN CASING (GALLONS)	ACTUAL VOL. PURGED (GALLONS)
06 12 13	06 12 13	1030	.57	1.73

PURGING AND SAMPLING EQUIPMENT

PURGING EQUIPMENT.....DEDICATED (Y) N (CIRCLE ONE)
SAMPLING EQUIPMENT.....DEDICATED (Y) N (CIRCLE ONE)

PURGING DEVICE	G	A - SUBMERSIBLE PUMP B - PERISTALTIC PUMP	D - GAS LIFT PUMP E - PURGE PUMP	G - BAILER H - WATERRA®	X= PURGING DEVICE OTHER (SPECIFY)
SAMPLING DEVICE	G	C - BLADDER PUMP	F - DIPPER BOTTLE	X - OTHER	X= SAMPLING DEVICE OTHER (SPECIFY)
PURGING MATERIAL	E	A - TEFLON B - STAINLESS STEEL	D - PVC E - POLYETHYLENE		X= PURGING MATERIAL OTHER (SPECIFY)
SAMPLING MATERIAL	E	C - POLYPROPYLENE	X - OTHER		X= SAMPLING MATERIAL OTHER (SPECIFY)
PURGE TUBING	C	A - TEFLON B - TYGON	D - POLYPROPYLENE E - POLYETHYLENE	G - COMBINATION TEFLON/POLYPROPYLENE	X= PURGE TUBING OTHER (SPECIFY)
SAMPLING TUBING	C	C - ROPE	F - SILICONE	X - OTHER	X= SAMPLING TUBING OTHER (SPECIFY)
FILTERING DEVICES 0.45	A	A - IN-LINE DISPOSABLE	B - PRESSURE		

FIELD MEASUREMENTS

DEPTH TO WATER 22.51 (feet) WELL ELEVATION (feet)
WELL DEPTH 26.36 (feet) GROUNDWATER ELEVATION (feet)

TEMPERATURE	pH	TDS (3.85)	SC	DO %	ORP	VOLUME
15.53 (°C)	6.9 (std)	1.172 (g/L)	.30 (µS/cm)	3.3 (mg/L)	132.2 (mV)	0.75 (gal)
15.59 (°C)	6.86 (std)	1.173 (g/L)	.33 (µS/cm)	3.0 (mg/L)	123.7 (mV)	1.25 (gal)
						1.75 (gal)

FIELD COMMENTS

SAMPLE APPEARANCE: SLIGHT ODOR: SLIGHT COLOR: SHEEN Y/N
WEATHER CONDITIONS: TEMPERATURE 85 WINDY Y/N N PRECIPITATION Y/N (IF Y TYPE) N
SPECIFIC COMMENTS: 3.85 x .15 = 0.577 x 3 = 1.73

I CERTIFY THAT SAMPLING PROCEDURES WERE IN ACCORDANCE WITH APPLICABLE CRA PROTOCOLS

DATE PRINT JOSH KIRCHNER SIGNATURE

WELL SAMPLING FIELD INFORMATION FORM

SITE/PROJECT NAME: FLORA VISTA #1 JOB# 074926
SAMPLE ID: 074926-JK-061213-MW WELL# MW 2

WELL PURGING INFORMATION

PURGE DATE (MM DD YY)	SAMPLE DATE (MM DD YY)	SAMPLE TIME (24 HOUR)	WATER VOL IN CASING (GALLONS)	ACTUAL VOL PURGED (GALLONS)
06-12-13	0612 13	1045	1.47	4.4

PURGING AND SAMPLING EQUIPMENT

PURGING EQUIPMENT.....DEDICATED (Y) N (CIRCLE ONE)
SAMPLING EQUIPMENT.....DEDICATED (Y) N (CIRCLE ONE)

PURGING DEVICE	G	A - SUBMERSIBLE PUMP	D - GAS LIFT PUMP	G - BAILER	X= PURGING DEVICE OTHER (SPECIFY)
		B - PERISTALTIC PUMP	E - PURGE PUMP	H - WATERRA®	
SAMPLING DEVICE	G	C - BLADDER PUMP	F - DIPPER BOTTLE	X - OTHER	X= SAMPLING DEVICE OTHER (SPECIFY)
PURGING MATERIAL	E	A - TEFLON	D - PVC		X= PURGING MATERIAL OTHER (SPECIFY)
		B - STAINLESS STEEL	E - POLYETHYLENE		
SAMPLING MATERIAL	E	C - POLYPROPYLENE	X - OTHER		X= SAMPLING MATERIAL OTHER (SPECIFY)
PURGE TUBING	C	A - TEFLON	D - POLYPROPYLENE	G - COMBINATION TEFLON/POLYPROPYLENE	X= PURGE TUBING OTHER (SPECIFY)
		B - TYGON	E - POLYETHYLENE		
SAMPLING TUBING	C	C - ROPE	F - SILICONE	X - OTHER	X= SAMPLING TUBING OTHER (SPECIFY)
FILTERING DEVICES 0.45	A	A - IN-LINE DISPOSABLE	B - PRESSURE		

FIELD MEASUREMENTS

DEPTH TO WATER 27.03 (feet) WELL ELEVATION (feet)
WELL DEPTH 31.90 (feet) GROUNDWATER ELEVATION (feet)

TEMPERATURE	pH	TDS	SC	DO	ORP	VOLUME
16.53 (°C)	7.26 (std)	1.133 (g/L)	1743 (µS/cm)	.45 (mg/L)	-43 (mV)	3.5 (gal)
16.56 (°C)	7.18 (std)	1.137 (g/L)	1749 (µS/cm)	.31 (mg/L)	-35.6 (mV)	4.0 (gal)
16.57 (°C)	7.18 (std)	1.136 (g/L)	1748 (µS/cm)	.35 (mg/L)	-30.1 (mV)	4.5 (gal)
(°C)	(std)	(g/L)	(µS/cm)	(mg/L)	(mV)	(gal)
(°C)	(std)	(g/L)	(µS/cm)	(mg/L)	(mV)	(gal)

FIELD COMMENTS

SAMPLE APPEARANCE: ODOR: COLOR: N SHEEN Y/N
WEATHER CONDITIONS: TEMPERATURE 85 WINDY Y/N PRECIPITATION Y/N (IF Y TYPE) N
SPECIFIC COMMENTS: 9.77 1.47 x 3 4.4

I CERTIFY THAT SAMPLING PROCEDURES WERE IN ACCORDANCE WITH APPLICABLE CRA PROTOCOLS

DATE PRINT JOSH KIRCHNER SIGNATURE

WELL SAMPLING FIELD INFORMATION FORM

SITE/PROJECT NAME: FORA VISTA # 1 JOB# 074926
SAMPLE ID: 074926-WK-061713-MW3 WELL# MW 3

WELL PURGING INFORMATION

PURGE DATE (MM DD YY)	SAMPLE DATE (MM DD YY)	SAMPLE TIME (24 HOUR)	WATER VOL. IN CASING (GALLONS)	ACTUAL VOL. PURGED (GALLONS)
06-17-13	06.12.13	1045	1.38	4.14

PURGING AND SAMPLING EQUIPMENT

PURGING EQUIPMENT.....DEDICATED (Y) N (CIRCLE ONE)
SAMPLING EQUIPMENT.....DEDICATED (Y) N (CIRCLE ONE)

PURGING DEVICE	G	A - SUBMERSIBLE PUMP B - PERISTALTIC PUMP	D - GAS LIFT PUMP E - PURGE PUMP	G - BAILER H - WATERRA®	X= PURGING DEVICE OTHER (SPECIFY)
SAMPLING DEVICE	G	C - BLADDER PUMP	F - DIPPER BOTTLE	X - OTHER	X= SAMPLING DEVICE OTHER (SPECIFY)
PURGING MATERIAL	E	A - TEFLON B - STAINLESS STEEL	D - PVC E - POLYETHYLENE		X= PURGING MATERIAL OTHER (SPECIFY)
SAMPLING MATERIAL	E	C - POLYPROPYLENE	X - OTHER		X= SAMPLING MATERIAL OTHER (SPECIFY)
PURGE TUBING	C	A - TEFLON B - TYGON	D - POLYPROPYLENE E - POLYETHYLENE	G - COMBINATION TEFLON/POLYPROPYLENE	X= PURGE TUBING OTHER (SPECIFY)
SAMPLING TUBING	C	C - ROPE	F - SILICONE	X - OTHER	X= SAMPLING TUBING OTHER (SPECIFY)
FILTERING DEVICES 0.45	A	A - IN-LINE DISPOSABLE	B - PRESSURE		

FIELD MEASUREMENTS

DEPTH TO WATER 20.68 (feet) WELL ELEVATION (feet)
WELL DEPTH 29.87 (feet) GROUNDWATER ELEVATION (feet)

TEMPERATURE	pH	TDS	SC	DO	ORP	VOLUME
15.04 (°C)	7.00 (std)	1.178 (g/L)	1814 (µS/cm)	2.8 (mg/L)	34.1 (mV)	3.25 (gal)
15.01 (°C)	7.03 (std)	1.185 (g/L)	1826 (µS/cm)	2.7 (mg/L)	21.6 (mV)	3.75 (gal)
14.95 (°C)	7.03 (std)	1.186 (g/L)	1824 (µS/cm)	2.2 (mg/L)	12.8 (mV)	4.25 (gal)
(°C)	(std)	(g/L)	(µS/cm)	(mg/L)	(mV)	(gal)
(°C)	(std)	(g/L)	(µS/cm)	(mg/L)	(mV)	(gal)

9.19

FIELD COMMENTS

SAMPLE APPEARANCE: ODOR: COLOR: SHEEN Y/N
WEATHER CONDITIONS: TEMPERATURE 85 WINDY Y/N N PRECIPITATION Y/N (IF Y TYPE) N
SPECIFIC COMMENTS: 9.19 x 15 = 1.38 x 3 = 4.135

I CERTIFY THAT SAMPLING PROCEDURES WERE IN ACCORDANCE WITH APPLICABLE CRA PROTOCOLS

DATE PRINT JOSH K. RICHMOND SIGNATURE

WELL SAMPLING FIELD INFORMATION FORM

2

SITE/PROJECT NAME: FORA VISTA # 1 JOB# 674926

SAMPLE ID: 674926-061213-JK-MW4 WELL# MW 4

WELL PURGING INFORMATION

PURGE DATE (MM DD YY)	SAMPLE DATE (MM DD YY)	SAMPLE TIME (24 HOUR)	WATER VOL IN CASING (GALLONS)	ACTUAL VOL. PURGED (GALLONS)
06-12-13	061213	1030	1.28	3.83

PURGING AND SAMPLING EQUIPMENT

PURGING EQUIPMENT.....DEDICATED (Y) N (CIRCLE ONE)

SAMPLING EQUIPMENT.....DEDICATED (Y) N (CIRCLE ONE)

PURGING DEVICE	G	A - SUBMERSIBLE PUMP B - PERISTALTIC PUMP	D - GAS LIFT PUMP E - PURGE PUMP	G - BAILER H - WATERRA®
SAMPLING DEVICE	G	C - BLADDER PUMP	F - DIPPER BOTTLE	X - OTHER
PURGING MATERIAL	E	A - TEFLON B - STAINLESS STEEL	D - PVC E - POLYETHYLENE	
SAMPLING MATERIAL	E	C - POLYPROPYLENE	X - OTHER	
PURGE TUBING	C	A - TEFLON B - TYGON	D - POLYPROPYLENE E - POLYETHYLENE	G - COMBINATION TEFLON/POLYPROPYLENE
SAMPLING TUBING	C	C - ROPE	F - SILICONE	X - OTHER
FILTERING DEVICES 0.45	A	A - IN-LINE DISPOSABLE	B - PRESSURE	

X= PURGING DEVICE OTHER (SPECIFY)

X= SAMPLING DEVICE OTHER (SPECIFY)

X= PURGING MATERIAL OTHER (SPECIFY)

X= SAMPLING MATERIAL OTHER (SPECIFY)

X= PURGE TUBING OTHER (SPECIFY)

X= SAMPLING TUBING OTHER (SPECIFY)

FIELD MEASUREMENTS

DEPTH TO WATER 21.81 (feet) WELL ELEVATION (feet)

WELL DEPTH 30.32 (feet) GROUNDWATER ELEVATION (feet)

TEMPERATURE	pH	TDS	SC	DO	ORP	VOLUME
15.28 (°C)	6.89 (std)	1.100 (g/L)	1692 (µS/cm)	.47 (mg/L)	195.7 (mV)	2.75 (gal)
15.13 (°C)	6.95 (std)	1.100 (g/L)	1692 (µS/cm)	.69 (mg/L)	1692 -263 (mV)	3.25 (gal)
15.16 (°C)	6.97 (std)	1.104 (g/L)	1701 (µS/cm)	.46 (mg/L)	-192.9 (mV)	3.75 (gal)
(°C)	(std)	(g/L)	(µS/cm)	(mg/L)	(mV)	(gal)
(°C)	(std)	(g/L)	(µS/cm)	(mg/L)	(mV)	(gal)

8.51

FIELD COMMENTS

SAMPLE APPEARANCE: ODOR: — COLOR: SHEEN Y/N

WEATHER CONDITIONS: TEMPERATURE 83 WINDY Y/N N PRECIPITATION Y/N (IF Y TYPE) N

SPECIFIC COMMENTS: 8.51 x .15 = 1.28 x 3 = 3.83

DUP COLLECTED

I CERTIFY THAT SAMPLING PROCEDURES WERE IN ACCORDANCE WITH APPLICABLE CRA PROTOCOLS

DATE PRINT JOSH RICHMOND SIGNATURE

WELL SAMPLING FIELD INFORMATION FORM

SITE/PROJECT NAME: Flora Vista No. 1 JOB# 074926

SAMPLE ID: GW-074926-091113-CM-MW-1 WELL# MW-1

WELL PURGING INFORMATION

PURGE DATE (MM DD YY)	SAMPLE DATE (MM DD YY)	SAMPLE TIME (24 HOUR)	WATER VOL. IN CASING (GALLONS)	ACTUAL VOL. PURGED (GALLONS)
9/11/13	9/11/13	1700	1.275	~~4.0~~ 4.0

PURGING AND SAMPLING EQUIPMENT

PURGING EQUIPMENT.....DEDICATED (Y) N (CIRCLE ONE)

SAMPLING EQUIPMENT.....DEDICATED (Y) N (CIRCLE ONE)

PURGING DEVICE	G	A - SUBMERSIBLE PUMP B - PERISTALTIC PUMP	D - GAS LIFT PUMP E - PURGE PUMP	G - BAILER H - WATERRA	X= PURGING DEVICE OTHER (SPECIFY)
SAMPLING DEVICE	G	C - BLADDER PUMP	F - DIPPER BOTTLE	X - OTHER	X= SAMPLING DEVICE OTHER (SPECIFY)
PURGING MATERIAL	E	A - TEFLON B - STAINLESS STEEL	D - PVC E - POLYETHYLENE		X= PURGING MATERIAL OTHER (SPECIFY)
SAMPLING MATERIAL	E	C - POLYPROPYLENE	X - OTHER		X= SAMPLING MATERIAL OTHER (SPECIFY)
PURGE TUBING	C	A - TEFLON B - TYGON	D - POLYPROPYLENE E - POLYETHYLENE	G - COMBINATION TEFLON/POLYPROPYLENE	X= PURGE TUBING OTHER (SPECIFY)
SAMPLING TUBING	C	C - ROPE	F - SILICONE	X - OTHER	X= SAMPLING TUBING OTHER (SPECIFY)
FILTERING DEVICES 0.45	A	A - IN-LINE DISPOSABLE	B - PRESSURE	0.45 for metals only	

FIELD MEASUREMENTS

DEPTH TO WATER	18.34 (feet)	WELL ELEVATION	(feet)
WELL DEPTH	26.31 (feet)	GROUNDWATER ELEVATION	(feet)

TEMPERATURE	pH	TDS	SC	DO	ORP	VOLUME
16.45 (°C)	6.79 (std)	0.912 (g/L)	1403 (µS/cm)	1.74 (mg/L)	-101.8 (mV)	3.0 (gal)
16.32 (°C)	6.46 (std)	0.912 (g/L)	1402 (µS/cm)	1.71 ~~1.59~~ (mg/L)	-89.8 (mV)	3.5 (gal)
16.20 (°C)	6.34 (std)	0.906 (g/L)	1393 (µS/cm)	1.77 (mg/L)	-87.0 (mV)	4.0 (gal)
(°C)	(std)	(g/L)	(µS/cm)	(mg/L)	(mV)	(gal)
(°C)	(std)	(g/L)	(µS/cm)	(mg/L)	(mV)	(gal)

FIELD COMMENTS

SAMPLE APPEARANCE: cloudy ODOR: hydrocarbon COLOR: gray SHEEN Y/N no

WEATHER CONDITIONS: TEMPERATURE 85° WINDY Y/N no PRECIPITATION Y/N (IF Y TYPE) no

SPECIFIC COMMENTS:

1 volume = 1.275

3 volumes = 3.826

I CERTIFY THAT SAMPLING PROCEDURES WERE IN ACCORDANCE WITH APPLICABLE EPA PROTOCOLS

DATE 9/11/13 PRINT Christine Mathews SIGNATURE [signature]

WELL SAMPLING FIELD INFORMATION FORM

SITE/PROJECT NAME: Flora Vista No. 1 JOB# 074926

SAMPLE ID: GW-074926-091113-CM-MW-2 WELL# MW-2

WELL PURGING INFORMATION

PURGE DATE (MM DD YY)	SAMPLE DATE (MM DD YY)	SAMPLE TIME (24 HOUR)	WATER VOL. IN CASING (GALLONS)	ACTUAL VOL. PURGED (GALLONS)
9/11/13	9/11/13	1630	2.23	6.75

PURGING AND SAMPLING EQUIPMENT

PURGING EQUIPMENT.....DEDICATED (Y) N (CIRCLE ONE)

SAMPLING EQUIPMENT.....DEDICATED (Y) N (CIRCLE ONE)

PURGING DEVICE	G	A - SUBMERSIBLE PUMP B - PERISTALTIC PUMP	D - GAS LIFT PUMP E - PURGE PUMP	G - BAILER H - WATERRA®	X= PURGING DEVICE OTHER (SPECIFY)
SAMPLING DEVICE	G	C - BLADDER PUMP	F - DIPPER BOTTLE	X - OTHER	X= SAMPLING DEVICE OTHER (SPECIFY)
PURGING MATERIAL	E	A - TEFLON B - STAINLESS STEEL	D - PVC E - POLYETHYLENE		X= PURGING MATERIAL OTHER (SPECIFY)
SAMPLING MATERIAL	E	C - POLYPROPYLENE	X - OTHER		X= SAMPLING MATERIAL OTHER (SPECIFY)
PURGE TUBING	C	A - TEFLON B - TYGON	D - POLYPROPYLENE E - POLYETHYLENE	G - COMBINATION TEFLON/POLYPROPYLENE	X= PURGE TUBING OTHER (SPECIFY)
SAMPLING TUBING	C	C - ROPE	F - SILICONE	X - OTHER	X= SAMPLING TUBING OTHER (SPECIFY)
FILTERING DEVICES 0.45	A	A - IN-LINE DISPOSABLE	B - PRESSURE	0.45 for metals only	

FIELD MEASUREMENTS

DEPTH TO WATER	17.95 (feet)		WELL ELEVATION		(feet)
WELL DEPTH	31.89 (feet)		GROUNDWATER ELEVATION		(feet)

TEMPERATURE	pH	TDS	SC	DO	ORP	VOLUME
17.54 (°C)	7.46 (std)	0.705 (g/L)	1084 (µS/cm)	4.48 (mg/L)	6.1 (mV)	5.75 (gal)
17.23 (°C)	7.04 (std)	0.602 (g/L)	923 (µS/cm)	3.17 (mg/L)	32.9 (mV)	6.25 (gal)
17.11 (°C)	6.74 (std)	0.584 (g/L)	899 (µS/cm)	2.62 (mg/L)	50.9 (mV)	6.75 (gal)
(°C)	(std)	(g/L)	(µS/cm)	(mg/L)	(mV)	(gal)
(°C)	(std)	(g/L)	(µS/cm)	(mg/L)	(mV)	(gal)

FIELD COMMENTS

SAMPLE APPEARANCE: cloudy ODOR: none COLOR: light brown SHEEN Y/N No

WEATHER CONDITIONS: TEMPERATURE 80° WINDY Y/N No PRECIPITATION Y/N (IF Y TYPE) No

SPECIFIC COMMENTS:

1 volume = 2.23

3 volumes = 6.69

I CERTIFY THAT SAMPLING PROCEDURES WERE IN ACCORDANCE WITH APPLICABLE CRA PROTOCOLS

DATE 9/11/13 PRINT Christine Mathews SIGNATURE [signature]

WELL SAMPLING FIELD INFORMATION FORM

SITE/PROJECT NAME: Flora Vista No. 1 JOB# 074926

SAMPLE ID: GW-074926-091113-CM-MW-3 WELL# MW-3

WELL PURGING INFORMATION

PURGE DATE (MM DD YY)	SAMPLE DATE (MM DD YY)	SAMPLE TIME (24 HOUR)	WATER VOL. IN CASING (GALLONS)	ACTUAL VOL. PURGED (GALLONS)
9/11/13	9/11/13	1720	2.05	6.25

PURGING AND SAMPLING EQUIPMENT

PURGING EQUIPMENT.....DEDICATED (Y) N (CIRCLE ONE)

SAMPLING EQUIPMENT.....DEDICATED (Y) N (CIRCLE ONE)

PURGING DEVICE	G	A - SUBMERSIBLE PUMP B - PERISTALTIC PUMP	D - GAS LIFT PUMP E - PURGE PUMP	G - BAILER H - WATERRA®	X= PURGING DEVICE OTHER (SPECIFY)
SAMPLING DEVICE	G	C - BLADDER PUMP	F - DIPPER BOTTLE	X - OTHER	X= SAMPLING DEVICE OTHER (SPECIFY)
PURGING MATERIAL	E	A - TEFLON B - STAINLESS STEEL	D - PVC E - POLYETHYLENE		X= PURGING MATERIAL OTHER (SPECIFY)
SAMPLING MATERIAL	E	C - POLYPROPYLENE	X - OTHER		X= SAMPLING MATERIAL OTHER (SPECIFY)
PURGE TUBING	C	A - TEFLON B - TYGON	D - POLYPROPYLENE E - POLYETHYLENE	G - COMBINATION TEFLON/POLYPROPYLENE	X= PURGE TUBING OTHER (SPECIFY)
SAMPLING TUBING	C	C - ROPE	F - SILICONE	X - OTHER	X= SAMPLING TUBING OTHER (SPECIFY)
FILTERING DEVICES 0.45	A	A - IN-LINE DISPOSABLE	B - PRESSURE	0.45 for metals only	

FIELD MEASUREMENTS

DEPTH TO WATER 16.90 (feet) WELL ELEVATION (feet)

WELL DEPTH 29.72 (feet) GROUNDWATER ELEVATION (feet)

TEMPERATURE	pH	TDS	SC	DO	ORP	VOLUME
15.00 (°C)	7.14 (std)	0.571 (g/L)	878 (µS/cm)	4.55 (mg/L)	-24.6 (mV)	5.25 (gal)
14.93 (°C)	6.83 (std)	0.571 (g/L)	878 (µS/cm)	4.31 (mg/L)	-5.4 (mV)	5.75 (gal)
14.80 (°C)	6.66 (std)	0.569 (g/L)	876 (µS/cm)	4.33 (mg/L)	~~10.8~~ (mV)	6.25 (gal)
(°C)	(std)	(g/L)	(µS/cm)	(mg/L)	6.8 ↑ CM (mV)	(gal)
(°C)	(std)	(g/L)	(µS/cm)	(mg/L)	(mV)	(gal)

FIELD COMMENTS

SAMPLE APPEARANCE: cloudy ODOR: none COLOR: light brown SHEEN Y/N no

WEATHER CONDITIONS: TEMPERATURE 80° WINDY Y/N no PRECIPITATION Y/N (IF Y TYPE) no

SPECIFIC COMMENTS:

1 volume = 2.05

3 volume = 6.15

I CERTIFY THAT SAMPLING PROCEDURES WERE IN ACCORDANCE WITH APPLICABLE QRA PROTOCOLS

DATE 9/11/13 PRINT Christine Matthews SIGNATURE Christine Matthews

WELL SAMPLING FIELD INFORMATION FORM

SITE/PROJECT NAME: Flora Vista No 1 JOB# 074926
SAMPLE ID: GW-074926-091113-CM-MW-4 WELL# MW-4

WELL PURGING INFORMATION

PURGE DATE (MM DD YY)	SAMPLE DATE (MM DD YY)	SAMPLE TIME (24 HOUR)	WATER VOL IN CASING (GALLONS)	ACTUAL VOL PURGED (GALLONS)
9/11/13	9/11/13	1710	1.84	5.75

PURGING AND SAMPLING EQUIPMENT

PURGING EQUIPMENT.....DEDICATED Y (N) — (CIRCLE ONE)
SAMPLING EQUIPMENT.....DEDICATED (Y) N — (CIRCLE ONE)

PURGING DEVICE	G	A - SUBMERSIBLE PUMP B - PERISTALTIC PUMP	D - GAS LIFT PUMP E - PURGE PUMP	G - BAILER H - WATERRA®	X= PURGING DEVICE OTHER (SPECIFY)
SAMPLING DEVICE	G	C - BLADDER PUMP	F - DIPPER BOTTLE	X - OTHER	X= SAMPLING DEVICE OTHER (SPECIFY)
PURGING MATERIAL	E	A - TEFLON B - STAINLESS STEEL	D - PVC E - POLYETHYLENE		X= PURGING MATERIAL OTHER (SPECIFY)
SAMPLING MATERIAL	E	C - POLYPROPYLENE	X - OTHER		X= SAMPLING MATERIAL OTHER (SPECIFY)
PURGE TUBING	C	A - TEFLON B - TYGON	D - POLYPROPYLENE E - POLYETHYLENE	G - COMBINATION TEFLON/POLYPROPYLENE	X= PURGE TUBING OTHER (SPECIFY)
SAMPLING TUBING	C	C - ROPE	F - SILICONE	X - OTHER	X= SAMPLING TUBING OTHER (SPECIFY)
FILTERING DEVICES 0.45	A	A - IN-LINE DISPOSABLE	B - PRESSURE	0.45 for metals only	

FIELD MEASUREMENTS

DEPTH TO WATER 18.89 (feet) WELL ELEVATION (feet)
WELL DEPTH 30.39 (feet) GROUNDWATER ELEVATION (feet)

TEMPERATURE	pH	TDS	SC	DO	ORP	VOLUME
15.64 (°C)	7.14 (std)	0.675 (g/L)	1038 (µS/cm)	1.94 (mg/L)	-93.1 (mV)	4.75 (gal)
15.72 (°C)	6.66 (std)	0.676 (g/L)	1040 (µS/cm)	1.84 (mg/L)	-88.7 (mV)	5.25 (gal)
15.61 (°C)	6.55 (std)	0.674 (g/L)	1037 (µS/cm)	1.42 (mg/L)	-94.7 (mV)	5.75 (gal)
(°C)	(std)	(g/L)	(µS/cm)	(mg/L)	(mV)	(gal)
(°C)	(std)	(g/L)	(µS/cm)	(mg/L)	(mV)	(gal)

FIELD COMMENTS

SAMPLE APPEARANCE: cloudy ODOR: hydrocarbon COLOR: gray SHEEN Y/N no
WEATHER CONDITIONS: TEMPERATURE 85° WINDY Y/N no PRECIPITATION Y/N (IF Y TYPE) no
SPECIFIC COMMENTS:

Duplicate collected @ 1715

1 volume = 1.84
3 volumes = 5.52

I CERTIFY THAT SAMPLING PROCEDURES WERE IN ACCORDANCE WITH APPLICABLE CRA PROTOCOLS
DATE 9/11/13 PRINT Christie Mathews SIGNATURE Christie Mathews

WELL SAMPLING FIELD INFORMATION FORM

SITE/PROJECT NAME: Flora Vista No. 1 JOB# 074926

SAMPLE ID: GW-074926-12313-CM-MW-1 WELL# MW-1

WELL PURGING INFORMATION

PURGE DATE (MM DD YY)	SAMPLE DATE (MM DD YY)	SAMPLE TIME (24 HOUR)	WATER VOL. IN CASING (GALLONS)	ACTUAL VOL. PURGED (GALLONS)
12/13/13	12/13/13	1320	0.73	1.0

PURGING AND SAMPLING EQUIPMENT

PURGING EQUIPMENT.....DEDICATED (Y) N (CIRCLE ONE)

SAMPLING EQUIPMENT.....DEDICATED (Y) N (CIRCLE ONE)

PURGING DEVICE	G	A - SUBMERSIBLE PUMP B - PERISTALTIC PUMP	D - GAS LIFT PUMP E - PURGE PUMP	G - BAILER H - WATERRA®	X= PURGING DEVICE OTHER (SPECIFY)
SAMPLING DEVICE	G	C - BLADDER PUMP	F - DIPPER BOTTLE	X - OTHER	X= SAMPLING DEVICE OTHER (SPECIFY)
PURGING MATERIAL	E	A - TEFLON B - STAINLESS STEEL	D - PVC E - POLYETHYLENE		X= PURGING MATERIAL OTHER (SPECIFY)
SAMPLING MATERIAL	E	C - POLYPROPYLENE	X - OTHER		X= SAMPLING MATERIAL OTHER (SPECIFY)
PURGE TUBING	C	A - TEFLON B - TYGON	D - POLYPROPYLENE E - POLYETHYLENE	G - COMBINATION TEFLON/POLYPROPYLENE	X= PURGE TUBING OTHER (SPECIFY)
SAMPLING TUBING	C	C - ROPE	F - SILICONE	X - OTHER	X= SAMPLING TUBING OTHER (SPECIFY)
FILTERING DEVICES 0.45	A	A - IN-LINE DISPOSABLE	B - PRESSURE	for metals only	

FIELD MEASUREMENTS

DEPTH TO WATER 21.53 (feet) WELL ELEVATION (feet)

WELL DEPTH 26.1 (feet) GROUNDWATER ELEVATION (feet)

TEMPERATURE	pH	TDS	SC	DO	ORP	VOLUME
(°C)	(std)	(g/L)	(µS/cm)	(mg/L)	(mV)	(gal)
(°C)	(std)	(g/L)	(µS/cm)	(mg/L)	(mV)	(gal)
(°C)	(std)	(g/L)	(µS/cm)	(mg/L)	(mV)	(gal)
(°C)	(std)	(g/L)	(µS/cm)	(mg/L)	(mV)	(gal)
(°C)	(std)	(g/L)	(µS/cm)	(mg/L)	(mV)	(gal)

FIELD COMMENTS

SAMPLE APPEARANCE: cloudy/black particulates ODOR: hydrocarbon COLOR: gray SHEEN Y/N no

WEATHER CONDITIONS: TEMPERATURE 30° WINDY Y/N no PRECIPITATION Y/N (IF Y TYPE) no

SPECIFIC COMMENTS:

0.73 x 3 = 2.194 1.0 gallons purged and then dry. Wait for recharge before sampling

No parameters collected due to very slow recharge

I CERTIFY THAT SAMPLING PROCEDURES WERE IN ACCORDANCE WITH APPLICABLE EPA PROTOCOLS

DATE 12/13/13 PRINT Christine Mathews SIGNATURE Christine Mathews

WELL SAMPLING FIELD INFORMATION FORM

SITE/PROJECT NAME: Flora Vista No. 1 JOB# 074926

SAMPLE ID: GW-074926-121313-CM-MW-2 WELL# MW-2

WELL PURGING INFORMATION

PURGE DATE (MM DD YY)	SAMPLE DATE (MM DD YY)	SAMPLE TIME (24 HOUR)	WATER VOL. IN CASING (GALLONS)	ACTUAL VOL. PURGED (GALLONS)
12/13/13	12/13/13	1240	1.43	4.5

PURGING AND SAMPLING EQUIPMENT

PURGING EQUIPMENT.....DEDICATED (Y) N (CIRCLE ONE)

SAMPLING EQUIPMENT.....DEDICATED (Y) N (CIRCLE ONE)

PURGING DEVICE	G	A - SUBMERSIBLE PUMP	D - GAS LIFT PUMP	G - BAILER	X= PURGING DEVICE OTHER (SPECIFY)
		B - PERISTALTIC PUMP	E - PURGE PUMP	H - WATERRA®	
SAMPLING DEVICE	G	C - BLADDER PUMP	F - DIPPER BOTTLE	X - OTHER	X= SAMPLING DEVICE OTHER (SPECIFY)
PURGING MATERIAL	E	A - TEFLON	D - PVC		X= PURGING MATERIAL OTHER (SPECIFY)
		B - STAINLESS STEEL	E - POLYETHYLENE		
SAMPLING MATERIAL	E	C - POLYPROPYLENE	X - OTHER		X= SAMPLING MATERIAL OTHER (SPECIFY)
PURGE TUBING	C	A - TEFLON	D - POLYPROPYLENE	G - COMBINATION TEFLON/POLYPROPYLENE	X= PURGE TUBING OTHER (SPECIFY)
		B - TYGON	E - POLYETHYLENE		
SAMPLING TUBING	C	C - ROPE	F - SILICONE	X - OTHER	X= SAMPLING TUBING OTHER (SPECIFY)
FILTERING DEVICES 0.45	A	A - IN-LINE DISPOSABLE	B - PRESSURE		for metals only

FIELD MEASUREMENTS

DEPTH TO WATER 22.78 (feet) WELL ELEVATION (feet)

WELL DEPTH 31.72 (feet) GROUNDWATER ELEVATION (feet)

TEMPERATURE	pH	TDS	SC	DO	ORP	VOLUME
14.45 (°C)	6.85 (std)	0.603 (g/L)	943 (µS/cm)	4.74 (mg/L)	-63.9 (mV)	3.5 (gal)
16.46 (°C)	6.87 (std)	0.620 (g/L)	951 (µS/cm)	3.15 (mg/L)	-75.9 (mV)	4.0 (gal)
16.88 (°C)	6.88 (std)	0.622 (g/L)	957 (µS/cm)	3.11 (mg/L)	-80.7 (mV)	4.5 (gal)
(°C)	(std)	(g/L)	(µS/cm)	(mg/L)	(mV)	(gal)
(°C)	(std)	(g/L)	(µS/cm)	(mg/L)	(mV)	(gal)

FIELD COMMENTS

SAMPLE APPEARANCE: cloudy/silty ODOR: none COLOR: brown SHEEN Y/N no

WEATHER CONDITIONS: TEMPERATURE 30° WINDY Y/N no PRECIPITATION Y/N (IF Y TYPE) no

SPECIFIC COMMENTS:

1.43 x 3 = 4.29

I CERTIFY THAT SAMPLING PROCEDURES WERE IN ACCORDANCE WITH APPLICABLE QA PROTOCOLS

DATE 12/13/13 PRINT Christine Mathews SIGNATURE Christine Mathews

WELL SAMPLING FIELD INFORMATION FORM

SITE/PROJECT NAME: Flora Vista No1 JOB# 074926

SAMPLE ID: GW-074926-121313-CM-mw-3 WELL# MW-3

WELL PURGING INFORMATION

PURGE DATE (MM DD YY)	SAMPLE DATE (MM DD YY)	SAMPLE TIME (24 HOUR)	WATER VOL. IN CASING (GALLONS)	ACTUAL VOL. PURGED (GALLONS)
12/13/13	12/13/13	1210	1,526	4.75

PURGING AND SAMPLING EQUIPMENT

PURGING EQUIPMENT.....DEDICATED (Y) N (CIRCLE ONE)

SAMPLING EQUIPMENT.....DEDICATED (Y) N (CIRCLE ONE)

PURGING DEVICE	G	A - SUBMERSIBLE PUMP B - PERISTALTIC PUMP	D - GAS LIFT PUMP E - PURGE PUMP	G - BAILER H - WATERRA®	X= PURGING DEVICE OTHER (SPECIFY)
SAMPLING DEVICE	G	C - BLADDER PUMP	F - DIPPER BOTTLE	X - OTHER	X= SAMPLING DEVICE OTHER (SPECIFY)
PURGING MATERIAL	E	A - TEFLON B - STAINLESS STEEL	D - PVC E - POLYETHYLENE		X= PURGING MATERIAL OTHER (SPECIFY)
SAMPLING MATERIAL	E	C - POLYPROPYLENE	X - OTHER		X= SAMPLING MATERIAL OTHER (SPECIFY)
PURGE TUBING	C	A - TEFLON B - TYGON	D - POLYPROPYLENE E - POLYETHYLENE	G - COMBINATION TEFLON/POLYPROPYLENE	X= PURGE TUBING OTHER (SPECIFY)
SAMPLING TUBING	C	C - ROPE	F - SILICONE	X - OTHER	X= SAMPLING TUBING OTHER (SPECIFY)
FILTERING DEVICES 0.45	A	A - IN-LINE DISPOSABLE	B - PRESSURE	for metals only	

FIELD MEASUREMENTS

DEPTH TO WATER 20.11 (feet) WELL ELEVATION (feet)

WELL DEPTH 29.65 (feet) GROUNDWATER ELEVATION (feet)

TEMPERATURE	pH	TDS	SC	DO	ORP	VOLUME
15.09 (°C)	6.50 (std)	0.625 (g/L)	963 (µS/cm)	3.99 (mg/L)	-19.5 (mV)	3.75 (gal)
15.37 (°C)	6.66 (std)	0.632 (g/L)	972 (µS/cm)	3.82 (mg/L)	-28.8 (mV)	4.25 (gal)
15.28 (°C)	6.66 (std)	0.619 (g/L)	952 (µS/cm)	4.00 (mg/L)	-50.5 (mV)	4.75 (gal)
(°C)	(std)	(g/L)	(µS/cm)	(mg/L)	(mV)	(gal)
(°C)	(std)	(g/L)	(µS/cm)	(mg/L)	(mV)	(gal)

FIELD COMMENTS

SAMPLE APPEARANCE: cloudy/silty ODOR: none COLOR: brown SHEEN Y/N no

WEATHER CONDITIONS: TEMPERATURE 30° WINDY Y/N no PRECIPITATION Y/N (IF Y TYPE) no

SPECIFIC COMMENTS:

1,526 x 3 = 4,579

I CERTIFY THAT SAMPLING PROCEDURES WERE IN ACCORDANCE WITH APPLICABLE GW-PROTOCOLS

DATE 12/13/13 PRINT Cristina Mathews SIGNATURE Cristina Mathews

WELL SAMPLING FIELD INFORMATION FORM

SITE/PROJECT NAME: Flora Vista No.1 JOB# 074926

SAMPLE ID: GW-074926-121313-CM-MW-4 WELL# MW-4

WELL PURGING INFORMATION

PURGE DATE (MM DD YY)	SAMPLE DATE (MM DD YY)	SAMPLE TIME (24 HOUR)	WATER VOL. IN CASING (GALLONS)	ACTUAL VOL. PURGED (GALLONS)
12/13/13	12/13/13	1305	1.418	4.25

PURGING AND SAMPLING EQUIPMENT

PURGING EQUIPMENT.....DEDICATED (Y) N (CIRCLE ONE)

SAMPLING EQUIPMENT.....DEDICATED (Y) N (CIRCLE ONE)

PURGING DEVICE	G	A - SUBMERSIBLE PUMP B - PERISTALTIC PUMP	D - GAS LIFT PUMP E - PURGE PUMP	G - BAILER H - WATERRA®	X= PURGING DEVICE OTHER (SPECIFY)
SAMPLING DEVICE	C	C - BLADDER PUMP	F - DIPPER BOTTLE	X - OTHER	X= SAMPLING DEVICE OTHER (SPECIFY)
PURGING MATERIAL	E	A - TEFLON B - STAINLESS STEEL	D - PVC E - POLYETHYLENE		X= PURGING MATERIAL OTHER (SPECIFY)
SAMPLING MATERIAL	E	C - POLYPROPYLENE	X - OTHER		X= SAMPLING MATERIAL OTHER (SPECIFY)
PURGE TUBING	C	A - TEFLON B - TYGON	D - POLYPROPYLENE E - POLYETHYLENE	G - COMBINATION TEFLON/POLYPROPYLENE	X= PURGE TUBING OTHER (SPECIFY)
SAMPLING TUBING	C	C - ROPE	F - SILICONE	X - OTHER	X= SAMPLING TUBING OTHER (SPECIFY)
FILTERING DEVICES 0.45	A	A - IN-LINE DISPOSABLE	B - PRESSURE		

FIELD MEASUREMENTS

DEPTH TO WATER 21.28 (feet) WELL ELEVATION (feet)

WELL DEPTH 30.14 (feet) GROUNDWATER ELEVATION (feet)

TEMPERATURE	pH	TDS	SC	DO	ORP	VOLUME
15.86 (°C)	6.63 (std)	0.733 (g/L)	1129 (µS/cm)	0.90 (mg/L)	-179.9 (mV)	3.25 (gal)
15.81 (°C)	6.59 (std)	0.742 (g/L)	1142 (µS/cm)	0.65 (mg/L)	-189.7 (mV)	3.75 (gal)
15.93 (°C)	6.58 (std)	0.744 (g/L)	1145 (µS/cm)	0.73 (mg/L)	-191.7 (mV)	4.25 (gal)
(°C)	(std)	(g/L)	(µS/cm)	(mg/L)	(mV)	(gal)
(°C)	(std)	(g/L)	(µS/cm)	(mg/L)	(mV)	(gal)

FIELD COMMENTS

SAMPLE APPEARANCE: cloudy ODOR: hydrocarbon/sulfur COLOR: dark gray SHEEN Y/N no

WEATHER CONDITIONS: TEMPERATURE 30° WINDY Y/N no PRECIPITATION Y/N (IF Y TYPE) no

SPECIFIC COMMENTS:

1.418 x 3 = 4.25

I CERTIFY THAT SAMPLING PROCEDURES WERE IN ACCORDANCE WITH APPLICABLE CRA PROTOCOLS

DATE 12/13/13 PRINT Christine Mathews SIGNATURE Christine Mathews

Appendix C

2013 Quarterly Groundwater Laboratory Analytical Report

Pace Analytical Services, Inc.
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

April 08, 2013

Christine Matthews
CRA
6121 Indian School Rd NE
Suite 200
Albuquerque, NM 87110

RE: Project: 074926 FLORA VISTA NO 1
Pace Project No.: 60141067

Dear Christine Matthews:
Enclosed are the analytical results for sample(s) received by the laboratory on March 23, 2013. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Alice Flanagan

alice.flanagan@pacelabs.com
Project Manager

Enclosures

cc: Kelly Blanchard, COP Conestoga-Rovers & Associa
Angela Bown, COP Conestoga-Rovers & Associa
Cassie Brown, COP Conestoga-Rovers & Associa
Jason Ploss, COP Conestoga-Rovers & Associa

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CERTIFICATIONS

Project: 074926 FLORA VISTA NO 1
Pace Project No.: 60141067

Kansas Certification IDs
9608 Loiret Boulevard, Lenexa, KS 66219
A2LA Certification #: 2456.01
Arkansas Certification #: 12-019-0
Illinois Certification #: 002885
Iowa Certification #: 118
Kansas/NELAP Certification #: E-10116
Louisiana Certification #: 03055
Nevada Certification #: KS000212008A
Oklahoma Certification #: 9205/9935
Texas Certification #: T104704407-12-3
Utah Certification #: KS000212012-2
Illinois Certification #: 003097

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SAMPLE SUMMARY

Project: 074926 FLORA VISTA NO 1
Pace Project No.: 60141067

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60141067001	**GW-074926-032013-CM-MW-1**	Water	03/20/13 17:10	03/23/13 08:45
60141067002	**GW-074926-032013-CM-MW-2**	Water	03/20/13 17:25	03/23/13 08:45
60141067003	**GW-074926-032013-CM-MW-3**	Water	03/20/13 16:20	03/23/13 08:45
60141067004	**GW-074926-032013-CM-MW-4**	Water	03/20/13 16:55	03/23/13 08:45
60141067005	**GW-074926-032013-CM-DUP**	Water	03/20/13 17:00	03/23/13 08:45
60141067006	**TB-074926-032013-CM-001**	Water	03/20/13 00:00	03/23/13 08:45

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SAMPLE ANALYTE COUNT

Project: 074926 FLORA VISTA NO 1
Pace Project No.: 60141067

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60141067001	**GW-074926-032013-CM-MW-1**	EPA 6010	JGP	2
		EPA 5030B/8260	PRG	9
60141067002	**GW-074926-032013-CM-MW-2**	EPA 6010	JGP	2
		EPA 5030B/8260	PRG	9
60141067003	**GW-074926-032013-CM-MW-3**	EPA 6010	JGP	2
		EPA 5030B/8260	PRG	9
60141067004	**GW-074926-032013-CM-MW-4**	EPA 6010	JGP	2
		EPA 5030B/8260	PRG	9
60141067005	**GW-074926-032013-CM-DUP**	EPA 5030B/8260	PRG	9
60141067006	**TB-074926-032013-CM-001**	EPA 5030B/8260	PRG	9

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PROJECT NARRATIVE

Project: 074926 FLORA VISTA NO 1
Pace Project No.: 60141067

Method: **EPA 6010**
Description: 6010 MET ICP, Dissolved
Client: COP Conestoga-Rovers & Associates, Inc. NM
Date: April 08, 2013

General Information:
4 samples were analyzed for EPA 6010. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:
The samples were prepared in accordance with EPA 3010 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: 074926 FLORA VISTA NO 1
Pace Project No.: 60141067

Method: **EPA 5030B/8260**
Description: 8260 MSV
Client: COP Conestoga-Rovers & Associates, Inc. NM
Date: April 08, 2013

General Information:
6 samples were analyzed for EPA 5030B/8260. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Internal Standards:
All internal standards were within QC limits with any exceptions noted below.

Surrogates:
All surrogates were within QC limits with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: MSV/52673

A matrix spike/matrix spike duplicate was not performed due to insufficient sample volume.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

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ANALYTICAL RESULTS

Project: 074926 FLORA VISTA NO 1
Pace Project No.: 60141067

Sample: GW-074926-032013-CM-MW-1 **Lab ID: 60141067001** Collected: 03/20/13 17:10 Received: 03/23/13 08:45 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Iron, Dissolved	**9390**	ug/L	50.0	11.6	1	03/27/13 14:00	04/04/13 16:32	7439-89-6	
Manganese, Dissolved	**1080**	ug/L	5.0	0.49	1	03/27/13 14:00	04/04/13 16:32	7439-96-5	
8260 MSV	Analytical Method: EPA 5030B/8260								
Benzene	**182**	ug/L	2.0	0.20	2		03/29/13 17:05	71-43-2	
Ethylbenzene	**40.6**	ug/L	2.0	0.46	2		03/29/13 17:05	100-41-4	
Toluene	ND	ug/L	2.0	0.30	2		03/29/13 17:05	108-88-3	
Xylene (Total)	**91.4**	ug/L	6.0	0.82	2		03/29/13 17:05	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	101	%	80-120		2		03/29/13 17:05	460-00-4	
Dibromofluoromethane (S)	103	%	80-120		2		03/29/13 17:05	1868-53-7	
1,2-Dichloroethane-d4 (S)	108	%	80-120		2		03/29/13 17:05	17060-07-0	
Toluene-d8 (S)	100	%	80-120		2		03/29/13 17:05	2037-26-5	
Preservation pH	**1.0**		0.10	0.10	2		03/29/13 17:05		

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ANALYTICAL RESULTS

Project: 074926 FLORA VISTA NO 1
Pace Project No.: 60141067

Sample: GW-074926-032013-CM-MW-2 **Lab ID: 60141067002** Collected: 03/20/13 17:25 Received: 03/23/13 08:45 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Iron, Dissolved	ND	ug/L	50.0	11.6	1	03/27/13 14:00	04/04/13 16:34	7439-89-6	
Manganese, Dissolved	ND	ug/L	5.0	0.49	1	03/27/13 14:00	04/04/13 16:34	7439-96-5	
8260 MSV	Analytical Method: EPA 5030B/8260								
Benzene	ND	ug/L	1.0	0.098	1		03/28/13 23:40	71-43-2	
Ethylbenzene	ND	ug/L	1.0	0.23	1		03/28/13 23:40	100-41-4	
Toluene	ND	ug/L	1.0	0.15	1		03/28/13 23:40	108-88-3	
Xylene (Total)	ND	ug/L	3.0	0.41	1		03/28/13 23:40	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	100	%	80-120		1		03/28/13 23:40	460-00-4	
Dibromofluoromethane (S)	88	%	80-120		1		03/28/13 23:40	1868-53-7	
1,2-Dichloroethane-d4 (S)	99	%	80-120		1		03/28/13 23:40	17060-07-0	
Toluene-d8 (S)	103	%	80-120		1		03/28/13 23:40	2037-26-5	
Preservation pH	**1.0**		0.10	0.10	1		03/28/13 23:40		

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ANALYTICAL RESULTS

Project: 074926 FLORA VISTA NO 1
Pace Project No.: 60141067

Sample: GW-074926-032013-CM-MW-3 **Lab ID: 60141067003** Collected: 03/20/13 16:20 Received: 03/23/13 08:45 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Iron, Dissolved	ND	ug/L	50.0	11.6	1	03/27/13 14:00	04/04/13 16:36	7439-89-6	
Manganese, Dissolved	**14.9**	ug/L	5.0	0.49	1	03/27/13 14:00	04/04/13 16:36	7439-96-5	
8260 MSV	Analytical Method: EPA 5030B/8260								
Benzene	ND	ug/L	1.0	0.098	1		03/28/13 23:55	71-43-2	
Ethylbenzene	ND	ug/L	1.0	0.23	1		03/28/13 23:55	100-41-4	
Toluene	ND	ug/L	1.0	0.15	1		03/28/13 23:55	108-88-3	
Xylene (Total)	ND	ug/L	3.0	0.41	1		03/28/13 23:55	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	101	%	80-120		1		03/28/13 23:55	460-00-4	
Dibromofluoromethane (S)	95	%	80-120		1		03/28/13 23:55	1868-53-7	
1,2-Dichloroethane-d4 (S)	98	%	80-120		1		03/28/13 23:55	17060-07-0	
Toluene-d8 (S)	102	%	80-120		1		03/28/13 23:55	2037-26-5	
Preservation pH	**1.0**		0.10	0.10	1		03/28/13 23:55		

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ANALYTICAL RESULTS

Project: 074926 FLORA VISTA NO 1
Pace Project No.: 60141067

Sample: GW-074926-032013-CM-MW-4 **Lab ID: 60141067004** Collected: 03/20/13 16:55 Received: 03/23/13 08:45 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Iron, Dissolved	**1820**	ug/L	50.0	11.6	1	03/27/13 14:00	04/04/13 16:38	7439-89-6	
Manganese, Dissolved	**4370**	ug/L	5.0	0.49	1	03/27/13 14:00	04/04/13 16:38	7439-96-5	
8260 MSV	Analytical Method: EPA 5030B/8260								
Benzene	**3.5**	ug/L	1.0	0.098	1		03/29/13 00:09	71-43-2	
Ethylbenzene	**2.0**	ug/L	1.0	0.23	1		03/29/13 00:09	100-41-4	
Toluene	ND	ug/L	1.0	0.15	1		03/29/13 00:09	108-88-3	
Xylene (Total)	**21.1**	ug/L	3.0	0.41	1		03/29/13 00:09	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	105	%	80-120		1		03/29/13 00:09	460-00-4	
Dibromofluoromethane (S)	84	%	80-120		1		03/29/13 00:09	1868-53-7	
1,2-Dichloroethane-d4 (S)	97	%	80-120		1		03/29/13 00:09	17060-07-0	
Toluene-d8 (S)	100	%	80-120		1		03/29/13 00:09	2037-26-5	
Preservation pH	**1.0**		0.10	0.10	1		03/29/13 00:09		

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ANALYTICAL RESULTS

Project: 074926 FLORA VISTA NO 1
Pace Project No.: 60141067

Sample: GW-074926-032013-CM-DUP **Lab ID: 60141067005** Collected: 03/20/13 17:00 Received: 03/23/13 08:45 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260								
Benzene	**3.4**	ug/L	1.0	0.098	1		03/29/13 00:24	71-43-2	
Ethylbenzene	**2.2**	ug/L	1.0	0.23	1		03/29/13 00:24	100-41-4	
Toluene	ND	ug/L	1.0	0.15	1		03/29/13 00:24	108-88-3	
Xylene (Total)	**21.2**	ug/L	3.0	0.41	1		03/29/13 00:24	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	105	%	80-120		1		03/29/13 00:24	460-00-4	
Dibromofluoromethane (S)	91	%	80-120		1		03/29/13 00:24	1868-53-7	
1,2-Dichloroethane-d4 (S)	98	%	80-120		1		03/29/13 00:24	17060-07-0	
Toluene-d8 (S)	102	%	80-120		1		03/29/13 00:24	2037-26-5	
Preservation pH	**1.0**		0.10	0.10	1		03/29/13 00:24		

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ANALYTICAL RESULTS

Project: 074926 FLORA VISTA NO 1
Pace Project No.: 60141067

Sample: TB-074926-032013-CM-001 **Lab ID: 60141067006** Collected: 03/20/13 00:00 Received: 03/23/13 08:45 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260								
Benzene	ND	ug/L	1.0	0.098	1		03/29/13 00:38	71-43-2	
Ethylbenzene	ND	ug/L	1.0	0.23	1		03/29/13 00:38	100-41-4	
Toluene	ND	ug/L	1.0	0.15	1		03/29/13 00:38	108-88-3	
Xylene (Total)	ND	ug/L	3.0	0.41	1		03/29/13 00:38	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	97	%	80-120		1		03/29/13 00:38	460-00-4	
Dibromofluoromethane (S)	89	%	80-120		1		03/29/13 00:38	1868-53-7	
1,2-Dichloroethane-d4 (S)	99	%	80-120		1		03/29/13 00:38	17060-07-0	
Toluene-d8 (S)	101	%	80-120		1		03/29/13 00:38	2037-26-5	
Preservation pH	**1.0**		0.10	0.10	1		03/29/13 00:38		

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QUALITY CONTROL DATA

Project: 074926 FLORA VISTA NO 1
Pace Project No.: 60141067

QC Batch: MPRP/22048 Analysis Method: EPA 6010
QC Batch Method: EPA 3010 Analysis Description: 6010 MET Dissolved
Associated Lab Samples: 60141067001, 60141067002, 60141067003, 60141067004

METHOD BLANK: 1160117 Matrix: Water
Associated Lab Samples: 60141067001, 60141067002, 60141067003, 60141067004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Iron, Dissolved	ug/L	ND	50.0	04/04/13 16:29	
Manganese, Dissolved	ug/L	ND	5.0	04/04/13 16:29	

LABORATORY CONTROL SAMPLE: 1160118

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Iron, Dissolved	ug/L	10000	9260	93	80-120	
Manganese, Dissolved	ug/L	1000	1010	101	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1160119 1160120

Parameter	Units	60141069001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Iron, Dissolved	ug/L	345	10000	10000	9420	9680	91	93	75-125	3	20	
Manganese, Dissolved	ug/L	670	1000	1000	1600	1660	93	99	75-125	4	20	

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QUALITY CONTROL DATA

Project: 074926 FLORA VISTA NO 1
Pace Project No.: 60141067

QC Batch: MSV/52651 Analysis Method: EPA 5030B/8260
QC Batch Method: EPA 5030B/8260 Analysis Description: 8260 MSV Water 10 mL Purge
Associated Lab Samples: 60141067002, 60141067003, 60141067004, 60141067005, 60141067006

METHOD BLANK: 1160820 Matrix: Water
Associated Lab Samples: 60141067002, 60141067003, 60141067004, 60141067005, 60141067006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ug/L	ND	1.0	03/28/13 21:30	
Ethylbenzene	ug/L	ND	1.0	03/28/13 21:30	
Toluene	ug/L	ND	1.0	03/28/13 21:30	
Xylene (Total)	ug/L	ND	3.0	03/28/13 21:30	
1,2-Dichloroethane-d4 (S)	%	96	80-120	03/28/13 21:30	
4-Bromofluorobenzene (S)	%	96	80-120	03/28/13 21:30	
Dibromofluoromethane (S)	%	84	80-120	03/28/13 21:30	
Toluene-d8 (S)	%	102	80-120	03/28/13 21:30	

LABORATORY CONTROL SAMPLE: 1160821

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	20	21.5	108	73-122	
Ethylbenzene	ug/L	20	22.0	110	76-123	
Toluene	ug/L	20	22.0	110	76-122	
Xylene (Total)	ug/L	60	64.9	108	76-122	
1,2-Dichloroethane-d4 (S)	%			98	80-120	
4-Bromofluorobenzene (S)	%			96	80-120	
Dibromofluoromethane (S)	%			84	80-120	
Toluene-d8 (S)	%			101	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1160822 1160823

Parameter	Units	60140771012 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Benzene	ug/L	0.18J	20	20	20.8	21.0	103	104	48-150	1	31	
Ethylbenzene	ug/L	<0.23	20	20	20.2	20.5	101	102	50-147	1	31	
Toluene	ug/L	<0.15	20	20	20.3	20.5	101	103	51-147	1	32	
Xylene (Total)	ug/L	<0.41	60	60	59.3	61.6	99	103	49-145	4	31	
1,2-Dichloroethane-d4 (S)	%						95	96	80-120			
4-Bromofluorobenzene (S)	%						98	98	80-120			
Dibromofluoromethane (S)	%						87	86	80-120			
Toluene-d8 (S)	%						102	101	80-120			
Preservation pH		1.0			1.0	1.0				0		

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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QUALITY CONTROL DATA

Project: 074926 FLORA VISTA NO 1
Pace Project No.: 60141067

QC Batch: MSV/52673
QC Batch Method: EPA 5030B/8260
Analysis Method: EPA 5030B/8260
Analysis Description: 8260 MSV Water 10 mL Purge
Associated Lab Samples: 60141067001

METHOD BLANK: 1161713
Matrix: Water
Associated Lab Samples: 60141067001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ug/L	ND	1.0	03/29/13 13:13	
Ethylbenzene	ug/L	ND	1.0	03/29/13 13:13	
Toluene	ug/L	ND	1.0	03/29/13 13:13	
Xylene (Total)	ug/L	ND	3.0	03/29/13 13:13	
1,2-Dichloroethane-d4 (S)	%	104	80-120	03/29/13 13:13	
4-Bromofluorobenzene (S)	%	103	80-120	03/29/13 13:13	
Dibromofluoromethane (S)	%	101	80-120	03/29/13 13:13	
Toluene-d8 (S)	%	101	80-120	03/29/13 13:13	

LABORATORY CONTROL SAMPLE: 1161714

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	20	19.9	99	73-122	
Ethylbenzene	ug/L	20	19.9	100	76-123	
Toluene	ug/L	20	20.4	102	76-122	
Xylene (Total)	ug/L	60	60.7	101	76-122	
1,2-Dichloroethane-d4 (S)	%			99	80-120	
4-Bromofluorobenzene (S)	%			103	80-120	
Dibromofluoromethane (S)	%			99	80-120	
Toluene-d8 (S)	%			100	80-120	

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QUALIFIERS

Project: 074926 FLORA VISTA NO 1
Pace Project No.: 60141067

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PRL - Pace Reporting Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

BATCH QUALIFIERS

Batch: MSV/52673

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 074926 FLORA VISTA NO 1
Pace Project No.: 60141067

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60141067001	**GW-074926-032013-CM-MW-1**	EPA 3010	MPRP/22048	EPA 6010	ICP/17600
60141067002	**GW-074926-032013-CM-MW-2**	EPA 3010	MPRP/22048	EPA 6010	ICP/17600
60141067003	**GW-074926-032013-CM-MW-3**	EPA 3010	MPRP/22048	EPA 6010	ICP/17600
60141067004	**GW-074926-032013-CM-MW-4**	EPA 3010	MPRP/22048	EPA 6010	ICP/17600
60141067001	**GW-074926-032013-CM-MW-1**	EPA 5030B/8260	MSV/52673		
60141067002	**GW-074926-032013-CM-MW-2**	EPA 5030B/8260	MSV/52651		
60141067003	**GW-074926-032013-CM-MW-3**	EPA 5030B/8260	MSV/52651		
60141067004	**GW-074926-032013-CM-MW-4**	EPA 5030B/8260	MSV/52651		
60141067005	**GW-074926-032013-CM-DUP**	EPA 5030B/8260	MSV/52651		
60141067006	**TB-074926-032013-CM-001**	EPA 5030B/8260	MSV/52651		

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Sample Condition Upon Receipt

WO#: 60141067

60141067

Client Name: CRA

Optional
Proj Due Date:
Proj Name:

Courier: Fed Ex ☑ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace ☐ Other ☐

Tracking #: 7957 7074 2960 Pace Shipping Label Used? Yes ☐ No ☑

Custody Seal on Cooler/Box Present: Yes ☑ No ☐ Seals intact: Yes ☑ No ☐

Packing Material: Bubble Wrap ☐ Bubble Bags ☐ Foam ☑ None ☐ Other ☐

Thermometer Used: T-112 / T-194 **Type of Ice:** Wet Blue None ☐ Samples received on ice, cooling process has begun.
(circle one)

Cooler Temperature: 2.6

Date and initials of person examining contents: 3/23/13 [illegible]

Temperature should be above freezing to 6°C

Chain of Custody present:	☑Yes ☐No ☐N/A	1.
Chain of Custody filled out:	☑Yes ☐No ☐N/A	2.
Chain of Custody relinquished:	☑Yes ☐No ☐N/A	3.
Sampler name & signature on COC:	☑Yes ☐No ☐N/A	4.
Samples arrived within holding time:	☑Yes ☐No ☐N/A	5.
Short Hold Time analyses (<72hr):	☐Yes ☑No ☐N/A	6.
Rush Turn Around Time requested:	☐Yes ☑No ☐N/A	7.
Sufficient volume:	☑Yes ☐No ☐N/A	8.
Correct containers used:	☑Yes ☐No ☐N/A	
Pace containers used:	☑Yes ☐No ☐N/A	9.
Containers intact:	☑Yes ☐No ☐N/A	10.
Unpreserved 5035A soils frozen w/in 48hrs?	☐Yes ☐No ☑N/A	11.
Filtered volume received for dissolved tests?	☐Yes ☐No ☑N/A	12.
Sample labels match COC: Includes date/time/ID/analyses Matrix: WT	☑Yes ☐No ☐N/A	13.
All containers needing preservation have been checked.	☑Yes ☐No ☐N/A	
All containers needing preservation are found to be in compliance with EPA recommendation.	☑Yes ☐No ☐N/A	14.
Exceptions: VOA, coliform, TOC, O&G, WI-DRO (water), Phenolics	☑Yes ☐No	Initial when completed / Lot # of added preservative
Trip Blank present: Pace Trip Blank lot # (if purchased): 036413-3	☑Yes ☐No ☐N/A	15.
Headspace in VOA vials (>6mm):	☐Yes ☑No ☐N/A	16.
Project sampled in USDA Regulated Area:	☐Yes ☐No ☑N/A	17. List State:

Client Notification/ Resolution: Copy COC to Client? Y / N Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: ADF Date: 3/25/13

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CHAIN-OF-CUSTODY / Analytical Request Document

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

Page: | of

Section A Required Client Information:

Company	CRA
Address	6121 Indian School Rd NE, Ste 200
	Albequerque, NM 87110
Email To:	cmathews@craworld.com
Phone: (505)884-0672	Fax: (505)884-4932
Requested Due Date/TAT:	standard

Section B Required Project Information:

Report To:	Christine Mathews
Copy To:	Kelly Blanchard, Angela Bown, Cassie Brown
Purchase Order No.:	4517146299
Project Name:	Flora Vista No. 1
Project Number:	074926

Section C Invoice Information:

Attention:	ePayables
Company Name:	
Address:	
Pace Quote Reference:	
Pace Project Manager:	Alice Flanagan
Pace Profile #:	5514, 22

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☐ UST ☐ RCRA ☐ OTHER _____

Site Location STATE: NM

Section D Required Client Information

SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

Valid Matrix Codes

MATRIX	CODE
DRINKING WATER	DW
WATER	WT
WASTE WATER	WW
PRODUCT	P
SOIL/SOLID	SL
OIL	OL
WIPE	WP
AIR	AR
OTHER	OT
TISSUE	TS

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test Y/N: 8260 BTEX	6010 Dissolved Fe & Mn	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D. 60141667
1	GW-074926-032013-CM-MW-1	WT	G			3.20.13	1710		4			X	X					X	X		1BP3FHO, 3DG9H (1)
2	GW-074926-032013-CM-MW-2	WT	G			3.20.13	1725		4			X	X					X	X		(2)
3	GW-074926-03293-CM-MW-3	WT	G			3.20.13	1620		4			X	X					X	X		(3)
4	GW-074926-032013-CM-MW-4	WT	G			3.20.13	1655		4			X	X					X	X		(4)
5	GW-074926-032013-CM-DUP	WT	G			3.20.13	1700		3			X	X					X			(5)
6	~~GW-074926-03248-CM-~~	~~WT~~																			
7	TB-074926-032213-CM-001	WT				3.22.13	1200		3				X					X			3DG9HCTB (6)
8																					
9																					
10																					
11																					
12																					

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
	Christine Mathews/CRA	3.22.13	1200	E Brackett	3/23	0745	2.6	Y	Y	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Christine Mathews

SIGNATURE of SAMPLER: Christine Mathews DATE Signed (MM/DD/YY): 3.22.13

Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

F-ALL-Q-020rev.08, 12-Oct-2007

Pace Analytical Services, Inc.
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(913)599-5665

June 28, 2013

Christine Matthews
CRA
6121 Indian School Rd NE
Suite 200
Albuquerque, NM 87110

RE: Project: 074926 FLORA VISTA NO 1
Pace Project No.: 60146968

Dear Christine Matthews:
Enclosed are the analytical results for sample(s) received by the laboratory on June 14, 2013. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Alice Flanagan

alice.flanagan@pacelabs.com
Project Manager

Enclosures

cc: Kelly Blanchard, COP Conestoga-Rovers & Associa
Angela Bown, COP Conestoga-Rovers & Associa
Cassie Brown, COP Conestoga-Rovers & Associa
Jason Ploss, COP Conestoga-Rovers & Associa

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CERTIFICATIONS

Project: 074926 FLORA VISTA NO 1
Pace Project No.: 60146968

Kansas Certification IDs
9608 Loiret Boulevard, Lenexa, KS 66219
WY STR Certification #: 2456.01
Arkansas Certification #: 13-012-0
Illinois Certification #: 003097
Iowa Certification #: 118
Kansas/NELAP Certification #: E-10116
Louisiana Certification #: 03055
Nevada Certification #: KS000212008A
Oklahoma Certification #: 9205/9935
Texas Certification #: T104704407-13-4
Utah Certification #: KS000212013-3
Illinois Certification #: 003097

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SAMPLE SUMMARY

Project: 074926 FLORA VISTA NO 1
Pace Project No.: 60146968

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60146968001	**GW-074926-061213-JR-MW1**	Water	06/12/13 10:55	06/14/13 08:50
60146968002	**GW-074926-061213-JR-MW2**	Water	06/12/13 10:45	06/14/13 08:50
60146968003	**GW-074926-061213-JR-MW3**	Water	06/12/13 10:45	06/14/13 08:50
60146968004	**GW-074926-061213-JR-MW4**	Water	06/12/13 10:30	06/14/13 08:50
60146968005	**GW-074926-061213-JR-DUP**	Water	06/12/13 08:00	06/14/13 08:50
60146968006	**DW-074926-061213-JR-32**	Water	06/12/13 11:15	06/14/13 08:50
60146968007	**DW-074926-061213-JR-34**	Water	06/12/13 11:35	06/14/13 08:50
60146968008	**TRIP BLANK**	Water	06/12/13 00:00	06/14/13 08:50

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: 074926 FLORA VISTA NO 1
Pace Project No.: 60146968

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60146968001	**GW-074926-061213-JR-MW1**	EPA 6010	TJT	2
		EPA 5030B/8260	PRG	9
60146968002	**GW-074926-061213-JR-MW2**	EPA 6010	TJT	2
		EPA 5030B/8260	PRG	9
60146968003	**GW-074926-061213-JR-MW3**	EPA 6010	TJT	2
		EPA 5030B/8260	PRG	9
60146968004	**GW-074926-061213-JR-MW4**	EPA 6010	TJT	2
		EPA 5030B/8260	PRG	9
60146968005	**GW-074926-061213-JR-DUP**	EPA 5030B/8260	PRG	9
60146968006	**DW-074926-061213-JR-32**	EPA 5030B/8260	PRG	9
60146968007	**DW-074926-061213-JR-34**	EPA 5030B/8260	PRG	9
60146968008	**TRIP BLANK**	EPA 5030B/8260	PRG	9

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PROJECT NARRATIVE

Project: 074926 FLORA VISTA NO 1
Pace Project No.: 60146968

Method: **EPA 6010**
Description: 6010 MET ICP, Dissolved
Client: COP Conestoga-Rovers & Associates, Inc. NM
Date: June 28, 2013

General Information:
4 samples were analyzed for EPA 6010. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:
The samples were prepared in accordance with EPA 3010 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: 074926 FLORA VISTA NO 1
Pace Project No.: 60146968

Method: **EPA 5030B/8260**
Description: 8260 MSV
Client: COP Conestoga-Rovers & Associates, Inc. NM
Date: June 28, 2013

General Information:
8 samples were analyzed for EPA 5030B/8260. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Internal Standards:
All internal standards were within QC limits with any exceptions noted below.

Surrogates:
All surrogates were within QC limits with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: MSV/54512

A matrix spike/matrix spike duplicate was not performed due to insufficient sample volume.

QC Batch: MSV/54523

A matrix spike/matrix spike duplicate was not performed due to insufficient sample volume.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

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ANALYTICAL RESULTS

Project: 074926 FLORA VISTA NO 1
Pace Project No.: 60146968

Sample: GW-074926-061213-JR-MW1 **Lab ID: 60146968001** Collected: 06/12/13 10:55 Received: 06/14/13 08:50 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Iron, Dissolved	**12800**	ug/L	50.0	11.6	1	06/18/13 14:00	06/21/13 10:15	7439-89-6	
Manganese, Dissolved	**1120**	ug/L	5.0	0.49	1	06/18/13 14:00	06/20/13 13:18	7439-96-5	
8260 MSV	Analytical Method: EPA 5030B/8260								
Benzene	**698**	ug/L	10.0	0.60	10		06/25/13 20:38	71-43-2	
Ethylbenzene	**160**	ug/L	1.0	0.18	1		06/24/13 22:27	100-41-4	
Toluene	ND	ug/L	1.0	0.17	1		06/24/13 22:27	108-88-3	
Xylene (Total)	**873**	ug/L	30.0	4.2	10		06/25/13 20:38	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	102	%	80-120		1		06/24/13 22:27	460-00-4	
Dibromofluoromethane (S)	100	%	80-120		1		06/24/13 22:27	1868-53-7	
1,2-Dichloroethane-d4 (S)	102	%	80-120		1		06/24/13 22:27	17060-07-0	
Toluene-d8 (S)	106	%	80-120		1		06/24/13 22:27	2037-26-5	
Preservation pH	**1.0**		0.10	0.10	1		06/24/13 22:27		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 074926 FLORA VISTA NO 1
Pace Project No.: 60146968

Sample: GW-074926-061213-JR-MW2 **Lab ID: 60146968002** Collected: 06/12/13 10:45 Received: 06/14/13 08:50 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Iron, Dissolved	**66.5**	ug/L	50.0	11.6	1	06/18/13 14:00	06/21/13 10:18	7439-89-6	
Manganese, Dissolved	ND	ug/L	5.0	0.49	1	06/18/13 14:00	06/20/13 13:20	7439-96-5	
8260 MSV	Analytical Method: EPA 5030B/8260								
Benzene	ND	ug/L	1.0	0.060	1		06/25/13 20:52	71-43-2	
Ethylbenzene	ND	ug/L	1.0	0.18	1		06/24/13 22:42	100-41-4	
Toluene	ND	ug/L	1.0	0.17	1		06/24/13 22:42	108-88-3	
Xylene (Total)	ND	ug/L	3.0	0.42	1		06/25/13 20:52	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	99	%	80-120		1		06/24/13 22:42	460-00-4	
Dibromofluoromethane (S)	106	%	80-120		1		06/24/13 22:42	1868-53-7	
1,2-Dichloroethane-d4 (S)	106	%	80-120		1		06/24/13 22:42	17060-07-0	
Toluene-d8 (S)	102	%	80-120		1		06/24/13 22:42	2037-26-5	
Preservation pH	**1.0**		0.10	0.10	1		06/24/13 22:42		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 074926 FLORA VISTA NO 1
Pace Project No.: 60146968

Sample: GW-074926-061213-JR-MW3 **Lab ID: 60146968003** Collected: 06/12/13 10:45 Received: 06/14/13 08:50 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Iron, Dissolved	**189**	ug/L	50.0	11.6	1	06/18/13 14:00	06/21/13 10:20	7439-89-6	
Manganese, Dissolved	**9.4**	ug/L	5.0	0.49	1	06/18/13 14:00	06/20/13 13:22	7439-96-5	
8260 MSV	Analytical Method: EPA 5030B/8260								
Benzene	ND	ug/L	1.0	0.060	1		06/24/13 22:56	71-43-2	
Ethylbenzene	ND	ug/L	1.0	0.18	1		06/24/13 22:56	100-41-4	
Toluene	ND	ug/L	1.0	0.17	1		06/24/13 22:56	108-88-3	
Xylene (Total)	ND	ug/L	3.0	0.42	1		06/24/13 22:56	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	99	%	80-120		1		06/24/13 22:56	460-00-4	
Dibromofluoromethane (S)	104	%	80-120		1		06/24/13 22:56	1868-53-7	
1,2-Dichloroethane-d4 (S)	104	%	80-120		1		06/24/13 22:56	17060-07-0	
Toluene-d8 (S)	98	%	80-120		1		06/24/13 22:56	2037-26-5	
Preservation pH	**1.0**		0.10	0.10	1		06/24/13 22:56		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 074926 FLORA VISTA NO 1
Pace Project No.: 60146968

Sample: GW-074926-061213-JR-MW4 **Lab ID: 60146968004** Collected: 06/12/13 10:30 Received: 06/14/13 08:50 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Iron, Dissolved	**1530**	ug/L	50.0	11.6	1	06/18/13 14:00	06/21/13 10:22	7439-89-6	
Manganese, Dissolved	**4290**	ug/L	5.0	0.49	1	06/18/13 14:00	06/20/13 13:38	7439-96-5	
8260 MSV	Analytical Method: EPA 5030B/8260								
Benzene	**58.8**	ug/L	5.0	0.30	5		06/24/13 23:11	71-43-2	
Ethylbenzene	**50.9**	ug/L	5.0	0.90	5		06/24/13 23:11	100-41-4	
Toluene	ND	ug/L	5.0	0.85	5		06/24/13 23:11	108-88-3	
Xylene (Total)	**545**	ug/L	15.0	2.1	5		06/24/13 23:11	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	104	%	80-120		5		06/24/13 23:11	460-00-4	
Dibromofluoromethane (S)	99	%	80-120		5		06/24/13 23:11	1868-53-7	
1,2-Dichloroethane-d4 (S)	99	%	80-120		5		06/24/13 23:11	17060-07-0	
Toluene-d8 (S)	104	%	80-120		5		06/24/13 23:11	2037-26-5	
Preservation pH	**1.0**		0.10	0.10	5		06/24/13 23:11		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 074926 FLORA VISTA NO 1
Pace Project No.: 60146968

Sample: GW-074926-061213-JR-DUP **Lab ID: 60146968005** Collected: 06/12/13 08:00 Received: 06/14/13 08:50 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260								
Benzene	**21.5**	ug/L	1.0	0.060	1		06/24/13 23:25	71-43-2	
Ethylbenzene	**21.3**	ug/L	1.0	0.18	1		06/24/13 23:25	100-41-4	
Toluene	ND	ug/L	1.0	0.17	1		06/24/13 23:25	108-88-3	
Xylene (Total)	**218**	ug/L	3.0	0.42	1		06/24/13 23:25	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	107	%	80-120		1		06/24/13 23:25	460-00-4	
Dibromofluoromethane (S)	103	%	80-120		1		06/24/13 23:25	1868-53-7	
1,2-Dichloroethane-d4 (S)	106	%	80-120		1		06/24/13 23:25	17060-07-0	
Toluene-d8 (S)	110	%	80-120		1		06/24/13 23:25	2037-26-5	
Preservation pH	**1.0**		0.10	0.10	1		06/24/13 23:25		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 074926 FLORA VISTA NO 1
Pace Project No.: 60146968

Sample: DW-074926-061213-JR-32 **Lab ID: 60146968006** Collected: 06/12/13 11:15 Received: 06/14/13 08:50 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260								
Benzene	ND	ug/L	1.0	0.060	1		06/24/13 23:40	71-43-2	
Ethylbenzene	ND	ug/L	1.0	0.18	1		06/24/13 23:40	100-41-4	
Toluene	ND	ug/L	1.0	0.17	1		06/24/13 23:40	108-88-3	
Xylene (Total)	ND	ug/L	3.0	0.42	1		06/24/13 23:40	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	102	%	80-120		1		06/24/13 23:40	460-00-4	
Dibromofluoromethane (S)	105	%	80-120		1		06/24/13 23:40	1868-53-7	
1,2-Dichloroethane-d4 (S)	107	%	80-120		1		06/24/13 23:40	17060-07-0	
Toluene-d8 (S)	97	%	80-120		1		06/24/13 23:40	2037-26-5	
Preservation pH	**1.0**		0.10	0.10	1		06/24/13 23:40		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 074926 FLORA VISTA NO 1
Pace Project No.: 60146968

Sample: DW-074926-061213-JR-34 **Lab ID: 60146968007** Collected: 06/12/13 11:35 Received: 06/14/13 08:50 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260								
Benzene	ND	ug/L	1.0	0.060	1		06/24/13 23:54	71-43-2	
Ethylbenzene	ND	ug/L	1.0	0.18	1		06/24/13 23:54	100-41-4	
Toluene	ND	ug/L	1.0	0.17	1		06/24/13 23:54	108-88-3	
Xylene (Total)	ND	ug/L	3.0	0.42	1		06/24/13 23:54	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	101	%	80-120		1		06/24/13 23:54	460-00-4	
Dibromofluoromethane (S)	102	%	80-120		1		06/24/13 23:54	1868-53-7	
1,2-Dichloroethane-d4 (S)	106	%	80-120		1		06/24/13 23:54	17060-07-0	
Toluene-d8 (S)	97	%	80-120		1		06/24/13 23:54	2037-26-5	
Preservation pH	**1.0**		0.10	0.10	1		06/24/13 23:54		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 074926 FLORA VISTA NO 1
Pace Project No.: 60146968

Sample: TRIP BLANK **Lab ID: 60146968008** Collected: 06/12/13 00:00 Received: 06/14/13 08:50 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260								
Benzene	ND	ug/L	1.0	0.060	1		06/25/13 00:09	71-43-2	
Ethylbenzene	ND	ug/L	1.0	0.18	1		06/25/13 00:09	100-41-4	
Toluene	ND	ug/L	1.0	0.17	1		06/25/13 00:09	108-88-3	
Xylene (Total)	ND	ug/L	3.0	0.42	1		06/25/13 00:09	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	102	%	80-120		1		06/25/13 00:09	460-00-4	
Dibromofluoromethane (S)	94	%	80-120		1		06/25/13 00:09	1868-53-7	
1,2-Dichloroethane-d4 (S)	99	%	80-120		1		06/25/13 00:09	17060-07-0	
Toluene-d8 (S)	98	%	80-120		1		06/25/13 00:09	2037-26-5	
Preservation pH	**1.0**		0.10	0.10	1		06/25/13 00:09		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 074926 FLORA VISTA NO 1
Pace Project No.: 60146968

QC Batch: MPRP/23127 Analysis Method: EPA 6010
QC Batch Method: EPA 3010 Analysis Description: 6010 MET Dissolved
Associated Lab Samples: 60146968001, 60146968002, 60146968003, 60146968004

METHOD BLANK: 1206781 Matrix: Water
Associated Lab Samples: 60146968001, 60146968002, 60146968003, 60146968004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Iron, Dissolved	ug/L	ND	50.0	06/20/13 12:56	
Manganese, Dissolved	ug/L	ND	5.0	06/20/13 12:56	

LABORATORY CONTROL SAMPLE: 1206782

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Iron, Dissolved	ug/L	10000	9680	97	80-120	
Manganese, Dissolved	ug/L	1000	1040	104	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1206783 1206784

Parameter	Units	60146960001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Iron, Dissolved	ug/L	1460	10000	10000	11400	11300	99	99	75-125	0	20	
Manganese, Dissolved	ug/L	1840	1000	1000	2630	2640	78	80	75-125	1	20	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 074926 FLORA VISTA NO 1
Pace Project No.: 60146968

QC Batch: MSV/54512 Analysis Method: EPA 5030B/8260
QC Batch Method: EPA 5030B/8260 Analysis Description: 8260 MSV Water 10 mL Purge
Associated Lab Samples: 60146968001, 60146968002, 60146968003, 60146968004, 60146968005, 60146968006, 60146968007, 60146968008

METHOD BLANK: 1210010 Matrix: Water
Associated Lab Samples: 60146968001, 60146968002, 60146968003, 60146968004, 60146968005, 60146968006, 60146968007, 60146968008

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ug/L	ND	1.0	06/24/13 20:59	
Ethylbenzene	ug/L	ND	1.0	06/24/13 20:59	
Toluene	ug/L	ND	1.0	06/24/13 20:59	
Xylene (Total)	ug/L	ND	3.0	06/24/13 20:59	
1,2-Dichloroethane-d4 (S)	%	104	80-120	06/24/13 20:59	
4-Bromofluorobenzene (S)	%	103	80-120	06/24/13 20:59	
Dibromofluoromethane (S)	%	103	80-120	06/24/13 20:59	
Toluene-d8 (S)	%	98	80-120	06/24/13 20:59	

LABORATORY CONTROL SAMPLE: 1210011

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	20	19.5	98	73-122	
Ethylbenzene	ug/L	20	19.7	99	76-123	
Toluene	ug/L	20	18.7	93	76-122	
Xylene (Total)	ug/L	60	57.2	95	76-122	
1,2-Dichloroethane-d4 (S)	%			110	80-120	
4-Bromofluorobenzene (S)	%			101	80-120	
Dibromofluoromethane (S)	%			104	80-120	
Toluene-d8 (S)	%			100	80-120	

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QUALITY CONTROL DATA

Project: 074926 FLORA VISTA NO 1
Pace Project No.: 60146968

QC Batch: MSV/54523
QC Batch Method: EPA 5030B/8260
Analysis Method: EPA 5030B/8260
Analysis Description: 8260 MSV Water 10 mL Purge
Associated Lab Samples: 60146968001, 60146968002

METHOD BLANK: 1210238
Matrix: Water
Associated Lab Samples: 60146968001, 60146968002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ug/L	ND	1.0	06/25/13 19:25	
Xylene (Total)	ug/L	ND	3.0	06/25/13 19:25	
1,2-Dichloroethane-d4 (S)	%	99	80-120	06/25/13 19:25	
4-Bromofluorobenzene (S)	%	100	80-120	06/25/13 19:25	
Dibromofluoromethane (S)	%	102	80-120	06/25/13 19:25	
Toluene-d8 (S)	%	97	80-120	06/25/13 19:25	

LABORATORY CONTROL SAMPLE: 1210239

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	20	19.3	97	73-122	
Xylene (Total)	ug/L	60	61.2	102	76-122	
1,2-Dichloroethane-d4 (S)	%			102	80-120	
4-Bromofluorobenzene (S)	%			96	80-120	
Dibromofluoromethane (S)	%			101	80-120	
Toluene-d8 (S)	%			102	80-120	

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QUALIFIERS

Project: 074926 FLORA VISTA NO 1
Pace Project No.: 60146968

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PRL - Pace Reporting Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

BATCH QUALIFIERS

Batch: MSV/54512

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

Batch: MSV/54523

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 074926 FLORA VISTA NO 1
Pace Project No.: 60146968

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60146968001	**GW-074926-061213-JR-MW1**	EPA 3010	MPRP/23127	EPA 6010	ICP/18251
60146968002	**GW-074926-061213-JR-MW2**	EPA 3010	MPRP/23127	EPA 6010	ICP/18251
60146968003	**GW-074926-061213-JR-MW3**	EPA 3010	MPRP/23127	EPA 6010	ICP/18251
60146968004	**GW-074926-061213-JR-MW4**	EPA 3010	MPRP/23127	EPA 6010	ICP/18251
60146968001	**GW-074926-061213-JR-MW1**	EPA 5030B/8260	MSV/54512		
60146968001	**GW-074926-061213-JR-MW1**	EPA 5030B/8260	MSV/54523		
60146968002	**GW-074926-061213-JR-MW2**	EPA 5030B/8260	MSV/54512		
60146968002	**GW-074926-061213-JR-MW2**	EPA 5030B/8260	MSV/54523		
60146968003	**GW-074926-061213-JR-MW3**	EPA 5030B/8260	MSV/54512		
60146968004	**GW-074926-061213-JR-MW4**	EPA 5030B/8260	MSV/54512		
60146968005	**GW-074926-061213-JR-DUP**	EPA 5030B/8260	MSV/54512		
60146968006	**DW-074926-061213-JR-32**	EPA 5030B/8260	MSV/54512		
60146968007	**DW-074926-061213-JR-34**	EPA 5030B/8260	MSV/54512		
60146968008	**TRIP BLANK**	EPA 5030B/8260	MSV/54512		

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Sample Condition Upon Receipt

WO# : 60146968

60146968

Client Name: CRA

Optional
Proj Due Date:
Proj Name:

Courier: Fed Ex ☑ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace ☐ Other ☐

Tracking #: 8011 3631 7407 Pace Shipping Label Used? Yes ☐ No ☑

Custody Seal on Cooler/Box Present: Yes ☑ No ☐ Seals intact: Yes ☑ No ☐

Packing Material: Bubble Wrap ☐ Bubble Bags ☐ Foam ☑ None ☐ Other ☐

Thermometer Used: T-112 / T-194 **Type of Ice:** (Wet) Blue None ☐ Samples received on ice, cooling process has begun.
(circle one)

Cooler Temperature: 4.2

Temperature should be above freezing to 6°C

Date and initials of person examining contents: KE 6/14/13

Chain of Custody present:	☑Yes ☐No ☐N/A	1.
Chain of Custody filled out:	☑Yes ☐No ☐N/A	2.
Chain of Custody relinquished:	☑Yes ☐No ☐N/A	3.
Sampler name & signature on COC:	☑Yes ☐No ☐N/A	4.
Samples arrived within holding time:	☑Yes ☐No ☐N/A	5.
Short Hold Time analyses (<72hr):	☐Yes ☑No ☐N/A	6.
Rush Turn Around Time requested:	☐Yes ☑No ☐N/A	7.
Sufficient volume:	☑Yes ☐No ☐N/A	8.
Correct containers used:	☑Yes ☐No ☐N/A	
Pace containers used:	☑Yes ☐No ☐N/A	9.
Containers intact:	☑Yes ☐No ☐N/A	10.
Unpreserved 5035A soils frozen w/in 48hrs?	☐Yes ☐No ☑N/A	11.
Filtered volume received for dissolved tests?	☐Yes ☑No ☐N/A	12.
Sample labels match COC:	☑Yes ☐No ☐N/A	
Includes date/time/ID/analyses Matrix: WT		13.
All containers needing preservation have been checked.	☑Yes ☐No ☑N/A KG 6/14/13	
All containers needing preservation are found to be in compliance with EPA recommendation.	☑Yes ☐No ☐N/A	14.
Exceptions: VOA, coliform, TOC, O&G, WI-DRO (water), Phenolics	☑Yes ☐No	Initial when completed / Lot # of added preservative
Trip Blank present:	☑Yes ☐No ☐N/A	
Pace Trip Blank lot # (if purchased): May 20		15.
Headspace in VOA vials (>6mm):	☐Yes ☑No ☐N/A	16.
Project sampled in USDA Regulated Area:	☐Yes ☑No ☐N/A	17. List State:

Client Notification/ Resolution: Copy COC to Client? Y / N Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: AAF Date: 6/17/13

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CHAIN-OF-CUSTODY / Analytical Request Document

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

Page: of

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	CRA	Report To:	Christine Mathews	Attention:	ePayables
Address:	6121 Indian School Rd NE, Ste 200	Copy To:	Kelly Blanchard, Angela Bown, Cassie Brown	Company Name:	
	Albequerque, NM 87110			Address:	
Email To:	cmathews@craworld.com	Purchase Order No.:	4517146299	Pace Quote Reference:	
Phone:	(505)884-0672 Fax: (505)884-4932	Project Name:	Flora Vista No. 1	Pace Project Manager:	Alice Flanagan
Requested Due Date/TAT:	standard	Project Number:	074926	Pace Profile #:	5514, 22

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER

☐ UST ☐ RCRA ☐ OTHER

Site Location STATE: NM

Section D Required Client Information

SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

Valid Matrix Codes

MATRIX	CODE
DRINKING WATER	DW
WATER	WT
WASTE WATER	WW
PRODUCT	P
SOIL/SOLID	SL
OIL	OL
WIPE	WP
AIR	AR
OTHER	OT
TISSUE	TS

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED: COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test Y/N	8260 BTEX	6010 Dissolved Fe & Mn								Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	GW-074926-061213-JK-MW 1	WT				6-12-13	1055											✓	✓			3 (DG9H)						1 (BP3N)	61469681
2	GW-074926-061213-JK-MW 2						1045											✓	✓										02
3	GW-074926-061213-JK-MW 3						1045											✓	✓										03
4	GW-074926-061213-JK-MW 4						1030											✓	✓										04
5	GW-074926-061213-JK-DUP						—											✓											05
6	DW-074926-061213-JK-32						1115											✓											06
7	DW-074926-061213-JK-34						1135											✓											07
8	TRIP BLANK																					2 (DG9H)							08
9																													
10																													
11																													
12																													

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
	[signature] / CRA	6-13-13	1550	[signature] / PASI	6/14/13	8:50	4.2	Y	Y	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: JOSH KIRCHNER

SIGNATURE of SAMPLER: [signature] DATE Signed (MM/DD/YY): 06/13/13

Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days

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September 27, 2013

Christine Matthews
CRA
6121 Indian School Rd NE
Suite 200
Albuquerque, NM 87110

RE: Project: 074926 FLORA VISTA NO.1
Pace Project No.: 60153083

Dear Christine Matthews:
Enclosed are the analytical results for sample(s) received by the laboratory on September 13, 2013. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Alice Flanagan

alice.flanagan@pacelabs.com
Project Manager

Enclosures

cc: Kelly Blanchard, COP Conestoga-Rovers & Associa
Angela Bown, COP Conestoga-Rovers & Associa
Jeff Walker, COP Conestoga-Rovers & Associa

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CERTIFICATIONS

Project: 074926 FLORA VISTA NO.1
Pace Project No.: 60153083

Kansas Certification IDs
9608 Loiret Boulevard, Lenexa, KS 66219
WY STR Certification #: 2456.01
Arkansas Certification #: 13-012-0
Illinois Certification #: 003097
Iowa Certification #: 118
Kansas/NELAP Certification #: E-10116
Louisiana Certification #: 03055
Nevada Certification #: KS000212008A
Oklahoma Certification #: 9205/9935
Texas Certification #: T104704407-13-4
Utah Certification #: KS000212013-3
Illinois Certification #: 003097

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SAMPLE SUMMARY

Project: 074926 FLORA VISTA NO.1
Pace Project No.: 60153083

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60153083001	**GW-074926-091113-CM-MW-1**	Water	09/11/13 17:00	09/13/13 08:30
60153083002	**GW-074926-091113-CM-MW-2**	Water	09/11/13 16:30	09/13/13 08:30
60153083003	**GW-074926-091113-CM-MW-3**	Water	09/11/13 17:20	09/13/13 08:30
60153083004	**GW-074926-091113-CM-MW-4**	Water	09/11/13 17:10	09/13/13 08:30
60153083005	**GW-074926-091113-CM-DUP**	Water	09/11/13 17:15	09/13/13 08:30
60153083006	**TB-074926-091113-CM-001**	Water	09/11/13 12:30	09/13/13 08:30

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SAMPLE ANALYTE COUNT

Project: 074926 FLORA VISTA NO.1
Pace Project No.: 60153083

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60153083001	**GW-074926-091113-CM-MW-1**	EPA 6010	NDJ	2
		EPA 5030B/8260	PRG	8
60153083002	**GW-074926-091113-CM-MW-2**	EPA 6010	NDJ	2
		EPA 5030B/8260	PRG	8
60153083003	**GW-074926-091113-CM-MW-3**	EPA 6010	NDJ	2
		EPA 5030B/8260	PRG	8
60153083004	**GW-074926-091113-CM-MW-4**	EPA 6010	NDJ	2
		EPA 5030B/8260	PRG	8
60153083005	**GW-074926-091113-CM-DUP**	EPA 5030B/8260	PRG	8
60153083006	**TB-074926-091113-CM-001**	EPA 5030B/8260	PRG	8

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PROJECT NARRATIVE

Project: 074926 FLORA VISTA NO.1
Pace Project No.: 60153083

Method: **EPA 6010**
Description: 6010 MET ICP, Dissolved
Client: COP Conestoga-Rovers & Associates, Inc. NM
Date: September 27, 2013

General Information:
4 samples were analyzed for EPA 6010. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:
The samples were prepared in accordance with EPA 3010 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: 074926 FLORA VISTA NO.1
Pace Project No.: 60153083

Method: **EPA 5030B/8260**
Description: 8260 MSV
Client: COP Conestoga-Rovers & Associates, Inc. NM
Date: September 27, 2013

General Information:
6 samples were analyzed for EPA 5030B/8260. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Internal Standards:
All internal standards were within QC limits with any exceptions noted below.

Surrogates:
All surrogates were within QC limits with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: MSV/56391

A matrix spike/matrix spike duplicate was not performed due to insufficient sample volume.

QC Batch: MSV/56496

A matrix spike/matrix spike duplicate was not performed due to insufficient sample volume.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

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ANALYTICAL RESULTS

Project: 074926 FLORA VISTA NO.1
Pace Project No.: 60153083

Sample: GW-074926-091113-CM-MW-1 **Lab ID: 60153083001** Collected: 09/11/13 17:00 Received: 09/13/13 08:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Iron, Dissolved	**18000**	ug/L	50.0	11.6	1	09/19/13 00:00	09/20/13 12:59	7439-89-6	
Manganese, Dissolved	**1050**	ug/L	5.0	0.49	1	09/19/13 00:00	09/20/13 12:59	7439-96-5	
8260 MSV	Analytical Method: EPA 5030B/8260								
Benzene	**1500**	ug/L	20.0	1.2	20		09/23/13 19:52	71-43-2	
Ethylbenzene	**831**	ug/L	20.0	3.6	20		09/23/13 19:52	100-41-4	
Toluene	ND	ug/L	20.0	3.4	20		09/23/13 19:52	108-88-3	
Xylene (Total)	**5100**	ug/L	60.0	8.4	20		09/23/13 19:52	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	101	%	80-120		20		09/23/13 19:52	460-00-4	
1,2-Dichloroethane-d4 (S)	96	%	80-120		20		09/23/13 19:52	17060-07-0	
Toluene-d8 (S)	101	%	80-120		20		09/23/13 19:52	2037-26-5	
Preservation pH	**1.0**		0.10	0.10	20		09/23/13 19:52		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 074926 FLORA VISTA NO.1
Pace Project No.: 60153083

Sample: GW-074926-091113-CM-MW-2 **Lab ID: 60153083002** Collected: 09/11/13 16:30 Received: 09/13/13 08:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Iron, Dissolved	ND	ug/L	50.0	11.6	1	09/19/13 00:00	09/20/13 13:11	7439-89-6	
Manganese, Dissolved	ND	ug/L	5.0	0.49	1	09/19/13 00:00	09/20/13 13:11	7439-96-5	
8260 MSV	Analytical Method: EPA 5030B/8260								
Benzene	ND	ug/L	1.0	0.060	1		09/23/13 20:08	71-43-2	
Ethylbenzene	ND	ug/L	1.0	0.18	1		09/23/13 20:08	100-41-4	
Toluene	ND	ug/L	1.0	0.17	1		09/19/13 15:46	108-88-3	
Xylene (Total)	ND	ug/L	3.0	0.42	1		09/23/13 20:08	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	98	%	80-120		1		09/19/13 15:46	460-00-4	
1,2-Dichloroethane-d4 (S)	104	%	80-120		1		09/19/13 15:46	17060-07-0	
Toluene-d8 (S)	101	%	80-120		1		09/19/13 15:46	2037-26-5	
Preservation pH	**1.0**		0.10	0.10	1		09/19/13 15:46		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 074926 FLORA VISTA NO.1
Pace Project No.: 60153083

Sample: GW-074926-091113-CM-MW-3 **Lab ID: 60153083003** Collected: 09/11/13 17:20 Received: 09/13/13 08:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Iron, Dissolved	ND	ug/L	50.0	11.6	1	09/19/13 00:00	09/20/13 13:13	7439-89-6	
Manganese, Dissolved	ND	ug/L	5.0	0.49	1	09/19/13 00:00	09/20/13 13:13	7439-96-5	
8260 MSV	Analytical Method: EPA 5030B/8260								
Benzene	ND	ug/L	1.0	0.060	1		09/19/13 16:01	71-43-2	
Ethylbenzene	ND	ug/L	1.0	0.18	1		09/19/13 16:01	100-41-4	
Toluene	ND	ug/L	1.0	0.17	1		09/19/13 16:01	108-88-3	
Xylene (Total)	ND	ug/L	3.0	0.42	1		09/23/13 20:24	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	98	%	80-120		1		09/19/13 16:01	460-00-4	
1,2-Dichloroethane-d4 (S)	96	%	80-120		1		09/19/13 16:01	17060-07-0	
Toluene-d8 (S)	101	%	80-120		1		09/19/13 16:01	2037-26-5	
Preservation pH	**1.0**		0.10	0.10	1		09/19/13 16:01		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 074926 FLORA VISTA NO.1
Pace Project No.: 60153083

Sample: GW-074926-091113-CM-MW-4 **Lab ID: 60153083004** Collected: 09/11/13 17:10 Received: 09/13/13 08:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Iron, Dissolved	**3100**	ug/L	50.0	11.6	1	09/19/13 00:00	09/20/13 13:15	7439-89-6	
Manganese, Dissolved	**4350**	ug/L	5.0	0.49	1	09/19/13 00:00	09/20/13 13:15	7439-96-5	
8260 MSV	Analytical Method: EPA 5030B/8260								
Benzene	**16.6**	ug/L	1.0	0.060	1		09/19/13 16:16	71-43-2	
Ethylbenzene	**23.1**	ug/L	1.0	0.18	1		09/19/13 16:16	100-41-4	
Toluene	ND	ug/L	1.0	0.17	1		09/19/13 16:16	108-88-3	
Xylene (Total)	**226**	ug/L	3.0	0.42	1		09/19/13 16:16	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	106	%	80-120		1		09/19/13 16:16	460-00-4	
1,2-Dichloroethane-d4 (S)	97	%	80-120		1		09/19/13 16:16	17060-07-0	
Toluene-d8 (S)	103	%	80-120		1		09/19/13 16:16	2037-26-5	
Preservation pH	**1.0**		0.10	0.10	1		09/19/13 16:16		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 074926 FLORA VISTA NO.1
Pace Project No.: 60153083

Sample: GW-074926-091113-CM-DUP **Lab ID: 60153083005** Collected: 09/11/13 17:15 Received: 09/13/13 08:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260								
Benzene	**15.6**	ug/L	1.0	0.060	1		09/19/13 16:31	71-43-2	
Ethylbenzene	**16.2**	ug/L	1.0	0.18	1		09/19/13 16:31	100-41-4	
Toluene	ND	ug/L	1.0	0.17	1		09/19/13 16:31	108-88-3	
Xylene (Total)	**158**	ug/L	3.0	0.42	1		09/19/13 16:31	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	102	%	80-120		1		09/19/13 16:31	460-00-4	
1,2-Dichloroethane-d4 (S)	98	%	80-120		1		09/19/13 16:31	17060-07-0	
Toluene-d8 (S)	103	%	80-120		1		09/19/13 16:31	2037-26-5	
Preservation pH	**1.0**		0.10	0.10	1		09/19/13 16:31		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 074926 FLORA VISTA NO.1
Pace Project No.: 60153083

Sample: TB-074926-091113-CM-001 **Lab ID: 60153083006** Collected: 09/11/13 12:30 Received: 09/13/13 08:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260								
Benzene	ND	ug/L	1.0	0.060	1		09/19/13 16:46	71-43-2	
Ethylbenzene	ND	ug/L	1.0	0.18	1		09/19/13 16:46	100-41-4	
Toluene	ND	ug/L	1.0	0.17	1		09/19/13 16:46	108-88-3	
Xylene (Total)	ND	ug/L	3.0	0.42	1		09/19/13 16:46	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	99	%	80-120		1		09/19/13 16:46	460-00-4	
1,2-Dichloroethane-d4 (S)	99	%	80-120		1		09/19/13 16:46	17060-07-0	
Toluene-d8 (S)	98	%	80-120		1		09/19/13 16:46	2037-26-5	
Preservation pH	**1.0**		0.10	0.10	1		09/19/13 16:46		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 074926 FLORA VISTA NO.1
Pace Project No.: 60153083

QC Batch: MPRP/24349 Analysis Method: EPA 6010
QC Batch Method: EPA 3010 Analysis Description: 6010 MET Dissolved
Associated Lab Samples: 60153083001, 60153083002, 60153083003, 60153083004

METHOD BLANK: 1256522 Matrix: Water
Associated Lab Samples: 60153083001, 60153083002, 60153083003, 60153083004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Iron, Dissolved	ug/L	ND	50.0	09/20/13 12:26	
Manganese, Dissolved	ug/L	ND	5.0	09/20/13 12:26	

LABORATORY CONTROL SAMPLE: 1256523

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Iron, Dissolved	ug/L	10000	9500	95	80-120	
Manganese, Dissolved	ug/L	1000	973	97	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1256524 1256525

Parameter	Units	60153083001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Iron, Dissolved	ug/L	18000	10000	10000	27100	27200	91	92	75-125	0	20	
Manganese, Dissolved	ug/L	1050	1000	1000	2010	1990	96	94	75-125	1	20	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 074926 FLORA VISTA NO.1
Pace Project No.: 60153083

QC Batch: MSV/56391 Analysis Method: EPA 5030B/8260
QC Batch Method: EPA 5030B/8260 Analysis Description: 8260 MSV Water 10 mL Purge
Associated Lab Samples: 60153083002, 60153083003, 60153083004, 60153083005, 60153083006

METHOD BLANK: 1255364 Matrix: Water
Associated Lab Samples: 60153083002, 60153083003, 60153083004, 60153083005, 60153083006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ug/L	ND	1.0	09/19/13 14:30	
Ethylbenzene	ug/L	ND	1.0	09/19/13 14:30	
Toluene	ug/L	ND	1.0	09/19/13 14:30	
Xylene (Total)	ug/L	ND	3.0	09/19/13 14:30	
1,2-Dichloroethane-d4 (S)	%	102	80-120	09/19/13 14:30	
4-Bromofluorobenzene (S)	%	106	80-120	09/19/13 14:30	
Toluene-d8 (S)	%	99	80-120	09/19/13 14:30	

LABORATORY CONTROL SAMPLE: 1255365

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	20	20.2	101	73-122	
Ethylbenzene	ug/L	20	20.1	100	76-123	
Toluene	ug/L	20	20.0	100	76-122	
Xylene (Total)	ug/L	60	60.3	100	76-122	
1,2-Dichloroethane-d4 (S)	%			99	80-120	
4-Bromofluorobenzene (S)	%			100	80-120	
Toluene-d8 (S)	%			99	80-120	

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QUALITY CONTROL DATA

Project: 074926 FLORA VISTA NO.1
Pace Project No.: 60153083

QC Batch: MSV/56496 Analysis Method: EPA 5030B/8260
QC Batch Method: EPA 5030B/8260 Analysis Description: 8260 MSV Water 10 mL Purge
Associated Lab Samples: 60153083001, 60153083002, 60153083003

METHOD BLANK: 1258627 Matrix: Water
Associated Lab Samples: 60153083001, 60153083002, 60153083003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ug/L	ND	1.0	09/23/13 15:55	
Ethylbenzene	ug/L	ND	1.0	09/23/13 15:55	
Toluene	ug/L	ND	1.0	09/23/13 15:55	
Xylene (Total)	ug/L	ND	3.0	09/23/13 15:55	
1,2-Dichloroethane-d4 (S)	%	98	80-120	09/23/13 15:55	
4-Bromofluorobenzene (S)	%	102	80-120	09/23/13 15:55	
Toluene-d8 (S)	%	101	80-120	09/23/13 15:55	

LABORATORY CONTROL SAMPLE: 1258628

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	20	20.2	101	73-122	
Ethylbenzene	ug/L	20	21.9	109	76-123	
Toluene	ug/L	20	20.6	103	76-122	
Xylene (Total)	ug/L	60	64.6	108	76-122	
1,2-Dichloroethane-d4 (S)	%			95	80-120	
4-Bromofluorobenzene (S)	%			101	80-120	
Toluene-d8 (S)	%			100	80-120	

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QUALIFIERS

Project: 074926 FLORA VISTA NO.1
Pace Project No.: 60153083

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PRL - Pace Reporting Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

BATCH QUALIFIERS

Batch: MSV/56391

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

Batch: MSV/56496

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 074926 FLORA VISTA NO.1
Pace Project No.: 60153083

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60153083001	**GW-074926-091113-CM-MW-1**	EPA 3010	MPRP/24349	EPA 6010	ICP/18990
60153083002	**GW-074926-091113-CM-MW-2**	EPA 3010	MPRP/24349	EPA 6010	ICP/18990
60153083003	**GW-074926-091113-CM-MW-3**	EPA 3010	MPRP/24349	EPA 6010	ICP/18990
60153083004	**GW-074926-091113-CM-MW-4**	EPA 3010	MPRP/24349	EPA 6010	ICP/18990
60153083001	**GW-074926-091113-CM-MW-1**	EPA 5030B/8260	MSV/56496		
60153083002	**GW-074926-091113-CM-MW-2**	EPA 5030B/8260	MSV/56391		
60153083002	**GW-074926-091113-CM-MW-2**	EPA 5030B/8260	MSV/56496		
60153083003	**GW-074926-091113-CM-MW-3**	EPA 5030B/8260	MSV/56391		
60153083003	**GW-074926-091113-CM-MW-3**	EPA 5030B/8260	MSV/56496		
60153083004	**GW-074926-091113-CM-MW-4**	EPA 5030B/8260	MSV/56391		
60153083005	**GW-074926-091113-CM-DUP**	EPA 5030B/8260	MSV/56391		
60153083006	**TB-074926-091113-CM-001**	EPA 5030B/8260	MSV/56391		

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Sample Condition Upon Receipt
ESI Tech Spec Client

WO# : 60153083

60153083

Optional
Proj Due Date:
Proj Name:

Client Name: COP CRA NM

Courier: Fed Ex ☑ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace ☐ Other ☐

Tracking #: 8023 6827 9421 Pace Shipping Label Used? Yes ☑ No ☐

Custody Seal on Cooler/Box Present: Yes ☑ No ☐ Seals intact: Yes ☑ No ☐

Packing Material: Bubble Wrap ☐ Bubble Bags ☐ Foam ☐ None ☐ Other ☑ ZPLC

Thermometer Used: T-112 / T-194 **Type of Ice:** (Wet) Blue None ☐ Samples received on ice, cooling process has begun.
(circle one)

Cooler Temperature: 1.9

Temperature should be above freezing to 6°C

Date and initials of person examining contents: 9/13/13 BA

Chain of Custody present:	☑Yes ☐No ☐N/A	1.
Chain of Custody filled out:	☑Yes ☐No ☐N/A	2.
Chain of Custody relinquished:	☑Yes ☐No ☐N/A	3.
Sampler name & signature on COC:	☑Yes ☐No ☐N/A	4.
Samples arrived within holding time:	☑Yes ☐No ☐N/A	5.
Short Hold Time analyses (<72hr):	☐Yes ☑No ☐N/A	6.
Rush Turn Around Time requested:	☐Yes ☑No ☐N/A	7.
Sufficient volume:	☑Yes ☐No ☐N/A	8.
Correct containers used:	☑Yes ☐No ☐N/A	
Pace containers used:	☑Yes ☐No ☐N/A	9.
Containers intact:	☑Yes ☐No ☐N/A	10.
Unpreserved 5035A soils frozen w/in 48hrs?	☐Yes ☐No ☑N/A	11.
Filtered volume received for dissolved tests?	☑Yes ☐No ☐N/A	12.
Sample labels match COC: Includes date/time/ID/analyses Matrix: WT	☑Yes ☐No ☐N/A	13.
All containers needing preservation have been checked.	☑Yes ☐No ☐N/A	
All containers needing preservation are found to be in compliance with EPA recommendation.	☑Yes ☐No ☐N/A	14.
Exceptions: (VOA), coliform, TOC, O&G, WI-DRO (water), Phenolics	☑Yes ☐No	Initial when completed / Lot # of added preservative
Trip Blank present: Pace Trip Blank lot # (if purchased): 080513-38FD	☑Yes ☐No ☐N/A	15.
Headspace in VOA vials (>6mm):	☐Yes ☑No ☐N/A	16.
Project sampled in USDA Regulated Area:	☐Yes ☐No ☑N/A	17. List State:

AF

Client Notification/ Resolution: Copy COC to Client? Y / N Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: MKF Date: 9/13/13

Temp Log: Record start and finish times when unpacking cooler, if >20 min, recheck sample temps.

Start: 1145	Start:
End: 1155	End:
Temp:	Temp:

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CHAIN-OF-CUSTODY / Analytical Request Document

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

Page: 1 of 1

Section A — **Required** Client Information:

Company:	CRA
Address:	6121 Indian School Rd NE, Ste 200
	Albequerque, NM 87110
Email To:	cmathews@craworld.com
Phone: (505)884-0672	Fax: (505)884-4932
Requested Due Date/TAT:	standard

Section B — **Required** Project Information:

Report To:	Christine Mathews
Copy To:	Jeff Walker, Angela Bown
Purchase Order No.:	4517146299
Project Name:	Flora Vista No. 1
Project Number:	074926

Section C — Invoice Information:

Attention:	ePayables
Company Name:	
Address:	
Pace Quote Reference:	
Pace Project Manager:	Alice Flanagan
Pace Profile #:	5514, 22

REGULATORY AGENCY

☐ NPDES ☒ GROUND WATER ☐ DRINKING WATER
☐ UST ☐ RCRA ☐ OTHER

Site Location STATE: NM

Requested Analysis Filtered (Y/N)

Section D — **Required** Client Information

Valid Matrix Codes

MATRIX	CODE
DRINKING WATER	DW
WATER	WT
WASTE WATER	WW
PRODUCT	P
SOIL/SOLID	SL
OIL	OL
WIPE	WP
AIR	AR
OTHER	OT
TISSUE	TS

ITEM #	SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COLLECTED COMPOSITE START TIME	COLLECTED COMPOSITE END/GRAB DATE	COLLECTED COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test Y/N	8260 BTEX	6010 Dissolved Fe & Mn	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	GW-074926-091113-CM-MW-1		G			9/11/13	1700		4			X	X						X	X		30GA14 1BP3F1-5 001
2	GW-074926-091113-CM-MW-2		G			9/11/13	1630		4			X	X						X	X		002
3	GW-074926-091113-CM-MW-3		G			9/11/13	1720		4			X	X						X	X		003
4	GW-074926-091113-CM-MW-4		G			9/11/13	1710		4			X	X						X	X		004
5	GW-074926-091113-CM-DUP		G			9/11/13	1715		3				X						X			005
6	TB-074926-091213-CM-001					9/12/13	1230		3				X						X			006
7																						
8																						
9																						
10																						
11																						
12																						

60153083

Pace Project No./ Lab I.D.

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
Metals were field filtered	Christine Mathews/CRA	9/12/13	1300	Brent Cks / PACE	9/13/13	0830	L9	Y	Y	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Christine Mathews

SIGNATURE of SAMPLER: Christine Mathews DATE Signed (MM/DD/YY): 9/12/13

Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

F-ALL-Q-020rev.08, 12-Oct-2007

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February 13, 2014

Jeff Walker
COP Conestoga-Rovers & Associa
6121 Indian School Rd. NE
Ste 200
Albuquerque, NM 87110

RE: Project: 074926 FLORA VISTA NO 1
Pace Project No.: 60159732

Dear Jeff Walker:
Enclosed are the analytical results for sample(s) received by the laboratory on December 17, 2013. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

REVISED

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Alice Flanagan
alice.flanagan@pacelabs.com
Project Manager

Enclosures

cc: Angela Bown, COP Conestoga-Rovers & Associa
Christine Matthews, CRA

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CERTIFICATIONS

Project: 074926 FLORA VISTA NO 1
Pace Project No.: 60159732

Kansas Certification IDs

9608 Loiret Boulevard, Lenexa, KS 66219
WY STR Certification #: 2456.01
Arkansas Certification #: 13-012-0
Illinois Certification #: 003097
Iowa Certification #: 118
Kansas/NELAP Certification #: E-10116
Louisiana Certification #: 03055
Nevada Certification #: KS000212008A
Oklahoma Certification #: 9205/9935
Texas Certification #: T104704407-13-4
Utah Certification #: KS000212013-3
Illinois Certification #: 003097

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SAMPLE SUMMARY

Project: 074926 FLORA VISTA NO 1
Pace Project No.: 60159732

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60159732001	**GW-074926-121313-CM-MW-1**	Water	12/13/13 13:20	12/17/13 09:00
60159732002	**GW-074926-121313-CM-MW-2**	Water	12/13/13 12:40	12/17/13 09:00
60159732003	**GW-074926-121313-CM-MW-3**	Water	12/13/13 12:10	12/17/13 09:00
60159732004	**GW-074926-121313-CM-MW-4**	Water	12/13/13 13:05	12/17/13 09:00
60159732005	**GW-074926-121313-CM-DUP**	Water	12/13/13 13:10	12/17/13 09:00
60159732006	**TB-074926-121313-CM-001**	Water	12/13/13 13:30	12/17/13 09:00

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SAMPLE ANALYTE COUNT

Project: 074926 FLORA VISTA NO 1
Pace Project No.: 60159732

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60159732001	**GW-074926-121313-CM-MW-1**	EPA 6010	TDS	2
		EPA 5030B/8260	JTK	8
60159732002	**GW-074926-121313-CM-MW-2**	EPA 6010	TDS	2
		EPA 5030B/8260	PRG	8
60159732003	**GW-074926-121313-CM-MW-3**	EPA 6010	TDS	2
		EPA 5030B/8260	JTK	8
60159732004	**GW-074926-121313-CM-MW-4**	EPA 6010	TDS	2
		EPA 5030B/8260	JTK	8
60159732005	**GW-074926-121313-CM-DUP**	EPA 5030B/8260	JTK	8
60159732006	**TB-074926-121313-CM-001**	EPA 5030B/8260	JTK	8

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PROJECT NARRATIVE

Project: 074926 FLORA VISTA NO 1
Pace Project No.: 60159732

Method: **EPA 6010**
Description: 6010 MET ICP, Dissolved
Client: COP Conestoga-Rovers & Associates, Inc. NM
Date: February 13, 2014

General Information:
4 samples were analyzed for EPA 6010. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:
The samples were prepared in accordance with EPA 3010 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: 074926 FLORA VISTA NO 1
Pace Project No.: 60159732

Method: **EPA 5030B/8260**
Description: 8260 MSV
Client: COP Conestoga-Rovers & Associates, Inc. NM
Date: February 13, 2014

General Information:
6 samples were analyzed for EPA 5030B/8260. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Internal Standards:
All internal standards were within QC limits with any exceptions noted below.

Surrogates:
All surrogates were within QC limits with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: MSV/58453

A matrix spike/matrix spike duplicate was not performed due to insufficient sample volume.

Additional Comments:

Analyte Comments:

QC Batch: MSV/58453

E: Analyte concentration exceeded the calibration range. The reported result is estimated.

- GW-074926-121313-CM-MW-1 (Lab ID: 60159732001)
  - Benzene
  - Ethylbenzene
  - Xylene (Total)

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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ANALYTICAL RESULTS

Project: 074926 FLORA VISTA NO 1
Pace Project No.: 60159732

Sample: GW-074926-121313-CM-MW-1 **Lab ID: 60159732001** Collected: 12/13/13 13:20 Received: 12/17/13 09:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Iron, Dissolved	**25.4**	mg/L	0.050	1	12/18/13 13:30	12/27/13 13:38	7439-89-6	
Manganese, Dissolved	**0.88**	mg/L	0.0050	1	12/18/13 13:30	12/27/13 13:38	7439-96-5	
8260 MSV	Analytical Method: EPA 5030B/8260							
Benzene	**591**	ug/L	1.0	1		12/18/13 18:34	71-43-2	E
Ethylbenzene	**670**	ug/L	1.0	1		12/18/13 18:34	100-41-4	E
Toluene	**1.5**	ug/L	1.0	1		12/18/13 18:34	108-88-3	
Xylene (Total)	**1790**	ug/L	3.0	1		12/18/13 18:34	1330-20-7	E
Surrogates								
4-Bromofluorobenzene (S)	104	%	80-120	1		12/18/13 18:34	460-00-4	
1,2-Dichloroethane-d4 (S)	91	%	80-120	1		12/18/13 18:34	17060-07-0	
Toluene-d8 (S)	101	%	80-120	1		12/18/13 18:34	2037-26-5	
Preservation pH	**1.0**		0.10	1		12/18/13 18:34		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 074926 FLORA VISTA NO 1
Pace Project No.: 60159732

Sample: GW-074926-121313-CM-MW-2 **Lab ID: 60159732002** Collected: 12/13/13 12:40 Received: 12/17/13 09:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Iron, Dissolved	ND	mg/L	0.050	1	12/18/13 13:30	12/27/13 13:46	7439-89-6	
Manganese, Dissolved	ND	mg/L	0.0050	1	12/18/13 13:30	12/27/13 13:46	7439-96-5	
8260 MSV	Analytical Method: EPA 5030B/8260							
Benzene	ND	ug/L	1.0	1		12/25/13 01:36	71-43-2	
Ethylbenzene	ND	ug/L	1.0	1		12/25/13 01:36	100-41-4	
Toluene	ND	ug/L	1.0	1		12/25/13 01:36	108-88-3	
Xylene (Total)	ND	ug/L	3.0	1		12/25/13 01:36	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	101	%	80-120	1		12/25/13 01:36	460-00-4	
1,2-Dichloroethane-d4 (S)	102	%	80-120	1		12/25/13 01:36	17060-07-0	
Toluene-d8 (S)	100	%	80-120	1		12/25/13 01:36	2037-26-5	
Preservation pH	**1.0**		0.10	1		12/25/13 01:36		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 074926 FLORA VISTA NO 1
Pace Project No.: 60159732

Sample: GW-074926-121313-CM-MW-3 **Lab ID: 60159732003** Collected: 12/13/13 12:10 Received: 12/17/13 09:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Iron, Dissolved	ND	mg/L	0.050	1	12/18/13 13:30	12/27/13 13:49	7439-89-6	
Manganese, Dissolved	**0.013**	mg/L	0.0050	1	12/18/13 13:30	12/27/13 13:49	7439-96-5	
8260 MSV	Analytical Method: EPA 5030B/8260							
Benzene	ND	ug/L	1.0	1		12/18/13 19:05	71-43-2	
Ethylbenzene	ND	ug/L	1.0	1		12/18/13 19:05	100-41-4	
Toluene	ND	ug/L	1.0	1		12/18/13 19:05	108-88-3	
Xylene (Total)	ND	ug/L	3.0	1		12/18/13 19:05	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	93	%	80-120	1		12/18/13 19:05	460-00-4	
1,2-Dichloroethane-d4 (S)	98	%	80-120	1		12/18/13 19:05	17060-07-0	
Toluene-d8 (S)	102	%	80-120	1		12/18/13 19:05	2037-26-5	
Preservation pH	**1.0**		0.10	1		12/18/13 19:05		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 074926 FLORA VISTA NO 1
Pace Project No.: 60159732

Sample: GW-074926-121313-CM-MW-4 **Lab ID: 60159732004** Collected: 12/13/13 13:05 Received: 12/17/13 09:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Iron, Dissolved	**2.7**	mg/L	0.050	1	12/18/13 13:30	12/27/13 13:51	7439-89-6	
Manganese, Dissolved	**4.8**	mg/L	0.0050	1	12/18/13 13:30	12/27/13 13:51	7439-96-5	
8260 MSV	Analytical Method: EPA 5030B/8260							
Benzene	**36.2**	ug/L	1.0	1		12/18/13 19:20	71-43-2	
Ethylbenzene	**19.9**	ug/L	1.0	1		12/18/13 19:20	100-41-4	
Toluene	ND	ug/L	1.0	1		12/18/13 19:20	108-88-3	
Xylene (Total)	**169**	ug/L	3.0	1		12/18/13 19:20	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	97	%	80-120	1		12/18/13 19:20	460-00-4	
1,2-Dichloroethane-d4 (S)	91	%	80-120	1		12/18/13 19:20	17060-07-0	
Toluene-d8 (S)	104	%	80-120	1		12/18/13 19:20	2037-26-5	
Preservation pH	**1.0**		0.10	1		12/18/13 19:20		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 074926 FLORA VISTA NO 1
Pace Project No.: 60159732

Sample: GW-074926-121313-CM-DUP **Lab ID: 60159732005** Collected: 12/13/13 13:10 Received: 12/17/13 09:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260							
Benzene	**35.7**	ug/L	1.0	1		12/18/13 19:36	71-43-2	
Ethylbenzene	**18.5**	ug/L	1.0	1		12/18/13 19:36	100-41-4	
Toluene	ND	ug/L	1.0	1		12/18/13 19:36	108-88-3	
Xylene (Total)	**160**	ug/L	3.0	1		12/18/13 19:36	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	97	%	80-120	1		12/18/13 19:36	460-00-4	
1,2-Dichloroethane-d4 (S)	94	%	80-120	1		12/18/13 19:36	17060-07-0	
Toluene-d8 (S)	102	%	80-120	1		12/18/13 19:36	2037-26-5	
Preservation pH	**1.0**		0.10	1		12/18/13 19:36		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 074926 FLORA VISTA NO 1
Pace Project No.: 60159732

Sample: TB-074926-121313-CM-001 **Lab ID: 60159732006** Collected: 12/13/13 13:30 Received: 12/17/13 09:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260							
Benzene	ND	ug/L	1.0	1		12/18/13 19:51	71-43-2	
Ethylbenzene	ND	ug/L	1.0	1		12/18/13 19:51	100-41-4	
Toluene	ND	ug/L	1.0	1		12/18/13 19:51	108-88-3	
Xylene (Total)	ND	ug/L	3.0	1		12/18/13 19:51	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	101	%	80-120	1		12/18/13 19:51	460-00-4	
1,2-Dichloroethane-d4 (S)	96	%	80-120	1		12/18/13 19:51	17060-07-0	
Toluene-d8 (S)	106	%	80-120	1		12/18/13 19:51	2037-26-5	
Preservation pH	**1.0**		0.10	1		12/18/13 19:51		

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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Lenexa, KS 66219
(913)599-5665

QUALITY CONTROL DATA

Project: 074926 FLORA VISTA NO 1
Pace Project No.: 60159732

QC Batch: MPRP/25648 Analysis Method: EPA 6010
QC Batch Method: EPA 3010 Analysis Description: 6010 MET Dissolved
Associated Lab Samples: 60159732001, 60159732002, 60159732003, 60159732004

METHOD BLANK: 1307870 Matrix: Water
Associated Lab Samples: 60159732001, 60159732002, 60159732003, 60159732004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Iron, Dissolved	mg/L	ND	0.050	12/27/13 13:33	
Manganese, Dissolved	mg/L	ND	0.0050	12/27/13 13:33	

LABORATORY CONTROL SAMPLE: 1307871

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Iron, Dissolved	mg/L	10	9.7	97	80-120	
Manganese, Dissolved	mg/L	1	0.94	94	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1307872 1307873

Parameter	Units	60159732001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Iron, Dissolved	mg/L	25.4	10	10	33.9	34.5	84	90	75-125	2	20	
Manganese, Dissolved	mg/L	0.88	1	1	1.8	1.8	89	92	75-125	2	20	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 074926 FLORA VISTA NO 1
Pace Project No.: 60159732

QC Batch: MSV/58453 Analysis Method: EPA 5030B/8260
QC Batch Method: EPA 5030B/8260 Analysis Description: 8260 MSV Water 10 mL Purge
Associated Lab Samples: 60159732001, 60159732003, 60159732004, 60159732005, 60159732006

METHOD BLANK: 1308054 Matrix: Water
Associated Lab Samples: 60159732001, 60159732003, 60159732004, 60159732005, 60159732006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ug/L	ND	1.0	12/18/13 18:19	
Ethylbenzene	ug/L	ND	1.0	12/18/13 18:19	
Toluene	ug/L	ND	1.0	12/18/13 18:19	
Xylene (Total)	ug/L	ND	3.0	12/18/13 18:19	
1,2-Dichloroethane-d4 (S)	%	95	80-120	12/18/13 18:19	
4-Bromofluorobenzene (S)	%	105	80-120	12/18/13 18:19	
Toluene-d8 (S)	%	100	80-120	12/18/13 18:19	

LABORATORY CONTROL SAMPLE: 1308055

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	20	22.1	111	73-122	
Ethylbenzene	ug/L	20	21.0	105	76-123	
Toluene	ug/L	20	21.6	108	76-122	
Xylene (Total)	ug/L	60	64.3	107	76-122	
1,2-Dichloroethane-d4 (S)	%			91	80-120	
4-Bromofluorobenzene (S)	%			100	80-120	
Toluene-d8 (S)	%			103	80-120	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 074926 FLORA VISTA NO 1
Pace Project No.: 60159732

QC Batch: MSV/58559
QC Batch Method: EPA 5030B/8260
Analysis Method: EPA 5030B/8260
Analysis Description: 8260 MSV Water 10 mL Purge
Associated Lab Samples: 60159732002

METHOD BLANK: 1311119 Matrix: Water
Associated Lab Samples: 60159732002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ug/L	ND	1.0	12/24/13 21:07	
Ethylbenzene	ug/L	ND	1.0	12/24/13 21:07	
Toluene	ug/L	ND	1.0	12/24/13 21:07	
Xylene (Total)	ug/L	ND	3.0	12/24/13 21:07	
1,2-Dichloroethane-d4 (S)	%	104	80-120	12/24/13 21:07	
4-Bromofluorobenzene (S)	%	102	80-120	12/24/13 21:07	
Toluene-d8 (S)	%	99	80-120	12/24/13 21:07	

LABORATORY CONTROL SAMPLE: 1311120

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	20	19.5	98	73-122	
Ethylbenzene	ug/L	20	18.9	95	76-123	
Toluene	ug/L	20	19.5	97	76-122	
Xylene (Total)	ug/L	60	58.3	97	76-122	
1,2-Dichloroethane-d4 (S)	%			102	80-120	
4-Bromofluorobenzene (S)	%			99	80-120	
Toluene-d8 (S)	%			103	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1311121 1311122

Parameter	Units	60160130005 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Benzene	ug/L	ND	20	20	19.5	19.7	98	98	48-150	1	31	
Ethylbenzene	ug/L	ND	20	20	18.7	18.0	94	90	50-147	4	31	
Toluene	ug/L	ND	20	20	19.3	18.4	96	92	51-147	5	32	
Xylene (Total)	ug/L	ND	60	60	55.2	55.2	92	92	49-145	0	31	
1,2-Dichloroethane-d4 (S)	%						100	105	80-120			
4-Bromofluorobenzene (S)	%						101	94	80-120			
Toluene-d8 (S)	%						102	98	80-120			
Preservation pH		1.0			1.0	1.0				0		

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: 074926 FLORA VISTA NO 1
Pace Project No.: 60159732

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PRL - Pace Reporting Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

BATCH QUALIFIERS

Batch: MSV/58453

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

ANALYTE QUALIFIERS

E Analyte concentration exceeded the calibration range. The reported result is estimated.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 074926 FLORA VISTA NO 1
Pace Project No.: 60159732

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60159732001	**GW-074926-121313-CM-MW-1**	EPA 3010	MPRP/25648	EPA 6010	ICP/19687
60159732002	**GW-074926-121313-CM-MW-2**	EPA 3010	MPRP/25648	EPA 6010	ICP/19687
60159732003	**GW-074926-121313-CM-MW-3**	EPA 3010	MPRP/25648	EPA 6010	ICP/19687
60159732004	**GW-074926-121313-CM-MW-4**	EPA 3010	MPRP/25648	EPA 6010	ICP/19687
60159732001	**GW-074926-121313-CM-MW-1**	EPA 5030B/8260	MSV/58453		
60159732002	**GW-074926-121313-CM-MW-2**	EPA 5030B/8260	MSV/58559		
60159732003	**GW-074926-121313-CM-MW-3**	EPA 5030B/8260	MSV/58453		
60159732004	**GW-074926-121313-CM-MW-4**	EPA 5030B/8260	MSV/58453		
60159732005	**GW-074926-121313-CM-DUP**	EPA 5030B/8260	MSV/58453		
60159732006	**TB-074926-121313-CM-001**	EPA 5030B/8260	MSV/58453		

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Sample Condition Upon Receipt
ESI Tech Spec Client

WO#: 60159732

60159732

Client Name: CoP CRA NM

Optional
Proj Due Date:
Proj Name:

Courier: Fed Ex ☑ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace ☐ Other ☐

Tracking #: 5689 1279 1252 Pace Shipping Label Used? Yes ☐ No ☑

Custody Seal on Cooler/Box Present: Yes ☑ No ☐ Seals intact: Yes ☑ No ☐

Packing Material: Bubble Wrap ☑ Bubble Bags ☐ Foam ☑ None ☐ Other ☐

Thermometer Used: T-239 / T-194 **Type of Ice:** (Wet) Blue None ☐ Samples received on ice, cooling process has begun.
(circle one)

Cooler Temperature: 5.6

Temperature should be above freezing to 6°C

Date and initials of person examining contents: JD 12/17/13 1010

Chain of Custody present:	☑Yes ☐No ☐N/A	1.
Chain of Custody filled out:	☑Yes ☐No ☐N/A	2.
Chain of Custody relinquished:	☑Yes ☐No ☐N/A	3.
Sampler name & signature on COC:	☑Yes ☐No ☐N/A	4.
Samples arrived within holding time:	☑Yes ☐No ☐N/A	5.
Short Hold Time analyses (<72hr):	☐Yes ☑No ☐N/A	6.
Rush Turn Around Time requested:	☐Yes ☑No ☐N/A	7.
Sufficient volume:	☑Yes ☐No ☐N/A	8.
Correct containers used:	☑Yes ☐No ☐N/A	
Pace containers used:	☑Yes ☐No ☐N/A	9.
Containers intact:	☑Yes ☐No ☐N/A	10.
Unpreserved 5035A soils frozen w/in 48hrs?	☐Yes ☐No ☑N/A	11.
Filtered volume received for dissolved tests?	☐Yes ☐No ☑N/A	12.
Sample labels match COC:	☑Yes ☐No ☐N/A	
Includes date/time/ID/analyses Matrix: water		13.
All containers needing preservation have been checked.	☐Yes ☐No ☑N/A	
All containers needing preservation are found to be in compliance with EPA recommendation.	☑Yes ☐No ☑N/A	14.
Exceptions: VOA, coliform, TOC, O&G, WI-DRO (water), Phenolics	☐Yes ☐No	Initial when completed N/A / Lot # of added preservative
Trip Blank present: 111113-3	☑Yes ☐No ☑N/A	
Pace Trip Blank lot # (if purchased):		15.
Headspace in VOA vials (>6mm):	☐Yes ☑No ☑N/A	16.
Project sampled in USDA Regulated Area:	☐Yes ☐No ☑N/A	17. List State:

Client Notification/ Resolution: Copy COC to Client? Y / N Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: MAF Date: 12/17/13

Temp Log: Record start and finish times when unpacking cooler, if >20 min, recheck sample temps.

Start: 1000	Start:
End: 1010	End:
Temp:	Temp:

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CHAIN-OF-CUSTODY / Analytical Request Document

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

Page: 1 of 1

Section A — **Required** Client Information:

Company:	COP CRA NM
Address:	6121 Indian School Rd NE, Ste 200
	Albequerque, NM 87110
Email To:	cmathews@craworld.com
Phone:	(505)884-0672 — Fax: (505)884-4932
Requested Due Date/TAT:	standard

Section B — **Required** Project Information:

Report To:	Christine Mathews
Copy To:	Jeff Walker, Angela Bown
Purchase Order No.:	4517664592
Project Name:	Flora Vista No. 1
Project Number:	074926

Section C — Invoice Information:

Attention:	ePayables
Company Name:	
Address:	
Pace Quote Reference:	
Pace Project Manager:	Alice Flanagan
Pace Profile #:	5514, 22

REGULATORY AGENCY

☐ NPDES ☒ GROUND WATER ☐ DRINKING WATER
☐ UST ☐ RCRA ☐ OTHER ______

Site Location STATE: NM

Section D — Required Client Information

SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

Valid Matrix Codes: MATRIX / CODE — DRINKING WATER DW; WATER WT; WASTE WATER WW; PRODUCT P; SOIL/SOLID SL; OIL OL; WIPE WP; AIR AR; OTHER OT; TISSUE TS

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED Composite Start DATE	Composite Start TIME	Composite End/Grab DATE	Composite End/Grab TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test Y/N	8260 BTEX	6010 Dissolved Fe & Mn											Residual Chlorine (Y/N)	Pace Project No./ Lab I.D. 60159732
1	GW-074926-121313-CM-MW-1	WT	G			12/13/13	1320		5	1		1	3						X	X												1(BP3N) 1(BP3N) 3(DG9H) 001
2	GW-074926-121313-CM-MW-2	WT	G			12/13/13	1240		5	1		1	3						X	X												002
3	GW-074926-121313-CM-MW-3	WT	G			12/13/13	1210		5	1		1	3						X	X												003
4	GW-074926-121313-CM-MW-4	WT	G			12/13/13	1305		5	1		1	3						X	X												004
5	GW-074926-121313-CM-DUP	WT	G			12/13/13	1310		3				3						X													3(DG9H) 005
6	TB-074926-121313-CM-001	WT	G			12/13/13	1330		3				3						X													006
7																																
8																																
9																																
10																																
11																																
12																																

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
	[signature] / CRA	12/16/13	0930	[signature] / Pace	12/17/13	900	5.6	Y	Y	Y
							Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Christine Mathews

SIGNATURE of SAMPLER: [signature] DATE Signed (MM/DD/YY): 12/16/13