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ConocoPhillips

Mr. Randolph Bayliss, P. E.
District III & IV Hydrologist
New Mexico Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

March 21, 2017

Re: NMOCD Case No. 3R-173, 2016 Annual Groundwater Monitoring and Remediation Report

Dear Mr. Bayliss:

Enclosed is the 2016 Annual Groundwater Monitoring and Remediation Report for the Flora Vista No.1 site. This report, prepared by GHD Services, Inc., contains the results of site activities in 2016.

Please let me know if you have any questions.

Sincerely,

Joseph B. Crouch

J. Brady Crouch

Enc

2016 Annual Groundwater Monitoring and Remediation Report

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

ConocoPhillips Company

GHD | 6121 Indian School Rd NE Suite 200 Albuquerque NM 87110 USA

074926| 5MN00| Report No 8 | March 21, 2017

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1. Introduction

This annual report presents the results of the quarterly groundwater monitor events conducted by GHD Services, Inc. (GHD) during 2016 at the Flora Vista No. 1 natural gas well site (hereafter referred to as the "Site"). The Site is operated by Burlington Resources Oil & Gas Company LP (Burlington), a wholly owned subsidiary of ConocoPhillips Company (ConocoPhillips). The Site is located on private property in Unit Letter F, Section 22, Township 30N, Range 12W, of San Juan County, New Mexico (Figure 1). The Site consists of a gas well and associated equipment and installations. A detailed Site Plan 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 the New Mexico Oil Conservation Division (NMOCD) in August 1996 by El Paso Field Services. The 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 ground surface (ft bgs). Field screening was conducted during excavation to determine 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 oxidizer solution was sprayed on the soil.

In September 2003, Envirotech installed a groundwater monitor well (MW 1) slightly down gradient from the center of the excavation (Figure 2). Subsequent monitor 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 additional 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. Site history is summarized in Table 1.

2. In-Situ Chemical Oxidation Event

A groundwater sample was collected from monitor well MW-1 and submitted to GHD's Innovative Technology Group (ITG) to assess potential technologies that would address the remediation of Site contaminants. The ITG conducted microcosm studies of the groundwater sample to test the oxidation of hydrocarbons and solubilization of iron and manganese in the reducing groundwater of the Site. In-situ chemical oxidation (ISCO) with a sodium hydroxide catalyzed sodium persulfate was determined to be the most cost effective method to treat Site contaminants. In late October of

2016 GHD injected approximately 4,834 gallons of a 15% solution of PersulfOx into monitor wells MW-1 and MW-5. Results of the scheduled March 2017 quarterly groundwater monitor will be a first assessment of the effectiveness of the ISCO action. Results will be used to plan potential additional ISCO injection in Site groundwater.

3. Groundwater Monitor Summary Methodology and Analytical Results

3.1 Groundwater Monitor Summary

Quarterly groundwater monitor was conducted at the Site on March 31, June 20, September 7, and November 29, 2016. Groundwater elevation measurements were recorded in monitor wells MW 1, MW 2, MW 3, MW 4, and MW 5 using an oil/water interface probe. Groundwater elevations are detailed in Table 2. Groundwater potentiometric surface maps created from 2016 data are presented as Figures 4, 5, 6, and 7. Groundwater flow fluctuates from southwest to southeast seasonally and is consistent with historical data.

3.2 Groundwater Monitor Methodology

Prior to sampling, at least three well volumes were purged from Site monitor wells with a dedicated polyethylene 1.5 inch bailer. If three well volumes could not be purged, wells were purged until dry and allowed to recharge prior to sampling. Purge water generated during sampling events was placed in the on Site produced water tank. While bailing each well, groundwater parameter data, including temperature, pH, conductivity, dissolved oxygen, and oxidation reduction potential were collected using a calibrated multi parameter meter. Field parameters are summarized on Table 3.

Monitor well MW-1 was unable to be sampled during the March 2016 event due to insufficient well volume. MW-1 and MW-5 were also not sampled during the November 2016 event because it was too soon after the October 25, 2016 ISCO injection event that utilized these two wells as injection points.

Groundwater samples were placed in laboratory prepared bottles, packed on ice, and shipped under chain of custody documentation to Pace. Samples were analyzed for the presence of BTEX by EPA Method 8260 and dissolved iron and dissolved manganese by EPA Method 6010.

On June 20, 2016, groundwater samples were collected from two down gradient domestic irrigation wells. Domestic irrigation wells DW 1 and DW 2 are located at 32 Road 3581 and 34 Road 3581, Flora Vista, New Mexico, respectively.

3.3 Groundwater Monitor Analytical Results

Groundwater samples collected during 2016 quarterly sampling events from monitor well MW-2 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, MW-3, MW-4, and MW-5 exceeded the NMWQCC standards for the following constituents:

March 2016

- Dissolved Iron – The NMWQCC standard for dissolved iron is 1 milligram per liter (mg/L). The concentrations of dissolved iron in the groundwater sample collected from MW-4 and MW-5 were 1.44 mg/L and 2.06 mg/L.
- Dissolved Manganese – The NMWQCC standard for dissolved manganese is 0.2 mg/L. The concentrations of dissolved manganese in the groundwater sample collected from MW-4 and MW-5 were 3.9 mg/L and 2.18 mg/L.
- Xylenes – The NMWQCC standard for total xylenes is 0.62 mg/L. The concentration of xylenes in the groundwater sample collected from MW-5 was 0.936 mg/L.

June 2016

- Benzene – The NMWQCC standard for benzene is 0.01 mg/L. The concentrations of benzene in the groundwater samples collected from MW-1, MW-4 and MW-5 were 0.834 mg/L, 0.0428 mg/L and 0.0404 mg/L, respectively.
- Xylenes – The concentrations of xylenes in the groundwater sample collected from MW-1 and MW-5 were 2.06 mg/L and 2.48 mg/L.
- Dissolved Iron – The concentrations of dissolved iron in groundwater samples collected from MW-1, MW-4 and MW-5 were 40.8 mg/L, 4.88 and 6.48 mg/L, respectively.
- Dissolved Manganese – The concentrations of dissolved manganese in groundwater samples collected from MW-1, MW-4 and MW-5 were 2.17 mg/L, 3.87 mg/L and 2.68 mg/L, respectively.

September 2016

- Benzene – The concentrations of benzene in the groundwater samples collected from MW-1 and MW-5 were 0.525 mg/L and 0.0229 mg/L.
- Xylenes – The concentrations of xylenes in the groundwater samples collected from MW-1 and MW-5 were 1.62 mg/L and 3.45 mg/L
- Dissolved Iron – The concentrations of dissolved iron in groundwater samples collected from MW-1, MW-4, and MW-5 were 17.6 mg/L, 4.01mg/L, and 4.6 mg/L, respectively.
- Dissolved Manganese – The concentrations of dissolved manganese in groundwater samples collected from MW-1, MW-4, and MW-5 were 1.51 mg/L, 3.84 mg/L, and 2.07 mg/L, respectively.

December 2016

- Benzene – The concentration of benzene in the groundwater sample collected from MW-4 was 0.0346 mg/L.
- Dissolved Iron – The concentrationof dissolved iron in groundwater sample collected from MW-4 was 4.31 mg/L.
- Dissolved Manganese – The concentration of dissolved manganese in groundwater sample collected from MW-4 was 3.88 mg/L.

A contaminant concentration map for 2016 quarterly groundwater monitor events is presented on Figures 8. A summary of the historical groundwater laboratory analytical results is presented in Table 5. The 2016 groundwater laboratory analytical reports are included in Appendix C.

4. Conclusions and Recommendations

Groundwater samples collected from MW-1 have consistently exceeded NMWQCC groundwater quality standards for benzene, dissolved iron, and dissolved manganese from October 2008 through December 2016 and have intermittently exceeded the NMWQCC groundwater quality standards for ethylbenzene and total xylenes. BTEX constituent concentrations exhibit a decreasing trend over time in MW-1.

Groundwater samples collected from MW-4 have consistently exceeded NMWQCC groundwater quality standards for dissolved iron and dissolved manganese from October 2008 through December 2016 and have intermittently exceeded the NMWQCC groundwater quality standard for benzene.

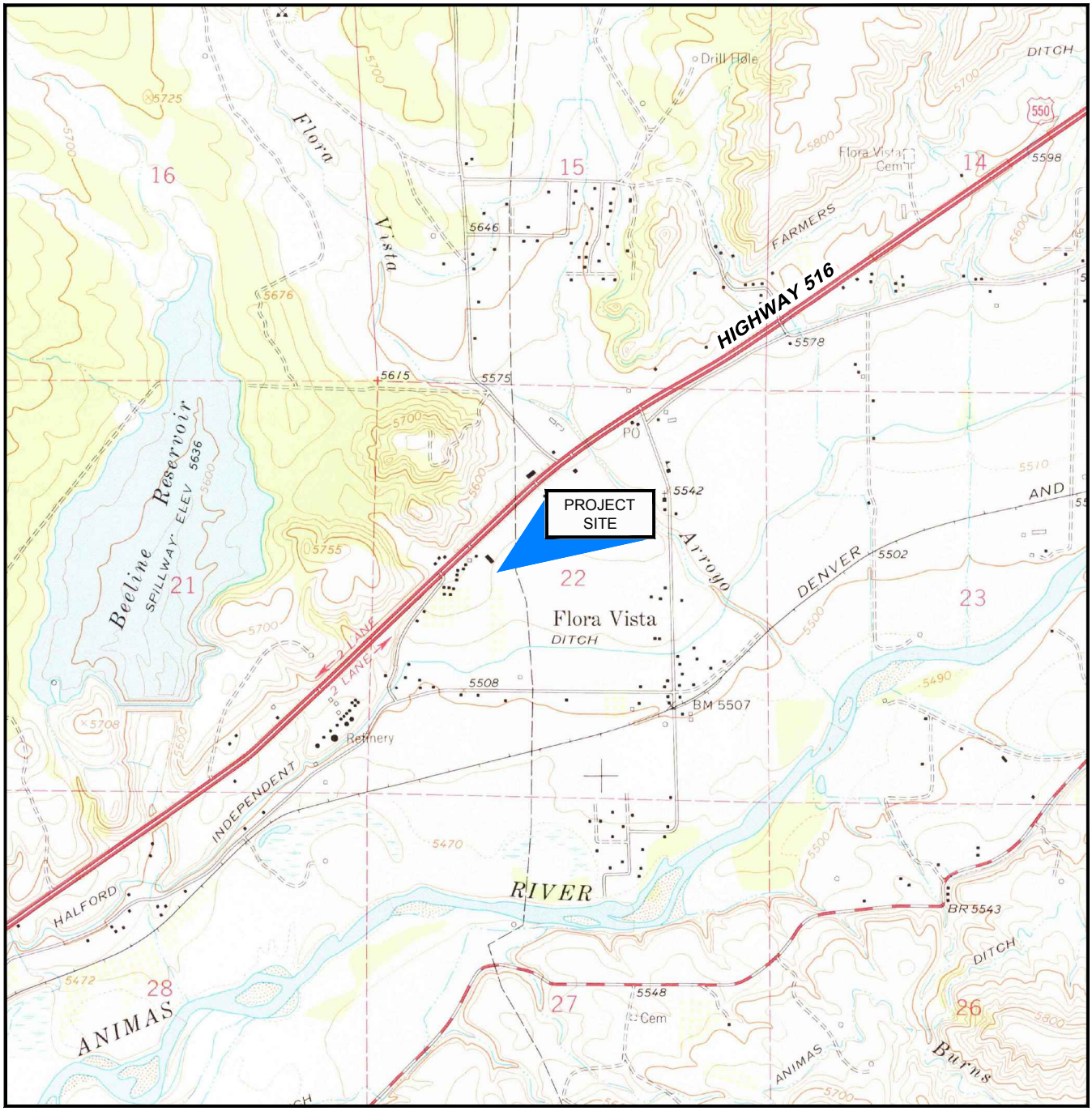
Groundwater samples from MW-5 exceeded NMWQCC groundwater quality standards for benzene, xylenes, dissolved iron, and dissolved manganese during all of the 2016 events for which it was sampled (with the exception of March for which benzene was non-detect).

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.

GHD injected approximately 4,834 gallons of a 15% solution of PersulfOx into monitor wells MW-1 and MW-5 to address above-standard concentrations of BTEX, dissolved iron and manganese. The ITG in its treatability study for the site recommended this dose should be delivered in three injection events preferably spaced 3 months apart, but at least 6 weeks apart.

In addition to the continuation of ISCO injection events, GHD recommends the continuation of quarterly sampling of all Site monitor wells and annual sampling of DW 1 and DW 2 to monitor groundwater quality at the Site. The next sampling event will take place in March 2017.

Figures



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

N

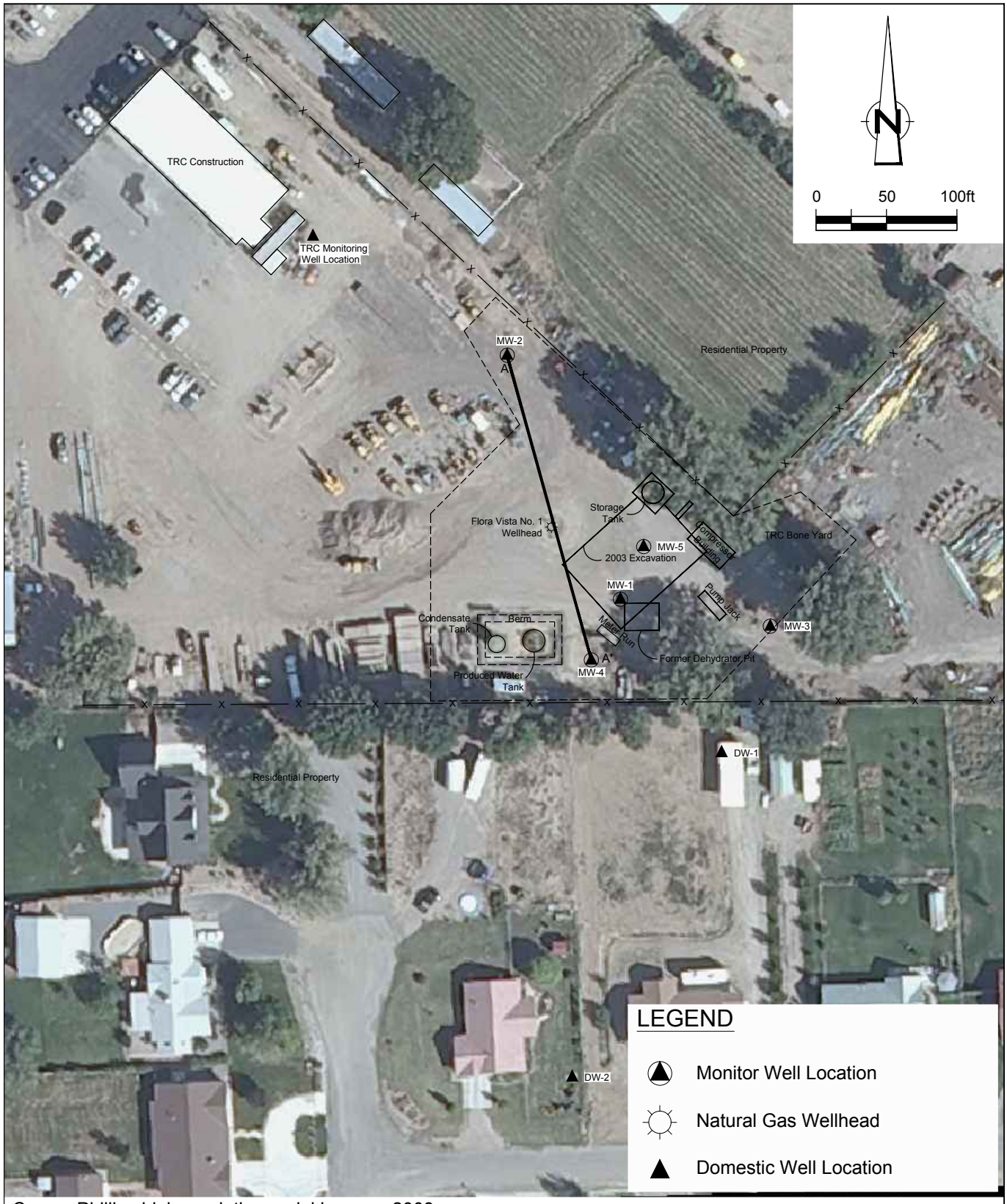
0 1000 2000ft

Figure 1

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

GHD

074926-95(008)GN-DL001 JAN 31, 2017



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

GHD

074926-95(007)GN-DL002_SD NOV 2/2015

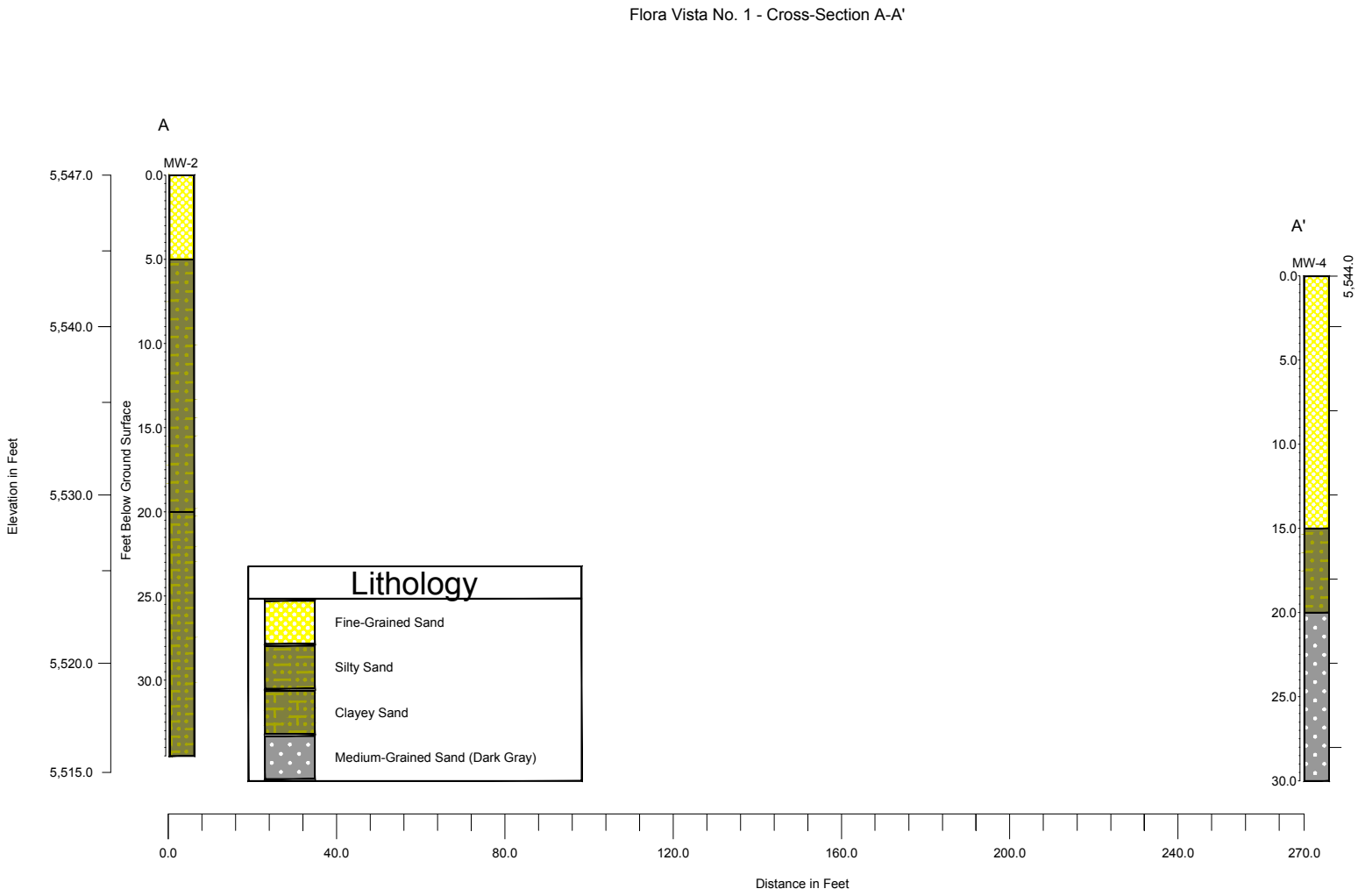


Figure 3

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

GHD

074926-95(008)GN-DL003_XSEC JAN 31, 2017

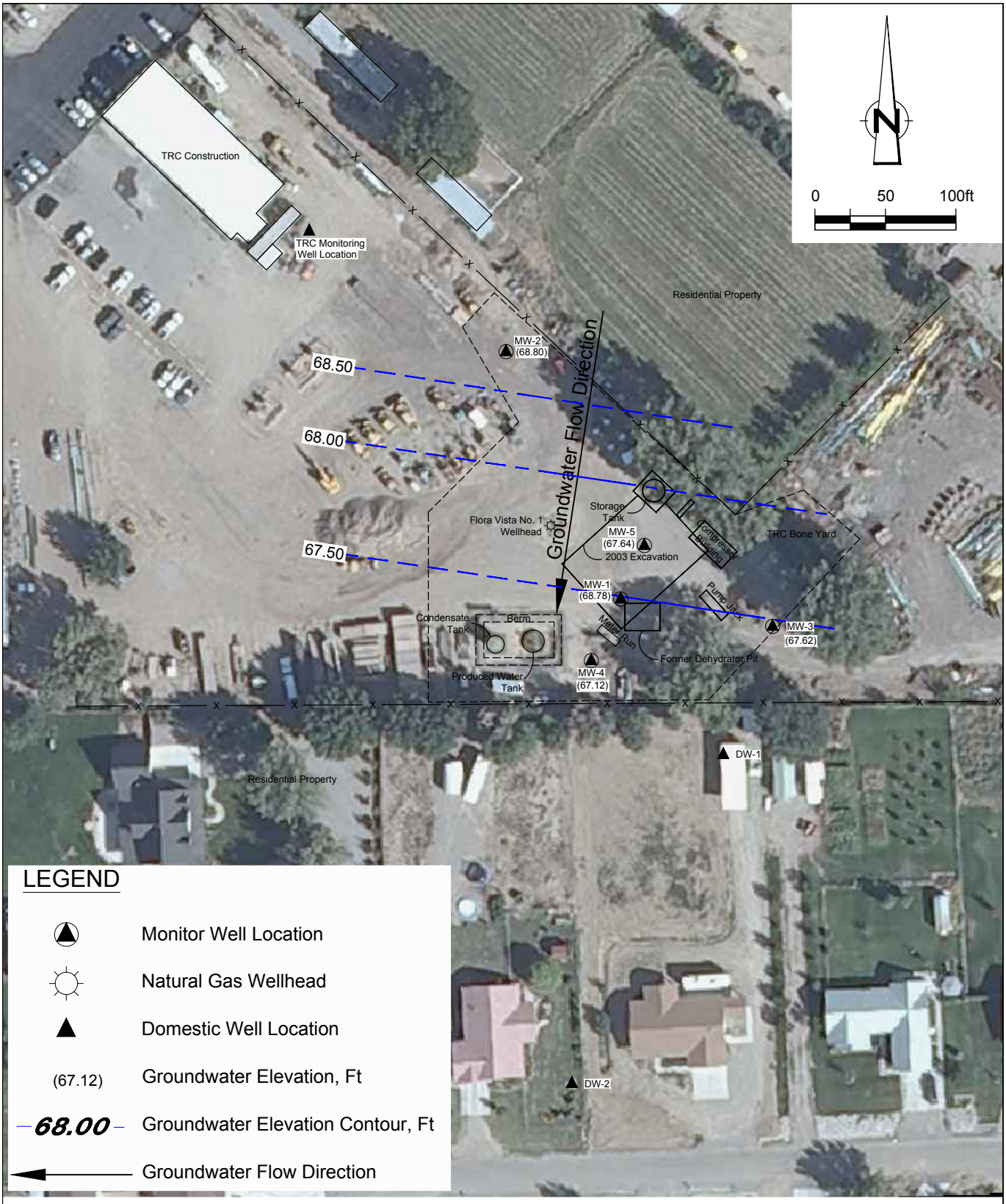


Figure 4

MARCH 2016 GROUNDWATER POTENTIOMETRIC SURFACE MAP
FLORA VISTA NO. 1 NATURAL GAS WELL SITE
SECTION 22, T30N-R12W, SAN JUAN COUNTY, NEW MEXICO
ConocoPhillips Company

GHD

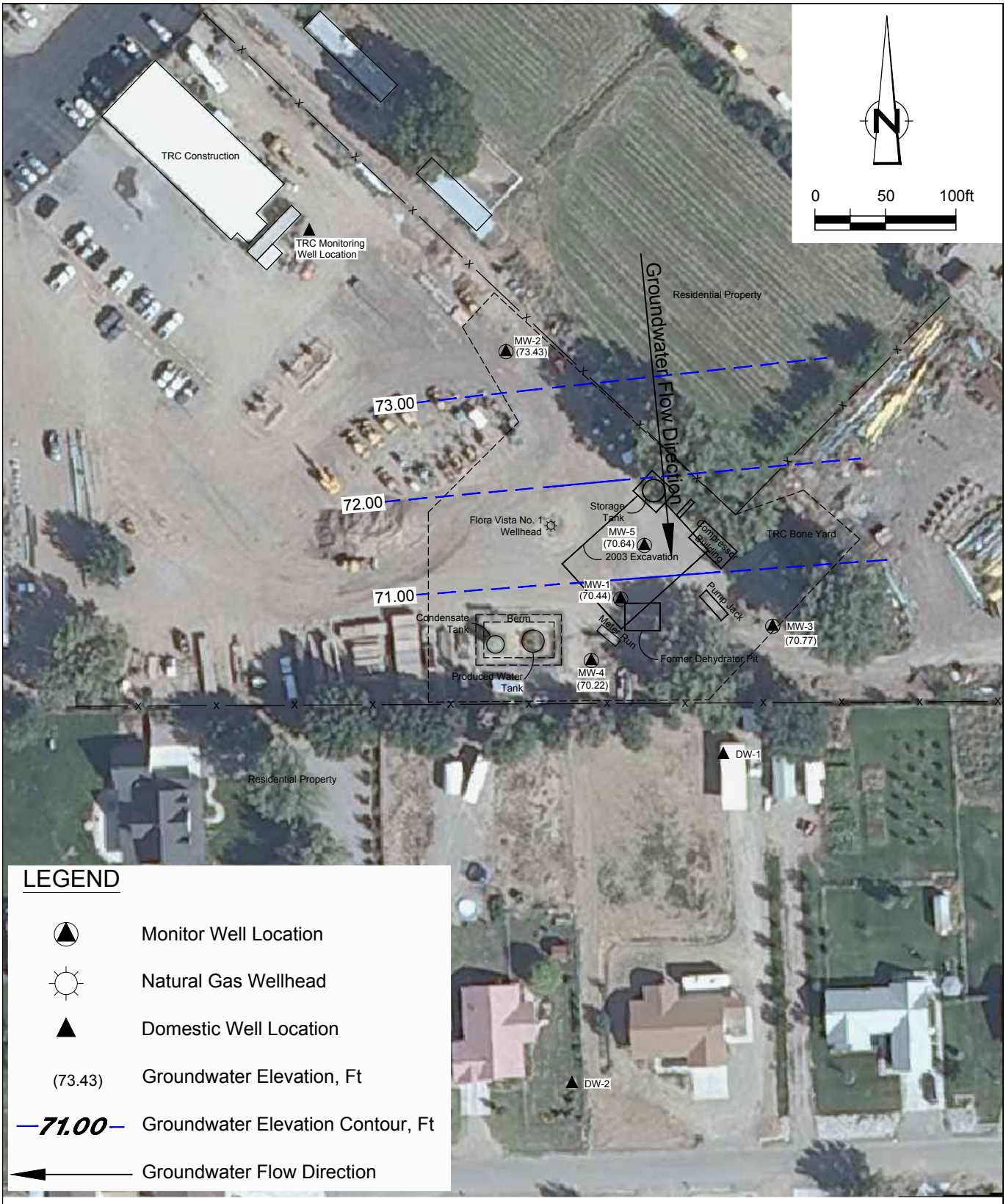


Figure 5

JUNE 2016 GROUNDWATER POTENTIOMETRIC SURFACE MAP
FLORA VISTA NO. 1 NATURAL GAS WELL SITE
SECTION 22, T30N-R12W, SAN JUAN COUNTY, NEW MEXICO
ConocoPhillips Company

GHD

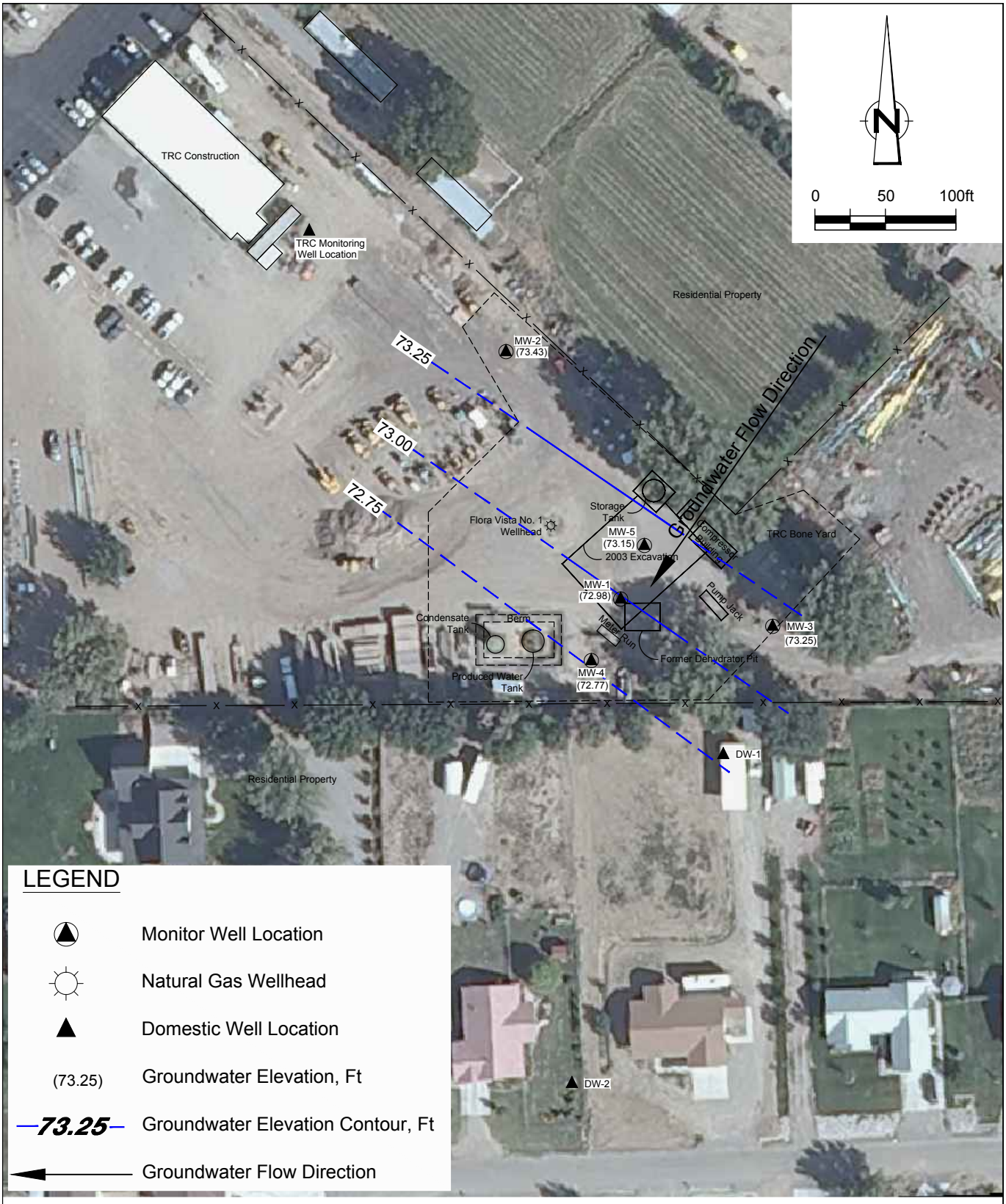


Figure 6

SEPTEMBER 2016 GROUNDWATER POTENTIOMETRIC SURFACE MAP
FLORA VISTA NO. 1 NATURAL GAS WELL SITE
SECTION 22, T30N-R12W, SAN JUAN COUNTY, NEW MEXICO
ConocoPhillips Company

GHD

074926-95(008)GN-DL004_GG JAN 31, 2017

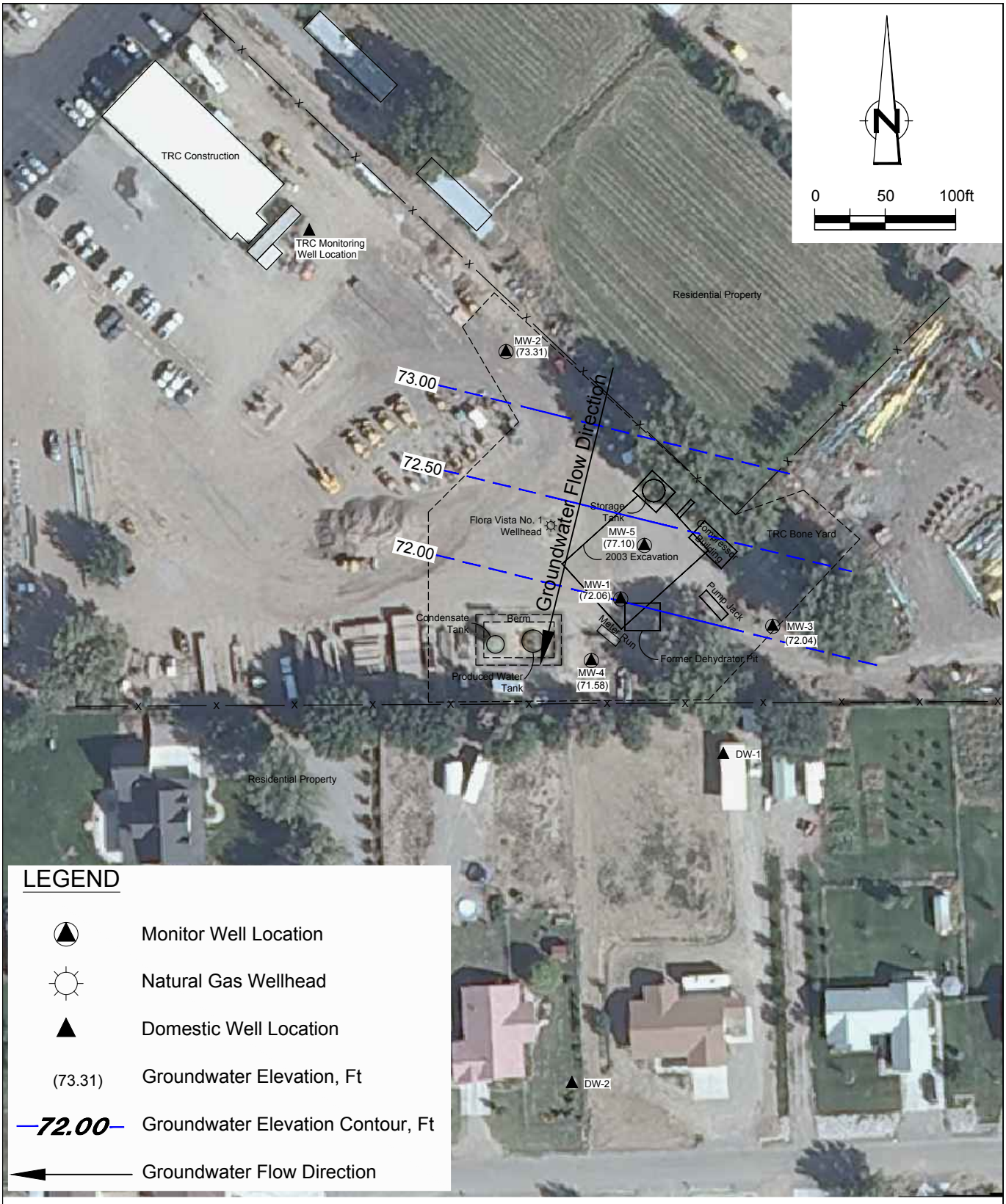
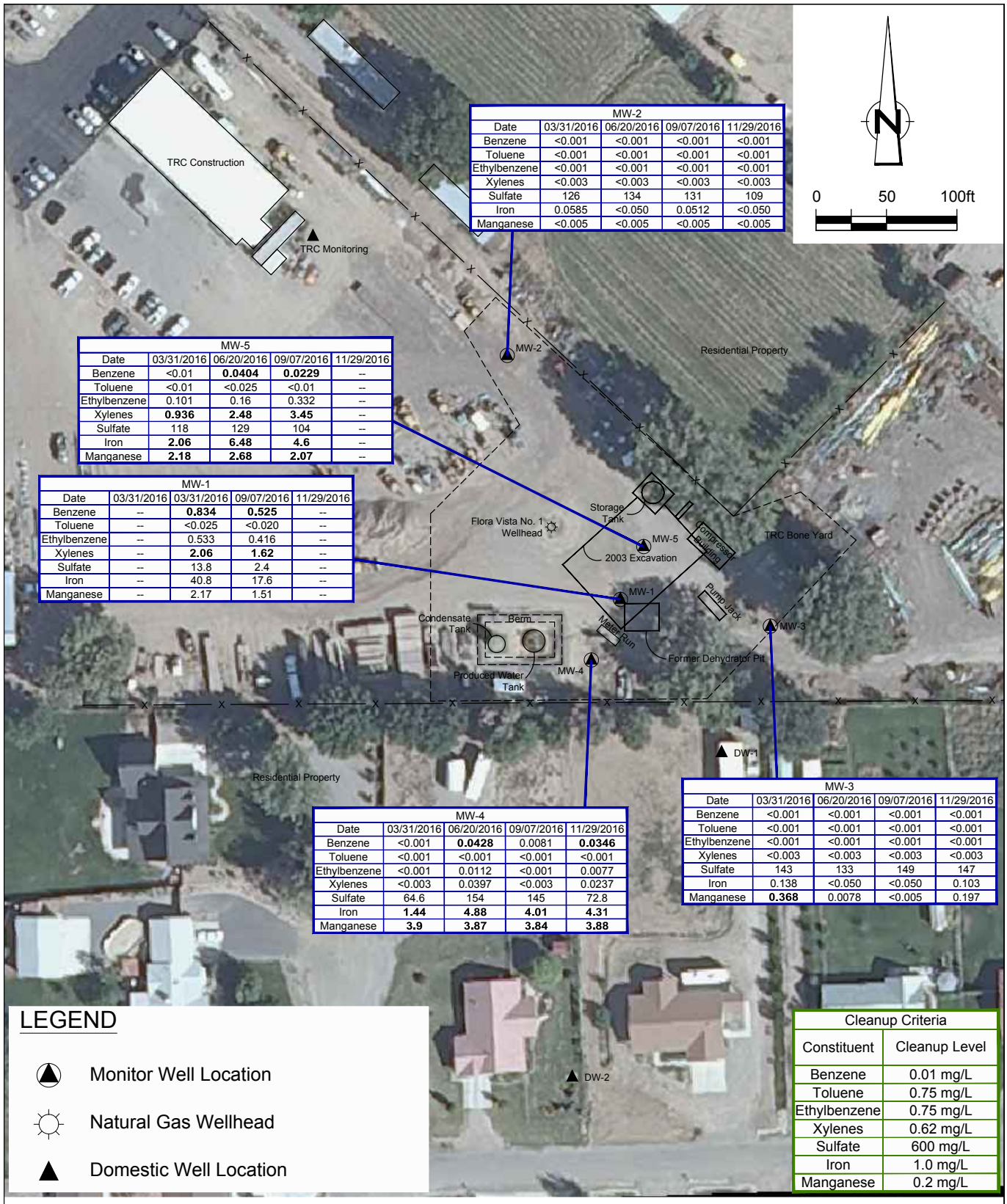


Figure 7

NOVEMBER 2016 GROUNDWATER POTENTIOMETRIC SURFACE MAP
FLORA VISTA NO. 1 NATURAL GAS WELL SITE
SECTION 22, T30N-R12W, SAN JUAN COUNTY, NEW MEXICO
ConocoPhillips Company

GHD

074926-95(008)GN-DL004_GG JAN 31, 2017



MW-2				
Date	03/31/2016	06/20/2016	09/07/2016	11/29/2016
Benzene	<0.001	<0.001	<0.001	<0.001
Toluene	<0.001	<0.001	<0.001	<0.001
Ethylbenzene	<0.001	<0.001	<0.001	<0.001
Xylenes	<0.003	<0.003	<0.003	<0.003
Sulfate	126	134	131	109
Iron	0.0585	<0.050	0.0512	<0.050
Manganese	<0.005	<0.005	<0.005	<0.005

MW-5				
Date	03/31/2016	06/20/2016	09/07/2016	11/29/2016
Benzene	<0.01	**0.0404**	**0.0229**	--
Toluene	<0.01	<0.025	<0.01	--
Ethylbenzene	0.101	0.16	0.332	--
Xylenes	**0.936**	**2.48**	**3.45**	--
Sulfate	118	129	104	--
Iron	**2.06**	**6.48**	**4.6**	--
Manganese	**2.18**	**2.68**	**2.07**	--

MW-1				
Date	03/31/2016	03/31/2016	09/07/2016	11/29/2016
Benzene	--	**0.834**	**0.525**	--
Toluene	--	<0.025	<0.020	--
Ethylbenzene	--	0.533	0.416	--
Xylenes	--	**2.06**	**1.62**	--
Sulfate	--	13.8	2.4	--
Iron	--	40.8	17.6	--
Manganese	--	2.17	1.51	--

MW-4				
Date	03/31/2016	06/20/2016	09/07/2016	11/29/2016
Benzene	<0.001	**0.0428**	0.0081	**0.0346**
Toluene	<0.001	<0.001	<0.001	<0.001
Ethylbenzene	<0.001	0.0112	<0.001	0.0077
Xylenes	<0.003	0.0397	<0.003	0.0237
Sulfate	64.6	154	145	72.8
Iron	**1.44**	**4.88**	**4.01**	**4.31**
Manganese	**3.9**	**3.87**	**3.84**	**3.88**

MW-3				
Date	03/31/2016	06/20/2016	09/07/2016	11/29/2016
Benzene	<0.001	<0.001	<0.001	<0.001
Toluene	<0.001	<0.001	<0.001	<0.001
Ethylbenzene	<0.001	<0.001	<0.001	<0.001
Xylenes	<0.003	<0.003	<0.003	<0.003
Sulfate	143	133	149	147
Iron	0.138	<0.050	<0.050	0.103
Manganese	**0.368**	0.0078	<0.005	0.197

LEGEND

- Monitor Well Location
- Natural Gas Wellhead
- Domestic Well Location

Cleanup Criteria	
Constituent	Cleanup Level
Benzene	0.01 mg/L
Toluene	0.75 mg/L
Ethylbenzene	0.75 mg/L
Xylenes	0.62 mg/L
Sulfate	600 mg/L
Iron	1.0 mg/L
Manganese	0.2 mg/L

Figure 8

2016 CONTAMINANT CONCENTRATION MAP
FLORA VISTA NO. 1 NATURAL GAS WELL SITE
SECTION 22, T30N-R12W, SAN JUAN COUNTY, NEW MEXICO
ConocoPhillips Company

GHD

Tables

Table 1

Site History Timeline
ConocoPhillips Company
Flora Vista No. 1
San Juan County, New Mexico

Date/Time Period	*Event/Action*	*Description/Comments*
November 28, 1995	Pit Closure Activities	Philip Environmental excavated and removed approximately 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	Submittal 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 groundwater 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).
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.

Table 1

Site History Timeline
ConocoPhillips Company
Flora Vista No. 1
San Juan County, New Mexico

Date/Time Period	*Event/Action*	*Description/Comments*
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 Responsibilities	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.
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.

Table 1

Site History Timeline
ConocoPhillips Company
Flora Vista No. 1
San Juan County, New Mexico

Date/Time Period	*Event/Action*	*Description/Comments*
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 event.
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.
March 19, 2014	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 17, 2014	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.
September 18, 2014	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 18, 2014	Groundwater Monitoring	CRA conducted groundwater monitoring at the site for BTEX constituents, dissolved iron and manganese. MW-1 and MW-3 were inaccessible during this monitoring event. Benzene, dissolved iron, and dissolved manganese were above NMWQCC standards in MW-4.
March 19, 2015	Groundwater Monitoring	CRA conducted groundwater monitoring at the site for BTEX constituents, dissolved iron and manganese. MW-1 did not contain sufficient volume for sampling. Dissolved iron and dissolved manganese were above NMWQCC standards in MW-4.
June 18, 2015	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.
September 1, 2015	Monitoring Well Installation	GHD installed MW-5 upgradient from MW-1. Soils just above water table impacted with TPH above NMOCD standards. BTEX constituents, dissolved iron and manganesewere in groundwater above NMWQCC standards.
September 17, 2015	Groundwater Monitoring	GHD conducted groundwater monitoring at the site for BTEX constituents, dissolved iron and manganese. Benzene (MW-1, MW-4, and MW-5), xylene (MW-5), dissolved iron (MW-1, MW-4, and MW-5) and dissolved manganese (MW-1, MW-4, and MW-5) were above NMWQCC standards.
December 3, 2015	Groundwater Monitoring	GHD conducted groundwater monitoring at the site for BTEX constituents, dissolved iron and manganese. Benzene (MW-1, MW-4, and MW-5), toluene (MW-5), xylene (MW-5), dissolved iron (MW-1, MW-4, and MW-5) and dissolved manganese (MW-1, MW-4, and MW-5) were above NMWQCC standards.
March 31, 2016	Groundwater Monitoring	GHD conducted groundwater monitoring at the site for BTEX constituents, dissolved iron and manganese. Total xylenes (MW-5), dissolved iron (MW-4, and MW-5) and dissolved manganese (MW-3, MW-4, and MW-5) were above NMWQCC standards.
June 20, 2016	Groundwater Monitoring	GHD conducted groundwater monitoring at the site for BTEX constituents, dissolved iron and manganese. Benzene (MW-1, MW-4, MW-5), total xylenes (MW-1, MW-5), dissolved iron and dissolved manganese (MW-1, MW-4, and MW-5) were above NMWQCC standards.

Table 1

Site History Timeline
ConocoPhillips Company
Flora Vista No. 1
San Juan County, New Mexico

Date/Time Period	***Event/Action***	***Description/Comments***
October 25-26, 2016	ISCO Event	GHD conducted an in-situ chemical oxidation event. A total of 4834 gallons of 15% solution catalyzed sodium persulfate was injected into MW-1 and MW-5.
September 7, 2016	Groundwater Monitoring	GHD conducted groundwater monitoring at the site for BTEX constituents, dissolved iron and manganese. Benzene (MW-1 and MW-5), total xylenes (MW-1, MW-5), dissolved iron and dissolved manganese (MW-1, MW-4, and MW-5) were above NMWQCC standards.
November 29, 2016	Groundwater Monitoring	GHD conducted groundwater monitoring at the site for BTEX constituents, dissolved iron and manganese. Benzene (MW-1, MW-4, MW-5), total xylenes (MW-1, MW-5), dissolved iron and dissolved manganese (MW-1, MW-4, and MW-5) were above NMWQCC standards.

Table 2

Monitoring Well Specifications and Groundwater Elevations
ConocoPhillips Company
Flora Vista No. 1
San Juan County, New Mexico

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
				3/19/2014	25.26	68.70
				6/17/2014	21.55	72.41
				9/18/2014	19.58	74.38
				12/18/2014	Well covered by gravel and asphalt	
				3/19/2015	25.18	68.78
				6/18/2015	23.56	70.40
				9/17/2015	21.85	72.11
				12/3/2015	22.65	71.31
				3/31/2016*	26.02	67.94
				6/20/2016	23.52	70.44
				9/6/2016	20.98	72.98
				11/29/2016	21.90	72.06

Table 2

Monitoring Well Specifications and Groundwater Elevations
ConocoPhillips Company
Flora Vista No. 1
San Juan County, New Mexico

Well ID	Total Depth (ft below TOC)	Elevation**	Screen Interval (ft bgs)	Date Measured	Depth to Groundwater (ft below TOC)	Relative Water Level
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
				3/19/2014	26.99	70.01
				6/17/2014	20.31	76.69
				9/18/2014	19.87	77.13
				12/18/2014	23.00	74.00
				3/19/2015	26.92	70.08
				6/18/2015	23.24	73.76
				9/17/2015	22.78	74.22
				12/3/2015	24.23	72.77
				3/31/2016	28.20	68.80
				6/20/2016	25.67	71.33
				9/6/2016	23.57	73.43
				11/29/2016	23.69	73.31
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
				3/19/2014	23.64	68.79
				6/17/2014	19.85	72.58
				9/18/2014	18.01	74.42
				12/18/2014	Well covered by standing water	
				3/19/2015	23.55	68.88
				6/18/2015	21.84	70.59
				9/17/2015	20.18	72.25
				12/3/2015	21.10	71.33
				3/31/2016	24.81	67.62
				6/20/2016	21.66	70.77
				9/6/2016	19.18	73.25
				11/29/2016	20.39	72.04

Table 2

Monitoring Well Specifications and Groundwater Elevations
ConocoPhillips Company
Flora Vista No. 1
San Juan County, New Mexico

Well ID	*Total Depth (ft below TOC)*	*Elevation** *	*Screen Interval (ft bgs)*	*Date Measured*	*Depth to Groundwater (ft below TOC)*	*Relative Water Level*
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
				3/19/2014	24.88	68.29
				6/17/2014	21.21	71.96
				9/18/2014	19.16	74.01
				12/18/2014	21.41	71.76
				3/19/2015	24.80	68.37
				6/18/2015	23.09	70.08
				9/17/2015	21.37	71.80
				12/3/2015	22.29	70.88
				3/31/2016	26.05	67.12
				6/20/2016	22.95	70.22
				9/6/2016	20.40	72.77
				11/29/2016	21.59	71.58
MW-5	29.68	93.82	15-30	9/17/2015	21.59	72.23
				12/3/2015	22.41	71.41
				3/31/2016	26.18	67.64
				6/20/2016	23.18	70.64
				9/6/2016	20.67	73.15
				11/29/2016	21.72	72.10

Notes:

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

Table 3

Field Parameters Summary
ConocoPhillips Company
Flora Vista No. 1
San Juan County, New Mexico

Well ID	Sample Date	Temperature (°C)	pH	TDS (g/L)	Conductivity (µS/cm)	DO (mg/L)	ORP (mV)	Volume (gallons)
MW-1	3/31/2016	No parameters or sample collected due to low well volume.						
	6/20/2016	16.70	6.34		1070	0.41	-132.7	0.25
	9/7/2016	15.55	6.30	0.027	37	9.16	-66.6	1.50
MW-2	3/31/2016	No parameters taken due to low well volume.						
	6/20/2016	17.00	6.40		870	2.32	-104.0	1.50
	9/7/2016	15.00	6.57	0.571	879	3.67	-19.9	4.00
	11/29/2016	14.78	7.21	--	909	4.51	-17.1	--
MW-3	3/31/2016	14.68	7.13	0.510	800	4.66	-13.0	2.50
	6/20/2016	14.90	7.05		750	2.02	83.2	4.00
	9/7/2016	14.19	6.02	0.467	719	5.55	12.5	5.00
	11/29/2016	13.68	7.41	--	725	5.03	-11.4	--
MW-4	3/31/2016	15.60	6.98	0.700	1030	5.73	-47.0	2.25
	6/20/2016	15.20	6.79		1040	1.06	-60.8	3.50
	9/7/2016	14.55	6.40	0.655	1008	2.48	-59.8	4.50
	11/29/2016	13.58	7.16	--	903	3.04	-80.9	--
MW-5	3/31/2016	16.16	7.13	0.600	980	4.74	-97.0	1.75
	6/20/2016	15.90	6.88		1030	0.68	-99.7	3.25
	9/7/2016	14.96	6.34	0.599	918	1.51	-130.2	4.50

Notes:
TDS = total dissolved solids
DO = dissolved oxygen
ORP = oxidation-reduction potential

Table 4

Groundwater Analytical Results Summary
ConocoPhillips Company
Flora Vista No. 1
San Juan County, New Mexico

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)
NMWQCC Groundwater Quality Standards				***0.01***	***0.75***	***0.75***	***0.62***	***600***	***1***	***0.2***
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**	**0.86**
	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)	**1.05**	**0.831**	< 0.020	**5.1**	--	**18.0**	**1.05**
	GW-074926-121313-CM-MW-1	12/13/2013	(orig)	**0.591**	0.670	0.0015	**1.79**	--	**25.4**	**0.88**
	GW-074926-031914-CK-MW-1	3/19/2014	(orig)	**0.0822**	0.039	< 0.001	0.271	--	--	--
	GW-074926-061714-CK-MW-1	6/17/2014	(orig)	**0.522**	0.189	< 0.001	0.398	--	**17.4**	**0.896**
	GW-074926-091814-CB-MW-1	9/18/2014	(orig)	**0.849**	0.299	< 0.001	**1.23**	--	**23.4**	**1.01**
	--	12/18/2014	Well was obstructed and inaccessible due to TRC operations.							
	--	3/19/2015	No sample due to insuffiencient volume							
	GW-074926-061815-CB-MW-1	6/18/2015	(orig)	**0.213**	0.116	< 0.001	**0.691**	--	**5.72**	**0.542**
	GW-074926-061815-CB-DUP	6/18/2015	(Duplicate)	**0.17**	0.0684	< 0.001	0.533	--	--	--
	GW-074926-091715-CK-MW-1	9/17/2015	(orig)	**0.0673**	0.0859	< 0.001	0.362	--	**4.22**	**0.614**
	GW-074926-12315-CB-MW-1	12/3/2015	(orig)	**0.0908**	0.0612	< 0.001	0.138	--	**2.69**	**0.63**
	--	3/31/2016	No sample due to insuffiencient volume							
	GW-074926-062016-SP-MW-1	6/20/2016	(orig)	**0.834**	0.533	< 0.025	**2.06**	13.8	**40.8**	**2.17**
	GW-074926-090716-SP-MW-1	9/7/2016	(orig)	**0.525**	0.416	< 0.020	**1.62**	2.4	**17.6**	**1.51**

Table 4

Groundwater Analytical Results Summary
ConocoPhillips Company
Flora Vista No. 1
San Juan County, New Mexico

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)
NMWQCC Groundwater Quality Standards				***0.01***	***0.75***	***0.75***	***0.62***	***600***	***1***	***0.2***
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	< 0.005
	GW-074926-031914-CK-MW-2	3/19/2014	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	--	< 0.050	0.0242
	GW-074926-061714-CK-MW-2	6/17/2014	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	--	< 0.050	< 0.005
	GW-074926-091814-CB-MW-2	9/18/2014	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	--	0.0656	< 0.005
	GW-074926-121814-CM-MW-2	12/18/2014	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	--	0.709	0.0055
	GW-074926-031915-CM-MW-2	3/19/2015	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	--	0.883	0.0434
	GW-074926-061815-CB-MW-2	6/18/2015	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	--	< 0.050	< 0.005
	GW-074926-091715-CK-MW-2	9/17/2015	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	--	< 0.050	< 0.005
	GW-074926-12315-CB-MW-2	12/3/2015	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	--	< 0.050	< 0.005
	GW-074926-033116-CM-MW-2	3/31/2016	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	126	0.0585	<0.005
	GW-074926-062016-SP-MW-2	6/20/2016	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	134	< 0.050	< 0.005
	GW-074926-090716-SP-MW-2	9/7/2016	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	131	0.0512	< 0.005
	GW-074926-112916-CN-MW-2	11/29/2016	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	109	< 0.050	< 0.005
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
	GW-074926-031914-CK-MW-3	3/19/2014	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	--	< 0.050	< 0.005
	GW-074926-061714-CK-MW-3	6/17/2014	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	--	< 0.050	< 0.005
	GW-074926-091814-CB-MW-3	9/18/2014	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	--	< 0.050	< 0.005
	--	12/18/2014	Well was found to be covered in standing water from recent inclement weather.							
	GW-074926-031915-CM-MW-3	3/19/2015	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	--	< 0.050	< 0.005
	GW-074926-061815-CB-MW-3	6/18/2015	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	--	< 0.050	< 0.005
	GW-074926-091715-CK-MW-3	9/17/2015	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	--	< 0.050	< 0.005
	GW-074926-12315-CB-MW-3	12/3/2015	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	--	< 0.050	0.0258
	GW-074926-033116-CM-MW-3	3/31/2016	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	143	0.138	**0.368**
	GW-074926-062016-SP-MW-3	6/20/2016	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	133	< 0.050	0.0078
	GW-074926-090716-SP-MW-3	9/7/2016	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	149	< 0.050	< 0.005
	GW-074926-112916-SP-MW-3	11/29/2016	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	147	0.103	0.197

Table 4

Groundwater Analytical Results Summary
ConocoPhillips Company
Flora Vista No. 1
San Juan County, New Mexico

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)
NMWQCC Groundwater Quality Standards				***0.01***	***0.75***	***0.75***	***0.62***	***600***	***1***	***0.2***
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	0.55	--	--	--
	GW-074926-032012-CM-MW-4	3/20/2013	(orig)	0.0035	0.002	< 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	--	**3.1**	**4.35**
	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	0.16	--	--	--
	GW-074926-031914-CK-MW-4	3/19/2014	(orig)	< 0.001	< 0.001	< 0.001	0.0046	--	**1.33**	**4.19**
	GW-074926-031914-CK-DUP	3/19/2014	(Duplicate)	< 0.001	< 0.001	< 0.001	0.0049	--	--	--
	GW-074926-061714-CK-MW-4	6/17/2014	(orig)	0.0069	< 0.001	< 0.001	< 0.003	--	**2.68**	**4.01**
	GW-074926-061714-CK-DUP	6/17/2014	(Duplicate)	0.0063	< 0.001	< 0.001	< 0.003	--	--	--
	GW-074926-091814-CB-MW-4	9/18/2014	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	--	**3.43**	**4.63**
	GW-074926-091814-CB-DUP	9/18/2014	(Duplicate)	0.0018	< 0.001	< 0.001	< 0.003	--	--	--
	GW-074926-121814-CM-MW-4	12/18/2014	(orig)	**0.0398**	0.0062	< 0.001	0.0486	--	**4.02**	**4.46**
	GW-074926-121814-CM-DUP	12/18/2014	(Duplicate)	**0.0296**	0.0048	< 0.001	0.0354	--	--	--
	GW-074926-031915-CM-MW-4	3/19/2015	(orig)	0.0012	< 0.001	< 0.001	< 0.003	--	**1.57**	**4.02**
	GW-074926-031915-CM-DUP	3/19/2015	(Duplicate)	0.0011	< 0.001	< 0.001	< 0.003	--	--	--
	GW-074926-061815-CB-MW-4	6/18/2015	(orig)	**0.067**	0.0102	< 0.001	0.0563	--	**3.02**	**4.35**
	GW-074926-091715-CK-MW-4	9/17/2015	(orig)	**0.0319**	0.0297	< 0.001	0.178	--	**3.03**	**3.75**
	GW-074926-091715-CK-DUP	11/29/2016	(Duplicate)	**0.0318**	0.027	< 0.001	0.162	--	--	--
	GW-074926-12315-CB-MW-4	12/3/2015	(orig)	**0.0676**	0.0526	< 0.01	0.354	--	**4.34**	**4.12**
	GW-074926-12315-CB-DUP	12/3/2015	(Duplicate)	**0.0489**	0.0396	< 0.01	0.263	--	--	--
	GW-074926-033116-CM-MW-4	3/31/2016	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	64.6	**1.44**	**3.9**
	GW-074926-062016-SP-MW-4	6/20/2016	(orig)	**0.0428**	0.0112	<0.001	0.0397	154	**4.88**	**3.87**
	GW-074926-090716-SP-MW-4	9/7/2016	(orig)	0.0081	< 0.001	< 0.001	< 0.003	145	**4.01**	**3.84**
	GW-074926-112916-SP-MW-4	11/29/2016	(orig)	**0.0346**	0.0077	< 0.001	0.0237	72.8	**4.31**	**3.88**

Table 4

Groundwater Analytical Results Summary
ConocoPhillips Company
Flora Vista No. 1
San Juan County, New Mexico

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)*
NMWQCC Groundwater Quality Standards				***0.01***	***0.75***	***0.75***	***0.62***	***600***	***1***	***0.2***
MW-5	GW-074926-091715-CK-MW-5	9/17/2015	(orig)	**0.0182**	0.571	< 0.001	**4.95**	--	**2.72**	**2.94**
	GW-074926-12315-CB-MW-5	12/3/2015	(orig)	**0.128**	**1.15**	< 0.001	**12.4**	--	**20.9**	**0.366**
	GW-074926-033116-CM-MW-5	3/31/2016	(orig)	< 0.010	0.101	< 0.01	**0.936**	118	**2.06**	**2.18**
	GW-074926-033116-CM-DUP	3/31/2016	(Duplicate)	< 0.010	0.136	< 0.01	**1.26**	--	**--**	**--**
	GW-074926-062016-SP-MW-5	6/20/2016	(orig)	**0.0404**	0.16	< 0.025	**2.48**	129	**6.48**	**2.68**
	GW-074926-090716-SP-MW-5	9/7/2016	(orig)	**0.0229**	0.332	< 0.01	**3.45**	104	**4.6**	**2.07**
	GW-074926-090716-SP-DUP	9/7/2016	(Duplicate)	**0.0216**	0.393	< 0.010	**4.46**	--	**--**	**--**
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	--	--	--
	--	12/18/2014	Attempt to contact landowner regarding well sampling. No response.							
	GW-074926-061815-CB-DOM-32	6/18/2015	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	--	--	--
	GW-074926-062016-SP-DOM1	6/20/2016	(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	--	--	--
	--	12/18/2014	Attempt to sample well but landowner had shut well in for the winter months.							
	GW-074926-061815-CB-DOM-34	6/18/2015	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	--	--	--
	GW-074926-062016-SP-DOM2	6/20/2016	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	--	--	--

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
Groundwater Laboratory Analytical Reports

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

April 12, 2016

Jeffrey Walker
GHD Services, Inc
6121 Indian School Rd NE
Ste 200
Albuquerque, NM 87110

RE: Project: 074926 COP Flora Vista No 1
Pace Project No.: 60216117

Dear Jeffrey Walker:
Enclosed are the analytical results for sample(s) received by the laboratory on April 01, 2016. 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: Angela Bown, GHD Services, Inc,
Cassie Brown, GHD Services, Inc,
Cale Kanack, GHD

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

CERTIFICATIONS

Project: 074926 COP Flora Vista No 1
Pace Project No.: 60216117

Kansas Certification IDs

9608 Loiret Boulevard, Lenexa, KS 66219
WY STR Certification #: 2456.01
Arkansas Certification #: 15-016-0
Illinois Certification #: 003097
Iowa Certification #: 118
Kansas/NELAP Certification #: E-10116
Louisiana Certification #: 03055
Nevada Certification #: KS000212008A
Oklahoma Certification #: 9205/9935
Texas Certification #: T104704407
Utah Certification #: KS00021
Kansas Field Laboratory Accreditation: # E-92587

REPORT OF LABORATORY ANALYSIS

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

SAMPLE SUMMARY

Project: 074926 COP Flora Vista No 1
Pace Project No.: 60216117

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60216117001	**GW-074926-033116-CM-MW-2**	Water	03/31/16 09:10	04/01/16 08:50
60216117002	**GW-074926-033116-CM-MW-3**	Water	03/31/16 08:55	04/01/16 08:50
60216117003	**GW-074926-033116-CM-MW-4**	Water	03/31/16 09:05	04/01/16 08:50
60216117004	**GW-074926-033116-CM-MW-5**	Water	03/31/16 09:25	04/01/16 08:50
60216117005	**GW-074926-033116-CM-DUP**	Water	03/31/16 00:00	04/01/16 08:50
60216117006	**TB-074926-033116-CM-001**	Water	03/31/16 15:30	04/01/16 08:50

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: 074926 COP Flora Vista No 1
Pace Project No.: 60216117

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60216117001	**GW-074926-033116-CM-MW-2**	EPA 6010	SMW	2
		EPA 5030B/8260	PGH	8
		EPA 300.0	OL	1
60216117002	**GW-074926-033116-CM-MW-3**	EPA 6010	SMW	2
		EPA 5030B/8260	PGH	8
		EPA 300.0	OL	1
60216117003	**GW-074926-033116-CM-MW-4**	EPA 6010	SMW	2
		EPA 5030B/8260	PGH	8
		EPA 300.0	OL	1
60216117004	**GW-074926-033116-CM-MW-5**	EPA 6010	SMW	2
		EPA 5030B/8260	PGH	8
		EPA 300.0	OL	1
60216117005	**GW-074926-033116-CM-DUP**	EPA 5030B/8260	PGH	8
60216117006	**TB-074926-033116-CM-001**	EPA 5030B/8260	PGH	8

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 074926 COP Flora Vista No 1
Pace Project No.: 60216117

Method: **EPA 6010**
Description: 6010 MET ICP, Dissolved
Client: GHD Services_COP NM
Date: April 12, 2016

General Information:
4 samples were analyzed for EPA 6010. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

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 COP Flora Vista No 1
Pace Project No.: 60216117

Method: **EPA 5030B/8260**
Description: 8260 MSV
Client: GHD Services_COP NM
Date: April 12, 2016

General Information:
6 samples were analyzed for EPA 5030B/8260. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

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/75110

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

QC Batch: MSV/75111

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

QC Batch: MSV/75141

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

Additional Comments:

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PROJECT NARRATIVE

Project: 074926 COP Flora Vista No 1
Pace Project No.: 60216117

Method: **EPA 300.0**
Description: 300.0 IC Anions 28 Days
Client: GHD Services_COP NM
Date: April 12, 2016

General Information:
4 samples were analyzed for EPA 300.0. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

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.

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:

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

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ANALYTICAL RESULTS

Project: 074926 COP Flora Vista No 1
Pace Project No.: 60216117

Sample: GW-074926-033116-CM-MW-2 **Lab ID: 60216117001** Collected: 03/31/16 09:10 Received: 04/01/16 08:50 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	**58.5**	ug/L	50.0	1	04/04/16 15:45	04/07/16 16:01	7439-89-6	
Manganese, Dissolved	ND	ug/L	5.0	1	04/04/16 15:45	04/07/16 12:22	7439-96-5	
8260 MSV	Analytical Method: EPA 5030B/8260							
Benzene	ND	ug/L	1.0	1		04/08/16 19:18	71-43-2	
Ethylbenzene	ND	ug/L	1.0	1		04/08/16 19:18	100-41-4	
Toluene	ND	ug/L	1.0	1		04/08/16 19:18	108-88-3	
Xylene (Total)	ND	ug/L	3.0	1		04/08/16 19:18	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	100	%	77-130	1		04/08/16 19:18	460-00-4	
1,2-Dichloroethane-d4 (S)	93	%	81-127	1		04/08/16 19:18	17060-07-0	
Toluene-d8 (S)	97	%	80-120	1		04/08/16 19:18	2037-26-5	
Preservation pH	**1.0**		0.10	1		04/08/16 19:18		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0							
Sulfate	**126**	mg/L	10.0	10		04/08/16 22:48	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 074926 COP Flora Vista No 1
Pace Project No.: 60216117

Sample: GW-074926-033116-CM-MW-3 **Lab ID: 60216117002** Collected: 03/31/16 08:55 Received: 04/01/16 08:50 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	**138**	ug/L	50.0	1	04/04/16 15:45	04/07/16 16:05	7439-89-6	
Manganese, Dissolved	**368**	ug/L	5.0	1	04/04/16 15:45	04/07/16 12:26	7439-96-5	
8260 MSV	Analytical Method: EPA 5030B/8260							
Benzene	ND	ug/L	1.0	1		04/08/16 19:32	71-43-2	
Ethylbenzene	ND	ug/L	1.0	1		04/08/16 19:32	100-41-4	
Toluene	ND	ug/L	1.0	1		04/08/16 19:32	108-88-3	
Xylene (Total)	ND	ug/L	3.0	1		04/08/16 19:32	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	100	%	77-130	1		04/08/16 19:32	460-00-4	
1,2-Dichloroethane-d4 (S)	93	%	81-127	1		04/08/16 19:32	17060-07-0	
Toluene-d8 (S)	98	%	80-120	1		04/08/16 19:32	2037-26-5	
Preservation pH	**1.0**		0.10	1		04/08/16 19:32		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0							
Sulfate	**143**	mg/L	10.0	10		04/08/16 23:34	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 074926 COP Flora Vista No 1
Pace Project No.: 60216117

Sample: GW-074926-033116-CM-MW-4 **Lab ID: 60216117003** Collected: 03/31/16 09:05 Received: 04/01/16 08:50 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	**1440**	ug/L	50.0	1	04/04/16 15:45	04/07/16 16:09	7439-89-6	
Manganese, Dissolved	**3900**	ug/L	5.0	1	04/04/16 15:45	04/07/16 12:29	7439-96-5	
8260 MSV	Analytical Method: EPA 5030B/8260							
Benzene	ND	ug/L	1.0	1		04/11/16 16:57	71-43-2	
Ethylbenzene	ND	ug/L	1.0	1		04/11/16 16:57	100-41-4	
Toluene	ND	ug/L	1.0	1		04/11/16 16:57	108-88-3	
Xylene (Total)	ND	ug/L	3.0	1		04/11/16 16:57	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	102	%	77-130	1		04/11/16 16:57	460-00-4	
1,2-Dichloroethane-d4 (S)	103	%	81-127	1		04/11/16 16:57	17060-07-0	
Toluene-d8 (S)	98	%	80-120	1		04/11/16 16:57	2037-26-5	
Preservation pH	**1.0**		0.10	1		04/11/16 16:57		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0							
Sulfate	**64.6**	mg/L	10.0	10		04/08/16 23:49	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 074926 COP Flora Vista No 1
Pace Project No.: 60216117

Sample: GW-074926-033116-CM-MW-5 **Lab ID: 60216117004** Collected: 03/31/16 09:25 Received: 04/01/16 08:50 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	**2060**	ug/L	50.0	1	04/04/16 15:45	04/07/16 16:13	7439-89-6	
Manganese, Dissolved	**2180**	ug/L	5.0	1	04/04/16 15:45	04/07/16 12:33	7439-96-5	
8260 MSV	Analytical Method: EPA 5030B/8260							
Benzene	ND	ug/L	10.0	10		04/11/16 17:12	71-43-2	
Ethylbenzene	**101**	ug/L	10.0	10		04/11/16 17:12	100-41-4	
Toluene	ND	ug/L	10.0	10		04/11/16 17:12	108-88-3	
Xylene (Total)	**936**	ug/L	30.0	10		04/11/16 17:12	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	100	%	77-130	10		04/11/16 17:12	460-00-4	
1,2-Dichloroethane-d4 (S)	95	%	81-127	10		04/11/16 17:12	17060-07-0	
Toluene-d8 (S)	99	%	80-120	10		04/11/16 17:12	2037-26-5	
Preservation pH	**1.0**		0.10	10		04/11/16 17:12		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0							
Sulfate	**118**	mg/L	10.0	10		04/09/16 00:04	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 074926 COP Flora Vista No 1
Pace Project No.: 60216117

Sample: GW-074926-033116-CM-DUP **Lab ID: 60216117005** Collected: 03/31/16 00:00 Received: 04/01/16 08:50 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260							
Benzene	ND	ug/L	10.0	10		04/11/16 17:26	71-43-2	
Ethylbenzene	**136**	ug/L	10.0	10		04/11/16 17:26	100-41-4	
Toluene	ND	ug/L	10.0	10		04/11/16 17:26	108-88-3	
Xylene (Total)	**1260**	ug/L	30.0	10		04/11/16 17:26	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	100	%	77-130	10		04/11/16 17:26	460-00-4	
1,2-Dichloroethane-d4 (S)	88	%	81-127	10		04/11/16 17:26	17060-07-0	
Toluene-d8 (S)	100	%	80-120	10		04/11/16 17:26	2037-26-5	
Preservation pH	**1.0**		0.10	10		04/11/16 17:26		

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ANALYTICAL RESULTS

Project: 074926 COP Flora Vista No 1
Pace Project No.: 60216117

Sample: TB-074926-033116-CM-001 **Lab ID: 60216117006** Collected: 03/31/16 15:30 Received: 04/01/16 08:50 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		04/08/16 21:42	71-43-2	
Ethylbenzene	ND	ug/L	1.0	1		04/08/16 21:42	100-41-4	
Toluene	ND	ug/L	1.0	1		04/08/16 21:42	108-88-3	
Xylene (Total)	ND	ug/L	3.0	1		04/08/16 21:42	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	103	%	77-130	1		04/08/16 21:42	460-00-4	
1,2-Dichloroethane-d4 (S)	99	%	81-127	1		04/08/16 21:42	17060-07-0	
Toluene-d8 (S)	99	%	80-120	1		04/08/16 21:42	2037-26-5	
Preservation pH	**1.0**		0.10	1		04/08/16 21:42		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 074926 COP Flora Vista No 1
Pace Project No.: 60216117

QC Batch: MPRP/35427 Analysis Method: EPA 6010
QC Batch Method: EPA 3010 Analysis Description: 6010 MET Dissolved
Associated Lab Samples: 60216117001, 60216117002, 60216117003, 60216117004

METHOD BLANK: 1735616 Matrix: Water
Associated Lab Samples: 60216117001, 60216117002, 60216117003, 60216117004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Iron, Dissolved	ug/L	ND	50.0	04/07/16 14:38	
Manganese, Dissolved	ug/L	ND	5.0	04/07/16 11:29	

LABORATORY CONTROL SAMPLE: 1735617

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Iron, Dissolved	ug/L	10000	10300	103	80-120	
Manganese, Dissolved	ug/L	1000	992	99	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1735618 1735619

Parameter	Units	60216170001 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	3030	10000	10000	13200	13300	101	103	75-125	1	20	
Manganese, Dissolved	ug/L	0.21 mg/L	1000	1000	1190	1200	98	99	75-125	1	20	

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QUALITY CONTROL DATA

Project: 074926 COP Flora Vista No 1
Pace Project No.: 60216117

QC Batch: MSV/75110 Analysis Method: EPA 5030B/8260
QC Batch Method: EPA 5030B/8260 Analysis Description: 8260 MSV Water 10 mL Purge
Associated Lab Samples: 60216117001, 60216117002

METHOD BLANK: 1738171 Matrix: Water
Associated Lab Samples: 60216117001, 60216117002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ug/L	ND	1.0	04/08/16 15:13	
Ethylbenzene	ug/L	ND	1.0	04/08/16 15:13	
Toluene	ug/L	ND	1.0	04/08/16 15:13	
Xylene (Total)	ug/L	ND	3.0	04/08/16 15:13	
1,2-Dichloroethane-d4 (S)	%	98	81-127	04/08/16 15:13	
4-Bromofluorobenzene (S)	%	98	77-130	04/08/16 15:13	
Toluene-d8 (S)	%	98	80-120	04/08/16 15:13	

LABORATORY CONTROL SAMPLE: 1738172

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	20	20.2	101	79-116	
Ethylbenzene	ug/L	20	20.5	103	80-120	
Toluene	ug/L	20	19.7	98	80-120	
Xylene (Total)	ug/L	60	63.5	106	80-120	
1,2-Dichloroethane-d4 (S)	%			93	81-127	
4-Bromofluorobenzene (S)	%			98	77-130	
Toluene-d8 (S)	%			101	80-120	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

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QUALITY CONTROL DATA

Project: 074926 COP Flora Vista No 1
Pace Project No.: 60216117

QC Batch: MSV/75111
QC Batch Method: EPA 5030B/8260
Analysis Method: EPA 5030B/8260
Analysis Description: 8260 MSV Water 10 mL Purge
Associated Lab Samples: 60216117006

METHOD BLANK: 1738177
Matrix: Water
Associated Lab Samples: 60216117006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ug/L	ND	1.0	04/08/16 21:27	
Ethylbenzene	ug/L	ND	1.0	04/08/16 21:27	
Toluene	ug/L	ND	1.0	04/08/16 21:27	
Xylene (Total)	ug/L	ND	3.0	04/08/16 21:27	
1,2-Dichloroethane-d4 (S)	%	96	81-127	04/08/16 21:27	
4-Bromofluorobenzene (S)	%	101	77-130	04/08/16 21:27	
Toluene-d8 (S)	%	99	80-120	04/08/16 21:27	

LABORATORY CONTROL SAMPLE: 1738178

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	20	20.0	100	79-116	
Ethylbenzene	ug/L	20	20.9	105	80-120	
Toluene	ug/L	20	19.4	97	80-120	
Xylene (Total)	ug/L	60	61.7	103	80-120	
1,2-Dichloroethane-d4 (S)	%			97	81-127	
4-Bromofluorobenzene (S)	%			103	77-130	
Toluene-d8 (S)	%			101	80-120	

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QUALITY CONTROL DATA

Project: 074926 COP Flora Vista No 1
Pace Project No.: 60216117

QC Batch: MSV/75141 Analysis Method: EPA 5030B/8260
QC Batch Method: EPA 5030B/8260 Analysis Description: 8260 MSV Water 10 mL Purge
Associated Lab Samples: 60216117003, 60216117004, 60216117005

METHOD BLANK: 1739480 Matrix: Water
Associated Lab Samples: 60216117003, 60216117004, 60216117005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ug/L	ND	1.0	04/11/16 14:45	
Ethylbenzene	ug/L	ND	1.0	04/11/16 14:45	
Toluene	ug/L	ND	1.0	04/11/16 14:45	
Xylene (Total)	ug/L	ND	3.0	04/11/16 14:45	
1,2-Dichloroethane-d4 (S)	%	95	81-127	04/11/16 14:45	
4-Bromofluorobenzene (S)	%	97	77-130	04/11/16 14:45	
Toluene-d8 (S)	%	98	80-120	04/11/16 14:45	

LABORATORY CONTROL SAMPLE: 1739481

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	20	20.9	104	79-116	
Ethylbenzene	ug/L	20	19.7	99	80-120	
Toluene	ug/L	20	19.0	95	80-120	
Xylene (Total)	ug/L	60	62.1	104	80-120	
1,2-Dichloroethane-d4 (S)	%			93	81-127	
4-Bromofluorobenzene (S)	%			100	77-130	
Toluene-d8 (S)	%			97	80-120	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 074926 COP Flora Vista No 1
Pace Project No.: 60216117

QC Batch: WETA/38896 Analysis Method: EPA 300.0
QC Batch Method: EPA 300.0 Analysis Description: 300.0 IC Anions
Associated Lab Samples: 60216117001, 60216117002, 60216117003, 60216117004

METHOD BLANK: 1738080 Matrix: Water
Associated Lab Samples: 60216117001, 60216117002, 60216117003, 60216117004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Sulfate	mg/L	ND	1.0	04/08/16 16:43	

LABORATORY CONTROL SAMPLE: 1738081

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfate	mg/L	5	5.0	101	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1738082 1738083

Parameter	Units	60216133001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfate	mg/L	317	100	100	422	422	105	105	80-120	0	15	

MATRIX SPIKE SAMPLE: 1738084

Parameter	Units	60216133002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Sulfate	mg/L	226	100	331	105	80-120	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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

QUALIFIERS

Project: 074926 COP Flora Vista No 1
Pace Project No.: 60216117

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

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.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

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/75110

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

Batch: MSV/75111

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

Batch: MSV/75141

[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 COP Flora Vista No 1
Pace Project No.: 60216117

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60216117001	**GW-074926-033116-CM-MW-2**	EPA 3010	MPRP/35427	EPA 6010	ICP/25919
60216117002	**GW-074926-033116-CM-MW-3**	EPA 3010	MPRP/35427	EPA 6010	ICP/25919
60216117003	**GW-074926-033116-CM-MW-4**	EPA 3010	MPRP/35427	EPA 6010	ICP/25919
60216117004	**GW-074926-033116-CM-MW-5**	EPA 3010	MPRP/35427	EPA 6010	ICP/25919
60216117001	**GW-074926-033116-CM-MW-2**	EPA 5030B/8260	MSV/75110		
60216117002	**GW-074926-033116-CM-MW-3**	EPA 5030B/8260	MSV/75110		
60216117003	**GW-074926-033116-CM-MW-4**	EPA 5030B/8260	MSV/75141		
60216117004	**GW-074926-033116-CM-MW-5**	EPA 5030B/8260	MSV/75141		
60216117005	**GW-074926-033116-CM-DUP**	EPA 5030B/8260	MSV/75141		
60216117006	**TB-074926-033116-CM-001**	EPA 5030B/8260	MSV/75111		
60216117001	**GW-074926-033116-CM-MW-2**	EPA 300.0	WETA/38896		
60216117002	**GW-074926-033116-CM-MW-3**	EPA 300.0	WETA/38896		
60216117003	**GW-074926-033116-CM-MW-4**	EPA 300.0	WETA/38896		
60216117004	**GW-074926-033116-CM-MW-5**	EPA 300.0	WETA/38896		

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Sample Condition Upon Receipt
ESI Tech Spec Client

WO# : 60216117

60216117

Client Name: GHD COP

Optional
Proj Due Date:
Proj Name:

Courier: FedEx ☒ UPS ☐ VIA ☐ Clay ☐ PEX ☐ ECI ☐ Pace ☐ Other ☐ Client ☐

Tracking #: 6508 8465 2072 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: CF +1.0 T-239 / CF 0.0 T-262 **Type of Ice:** Wet Blue None ☐ Samples received on ice, cooling process has begun.
(circle one)

Cooler Temperature: 4.1

Date and initials of person examining contents: JS 4/1

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:	☒Yes	☐No	☐N/A	
Includes date/time/ID/analyses Matrix: WT				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, O&G, WI-DRO (water)	☐Yes	☐No		Initial when completed / Lot # of added preservative
Trip Blank present:	☒Yes	☐No	☐N/A	
Pace Trip Blank lot # (if purchased): 2/25/16				15.
Headspace in VOA vials (>6mm):	☐Yes	☒No	☐N/A	16.
Project sampled in USDA Regulated Area:	☐Yes	☐No	☒N/A	17. List State:
Additional labels attached to 5035A vials in the field?	☐Yes	☐No	☒N/A	18.

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

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

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

Start:	1340	Start:	
End:	1350	End:	
Temp:		Temp:	

Project Manager Review: KAF Date: 4/1/16

F-KS-C-004-Rev.4, 30June 2015

PaceAnalytical

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:	GHD Services_COP NM
Address:	6212 Indian School Rd. NE St2
	Albuquerque, NM 87110
Email:	christine.mathews@ghd.com
Phone:	505-884-0672 Fax
Requested Due Date:	

Section B
Required Project Information:

Report To:	Christine Mathews
Copy To:	Jeff Walker
	Angela Bown
Purchase Order #:	
Project Name:	074926 COP Flora Vista No1
Project #:	

Section C
Invoice Information:

Attention:	
Company Name:	
Address:	
Pace Quote:	
Pace Project Manager:	alice.flanagan@pacelabs.com,
Pace Profile #:	

Regulatory Agency
State / Location
NM

SAMPLE ID
One Character per box.
(A-Z, 0-9 / , -)
Sample Ids must be unique

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 START DATE	START TIME	END DATE	END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	8260 BTEX	Sulfate by 300.0	Dissolved Fe, Mn	Residual Chlorine (Y/N)	~~60261~~ 6021611 7
1	GW-074926-033116-CM-MW-2	WT	G			3-31-16	0910		5	1		1	3						X	X	X		BP3U BP3F (3) DG4H 001
2	GW-074926-033116-CM-MW-3	WT	G			3-31-16	0855		5	1		1	3						X	X	X		002
3	GW-074926-033116-CM-MW-4	WT	G			3-31-16	0905		5	1		1	3						X	X	X		003
4	GW-074926-033116-CM-MW-5	WT	G			3-31-16	0925		8	1		1	6						X	X	X		(6) DG4H 004
5	GW-074926-033116-CM-DUP	WT	G			3-31-16	—		3										X				(3) DG4H 005
6	~~GW~~ TB-074926-033116-CM-001	WT				3-31-16	1530		3										X				(3) DG4H TB 006
7																							
8																							
9																							
10																							
11																							
12																							

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
	[signature] / GHD	3.31.16	1545	[signature]	4/1	0850	4.1	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: Mathews

SIGNATURE of SAMPLER: [signature] DATE Signed: 3/31/16

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

July 05, 2016

Christine Mathews
GHD Services, Inc.
6212 Indian School Rd. NE St2
Albuquerque, NM 87110

RE: Project: 074926 COP Flora Vista No 1
Pace Project No.: 60221896

Dear Christine Mathews:
Enclosed are the analytical results for sample(s) received by the laboratory on June 22, 2016. 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: Angela Bown, GHD Services, Inc,
Jeffrey Walker, GHD Services, Inc

Pace Analytical Services, Inc.
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CERTIFICATIONS

Project: 074926 COP Flora Vista No 1
Pace Project No.: 60221896

Kansas Certification IDs

9608 Loiret Boulevard, Lenexa, KS 66219
WY STR Certification #: 2456.01
Arkansas Certification #: 15-016-0
Illinois Certification #: 003097
Iowa Certification #: 118
Kansas/NELAP Certification #: E-10116
Louisiana Certification #: 03055
Nevada Certification #: KS000212008A
Oklahoma Certification #: 9205/9935
Texas Certification #: T104704407
Utah Certification #: KS00021
Kansas Field Laboratory Accreditation: # E-92587

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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SAMPLE SUMMARY

Project: 074926 COP Flora Vista No 1
Pace Project No.: 60221896

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60221896001	**GW-074926-062016-SP-MW2**	Water	06/20/16 16:45	06/22/16 08:50
60221896002	**GW-074926-062016-SP-MW3**	Water	06/20/16 17:10	06/22/16 08:50
60221896003	**GW-074926-062016-SP-MW4**	Water	06/20/16 17:25	06/22/16 08:50
60221896004	**GW-074926-062016-SP-MW5**	Water	06/20/16 17:35	06/22/16 08:50
60221896005	**GW-074926-062016-SP-MW1**	Water	06/20/16 17:45	06/22/16 08:50
60221896006	**GW-074926-062016-SP-DUP**	Water	06/20/16 00:00	06/22/16 08:50
60221896007	**GW-074926-062016-SP-DW1**	Water	06/20/16 15:30	06/22/16 08:50
60221896008	**GW-074926-062016-SP-DW2**	Water	06/20/16 15:20	06/22/16 08:50
60221896009	**Trip blank**	Water	06/20/16 16:45	06/22/16 08:50

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SAMPLE ANALYTE COUNT

Project: 074926 COP Flora Vista No 1
Pace Project No.: 60221896

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60221896001	**GW-074926-062016-SP-MW2**	EPA 6010	JGP	2
		EPA 5030B/8260	PGH	8
		EPA 300.0	OL	1
60221896002	**GW-074926-062016-SP-MW3**	EPA 6010	JGP	2
		EPA 5030B/8260	PGH	8
		EPA 300.0	OL	1
60221896003	**GW-074926-062016-SP-MW4**	EPA 6010	JGP	2
		EPA 5030B/8260	PGH	8
		EPA 300.0	OL	1
60221896004	**GW-074926-062016-SP-MW5**	EPA 6010	JGP	2
		EPA 5030B/8260	PGH	8
		EPA 300.0	OL	1
60221896005	**GW-074926-062016-SP-MW1**	EPA 6010	JGP	2
		EPA 5030B/8260	PGH	8
		EPA 300.0	OL	1
60221896006	**GW-074926-062016-SP-DUP**	EPA 5030B/8260	PGH	8
60221896007	**GW-074926-062016-SP-DW1**	EPA 5030B/8260	PGH	8
60221896008	**GW-074926-062016-SP-DW2**	EPA 5030B/8260	PGH	8
60221896009	**Trip blank**	EPA 5030B/8260	PGH	8

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PROJECT NARRATIVE

Project: 074926 COP Flora Vista No 1
Pace Project No.: 60221896

Method: **EPA 6010**
Description: 6010 MET ICP, Dissolved
Client: GHD Services_COP NM
Date: July 05, 2016

General Information:
5 samples were analyzed for EPA 6010. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

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 COP Flora Vista No 1
Pace Project No.: 60221896

Method: **EPA 5030B/8260**
Description: 8260 MSV
Client: GHD Services_COP NM
Date: July 05, 2016

General Information:
9 samples were analyzed for EPA 5030B/8260. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

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/76596

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

Additional Comments:

Analyte Comments:

QC Batch: MSV/76597

D3: Sample was diluted due to the presence of high levels of non-target analytes or other matrix interference.

- GW-074926-062016-SP-DUP (Lab ID: 60221896006)
  - 4-Bromofluorobenzene (S)

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PROJECT NARRATIVE

Project: 074926 COP Flora Vista No 1
Pace Project No.: 60221896

Method: **EPA 300.0**
Description: 300.0 IC Anions 28 Days
Client: GHD Services_COP NM
Date: July 05, 2016

General Information:
5 samples were analyzed for EPA 300.0. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

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.

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:

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

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ANALYTICAL RESULTS

Project: 074926 COP Flora Vista No 1
Pace Project No.: 60221896

Sample: GW-074926-062016-SP-MW2 **Lab ID: 60221896001** Collected: 06/20/16 16:45 Received: 06/22/16 08:50 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	ug/L	50.0	1	06/24/16 09:30	06/27/16 10:53	7439-89-6	
Manganese, Dissolved	ND	ug/L	5.0	1	06/24/16 09:30	06/27/16 10:53	7439-96-5	
8260 MSV	Analytical Method: EPA 5030B/8260							
Benzene	ND	ug/L	1.0	1		06/23/16 13:38	71-43-2	
Ethylbenzene	ND	ug/L	1.0	1		06/23/16 13:38	100-41-4	
Toluene	ND	ug/L	1.0	1		06/23/16 13:38	108-88-3	
Xylene (Total)	ND	ug/L	3.0	1		06/23/16 13:38	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	103	%	77-130	1		06/23/16 13:38	460-00-4	
1,2-Dichloroethane-d4 (S)	102	%	81-127	1		06/23/16 13:38	17060-07-0	
Toluene-d8 (S)	101	%	80-120	1		06/23/16 13:38	2037-26-5	
Preservation pH	**1.0**		0.10	1		06/23/16 13:38		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0							
Sulfate	**134**	mg/L	10.0	10		07/02/16 13:29	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 074926 COP Flora Vista No 1
Pace Project No.: 60221896

Sample: GW-074926-062016-SP-MW3 **Lab ID: 60221896002** Collected: 06/20/16 17:10 Received: 06/22/16 08:50 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	ug/L	50.0	1	06/24/16 09:30	06/27/16 10:56	7439-89-6	
Manganese, Dissolved	**7.8**	ug/L	5.0	1	06/24/16 09:30	06/27/16 10:56	7439-96-5	
8260 MSV	Analytical Method: EPA 5030B/8260							
Benzene	ND	ug/L	1.0	1		06/23/16 13:52	71-43-2	
Ethylbenzene	ND	ug/L	1.0	1		06/23/16 13:52	100-41-4	
Toluene	ND	ug/L	1.0	1		06/23/16 13:52	108-88-3	
Xylene (Total)	ND	ug/L	3.0	1		06/23/16 13:52	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	102	%	77-130	1		06/23/16 13:52	460-00-4	
1,2-Dichloroethane-d4 (S)	101	%	81-127	1		06/23/16 13:52	17060-07-0	
Toluene-d8 (S)	100	%	80-120	1		06/23/16 13:52	2037-26-5	
Preservation pH	**1.0**		0.10	1		06/23/16 13:52		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0							
Sulfate	**133**	mg/L	10.0	10		07/02/16 14:28	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 074926 COP Flora Vista No 1
Pace Project No.: 60221896

Sample: GW-074926-062016-SP-MW4 **Lab ID: 60221896003** Collected: 06/20/16 17:25 Received: 06/22/16 08:50 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	**4880**	ug/L	50.0	1	06/24/16 09:30	06/27/16 11:00	7439-89-6	
Manganese, Dissolved	**3870**	ug/L	5.0	1	06/24/16 09:30	06/27/16 11:00	7439-96-5	
8260 MSV	Analytical Method: EPA 5030B/8260							
Benzene	**42.8**	ug/L	1.0	1		06/23/16 14:07	71-43-2	
Ethylbenzene	**11.2**	ug/L	1.0	1		06/23/16 14:07	100-41-4	
Toluene	ND	ug/L	1.0	1		06/23/16 14:07	108-88-3	
Xylene (Total)	**39.7**	ug/L	3.0	1		06/23/16 14:07	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	102	%	77-130	1		06/23/16 14:07	460-00-4	
1,2-Dichloroethane-d4 (S)	109	%	81-127	1		06/23/16 14:07	17060-07-0	
Toluene-d8 (S)	109	%	80-120	1		06/23/16 14:07	2037-26-5	
Preservation pH	**1.0**		0.10	1		06/23/16 14:07		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0							
Sulfate	**154**	mg/L	10.0	10		07/02/16 14:43	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 074926 COP Flora Vista No 1
Pace Project No.: 60221896

Sample: GW-074926-062016-SP-MW5 **Lab ID: 60221896004** Collected: 06/20/16 17:35 Received: 06/22/16 08:50 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	**6480**	ug/L	50.0	1	06/24/16 09:30	06/27/16 11:04	7439-89-6	
Manganese, Dissolved	**2680**	ug/L	5.0	1	06/24/16 09:30	06/27/16 11:04	7439-96-5	
8260 MSV	Analytical Method: EPA 5030B/8260							
Benzene	**40.4**	ug/L	25.0	25		06/23/16 14:21	71-43-2	
Ethylbenzene	**160**	ug/L	25.0	25		06/23/16 14:21	100-41-4	
Toluene	ND	ug/L	25.0	25		06/23/16 14:21	108-88-3	
Xylene (Total)	**2480**	ug/L	75.0	25		06/23/16 14:21	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	104	%	77-130	25		06/23/16 14:21	460-00-4	
1,2-Dichloroethane-d4 (S)	105	%	81-127	25		06/23/16 14:21	17060-07-0	
Toluene-d8 (S)	101	%	80-120	25		06/23/16 14:21	2037-26-5	
Preservation pH	**1.0**		0.10	25		06/23/16 14:21		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0							
Sulfate	**129**	mg/L	10.0	10		07/02/16 14:58	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 074926 COP Flora Vista No 1
Pace Project No.: 60221896

Sample: GW-074926-062016-SP-MW1 **Lab ID: 60221896005** Collected: 06/20/16 17:45 Received: 06/22/16 08:50 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	**40800**	ug/L	50.0	1	06/24/16 09:30	06/27/16 11:08	7439-89-6	
Manganese, Dissolved	**2170**	ug/L	5.0	1	06/24/16 09:30	06/27/16 11:08	7439-96-5	
8260 MSV	Analytical Method: EPA 5030B/8260							
Benzene	**834**	ug/L	25.0	25		06/23/16 18:28	71-43-2	
Ethylbenzene	**553**	ug/L	25.0	25		06/23/16 18:28	100-41-4	
Toluene	ND	ug/L	25.0	25		06/23/16 18:28	108-88-3	
Xylene (Total)	**2060**	ug/L	75.0	25		06/23/16 18:28	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	99	%	77-130	25		06/23/16 18:28	460-00-4	
1,2-Dichloroethane-d4 (S)	100	%	81-127	25		06/23/16 18:28	17060-07-0	
Toluene-d8 (S)	102	%	80-120	25		06/23/16 18:28	2037-26-5	
Preservation pH	**1.0**		0.10	25		06/23/16 18:28		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0							
Sulfate	**13.8**	mg/L	1.0	1		07/03/16 10:16	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 074926 COP Flora Vista No 1
Pace Project No.: 60221896

Sample: GW-074926-062016-SP-DUP **Lab ID: 60221896006** Collected: 06/20/16 00:00 Received: 06/22/16 08:50 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260							
Benzene	ND	ug/L	25.0	25		06/23/16 18:42	71-43-2	
Ethylbenzene	**56.2**	ug/L	25.0	25		06/23/16 18:42	100-41-4	
Toluene	ND	ug/L	25.0	25		06/23/16 18:42	108-88-3	
Xylene (Total)	**657**	ug/L	75.0	25		06/23/16 18:42	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	102	%	77-130	25		06/23/16 18:42	460-00-4	D3
1,2-Dichloroethane-d4 (S)	99	%	81-127	25		06/23/16 18:42	17060-07-0	
Toluene-d8 (S)	100	%	80-120	25		06/23/16 18:42	2037-26-5	
Preservation pH	**1.0**		0.10	25		06/23/16 18:42		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 074926 COP Flora Vista No 1
Pace Project No.: 60221896

Sample: GW-074926-062016-SP-DW1 **Lab ID: 60221896007** Collected: 06/20/16 15:30 Received: 06/22/16 08:50 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		06/23/16 18:14	71-43-2	
Ethylbenzene	ND	ug/L	1.0	1		06/23/16 18:14	100-41-4	
Toluene	ND	ug/L	1.0	1		06/23/16 18:14	108-88-3	
Xylene (Total)	ND	ug/L	3.0	1		06/23/16 18:14	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	103	%	77-130	1		06/23/16 18:14	460-00-4	
1,2-Dichloroethane-d4 (S)	100	%	81-127	1		06/23/16 18:14	17060-07-0	
Toluene-d8 (S)	99	%	80-120	1		06/23/16 18:14	2037-26-5	
Preservation pH	**1.0**		0.10	1		06/23/16 18:14		

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ANALYTICAL RESULTS

Project: 074926 COP Flora Vista No 1
Pace Project No.: 60221896

Sample: GW-074926-062016-SP-DW2 **Lab ID: 60221896008** Collected: 06/20/16 15:20 Received: 06/22/16 08:50 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		06/23/16 17:59	71-43-2	
Ethylbenzene	ND	ug/L	1.0	1		06/23/16 17:59	100-41-4	
Toluene	ND	ug/L	1.0	1		06/23/16 17:59	108-88-3	
Xylene (Total)	ND	ug/L	3.0	1		06/23/16 17:59	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	100	%	77-130	1		06/23/16 17:59	460-00-4	
1,2-Dichloroethane-d4 (S)	100	%	81-127	1		06/23/16 17:59	17060-07-0	
Toluene-d8 (S)	100	%	80-120	1		06/23/16 17:59	2037-26-5	
Preservation pH	**1.0**		0.10	1		06/23/16 17:59		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 074926 COP Flora Vista No 1
Pace Project No.: 60221896

Sample: Trip blank **Lab ID: 60221896009** Collected: 06/20/16 16:45 Received: 06/22/16 08:50 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		06/23/16 15:34	71-43-2	
Ethylbenzene	ND	ug/L	1.0	1		06/23/16 15:34	100-41-4	
Toluene	ND	ug/L	1.0	1		06/23/16 15:34	108-88-3	
Xylene (Total)	ND	ug/L	3.0	1		06/23/16 15:34	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	102	%	77-130	1		06/23/16 15:34	460-00-4	
1,2-Dichloroethane-d4 (S)	103	%	81-127	1		06/23/16 15:34	17060-07-0	
Toluene-d8 (S)	98	%	80-120	1		06/23/16 15:34	2037-26-5	
Preservation pH	**1.0**		0.10	1		06/23/16 15:34		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 074926 COP Flora Vista No 1
Pace Project No.: 60221896

QC Batch: MPRP/36443 Analysis Method: EPA 6010
QC Batch Method: EPA 3010 Analysis Description: 6010 MET Dissolved
Associated Lab Samples: 60221896001, 60221896002, 60221896003, 60221896004, 60221896005

METHOD BLANK: 1782187 Matrix: Water
Associated Lab Samples: 60221896001, 60221896002, 60221896003, 60221896004, 60221896005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Iron, Dissolved	ug/L	ND	50.0	06/27/16 09:39	
Manganese, Dissolved	ug/L	ND	5.0	06/27/16 09:39	

LABORATORY CONTROL SAMPLE: 1782188

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Iron, Dissolved	ug/L	10000	9700	97	80-120	
Manganese, Dissolved	ug/L	1000	961	96	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1782189 1782190

Parameter	Units	60221546001 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	2610	10000	10000	12100	12000	95	94	75-125	1	20	
Manganese, Dissolved	ug/L	0.18 mg/L	1000	1000	1120	1120	94	94	75-125	0	20	

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QUALITY CONTROL DATA

Project: 074926 COP Flora Vista No 1
Pace Project No.: 60221896

QC Batch: MSV/76596 Analysis Method: EPA 5030B/8260
QC Batch Method: EPA 5030B/8260 Analysis Description: 8260 MSV Water 10 mL Purge
Associated Lab Samples: 60221896001, 60221896002, 60221896003, 60221896004

METHOD BLANK: 1781339 Matrix: Water
Associated Lab Samples: 60221896001, 60221896002, 60221896003, 60221896004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ug/L	ND	1.0	06/23/16 09:01	
Ethylbenzene	ug/L	ND	1.0	06/23/16 09:01	
Toluene	ug/L	ND	1.0	06/23/16 09:01	
Xylene (Total)	ug/L	ND	3.0	06/23/16 09:01	
1,2-Dichloroethane-d4 (S)	%	104	81-127	06/23/16 09:01	
4-Bromofluorobenzene (S)	%	100	77-130	06/23/16 09:01	
Toluene-d8 (S)	%	99	80-120	06/23/16 09:01	

LABORATORY CONTROL SAMPLE: 1781340

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	20	20.6	103	79-116	
Ethylbenzene	ug/L	20	19.1	95	80-120	
Toluene	ug/L	20	19.0	95	80-120	
Xylene (Total)	ug/L	60	56.9	95	80-120	
1,2-Dichloroethane-d4 (S)	%			100	81-127	
4-Bromofluorobenzene (S)	%			104	77-130	
Toluene-d8 (S)	%			99	80-120	

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QUALITY CONTROL DATA

Project: 074926 COP Flora Vista No 1
Pace Project No.: 60221896

QC Batch: MSV/76597 Analysis Method: EPA 5030B/8260
QC Batch Method: EPA 5030B/8260 Analysis Description: 8260 MSV Water 10 mL Purge
Associated Lab Samples: 60221896005, 60221896006, 60221896007, 60221896008, 60221896009

METHOD BLANK: 1781343 Matrix: Water
Associated Lab Samples: 60221896005, 60221896006, 60221896007, 60221896008, 60221896009

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ug/L	ND	1.0	06/23/16 15:20	
Ethylbenzene	ug/L	ND	1.0	06/23/16 15:20	
Toluene	ug/L	ND	1.0	06/23/16 15:20	
Xylene (Total)	ug/L	ND	3.0	06/23/16 15:20	
1,2-Dichloroethane-d4 (S)	%	103	81-127	06/23/16 15:20	
4-Bromofluorobenzene (S)	%	101	77-130	06/23/16 15:20	
Toluene-d8 (S)	%	98	80-120	06/23/16 15:20	

LABORATORY CONTROL SAMPLE: 1781344

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	20	20.5	103	79-116	
Ethylbenzene	ug/L	20	18.7	94	80-120	
Toluene	ug/L	20	19.5	97	80-120	
Xylene (Total)	ug/L	60	57.3	96	80-120	
1,2-Dichloroethane-d4 (S)	%			100	81-127	
4-Bromofluorobenzene (S)	%			101	77-130	
Toluene-d8 (S)	%			100	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1781345 1781346

Parameter	Units	60221873005 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	20.5	21.3	100	104	37-151	4	40	
Ethylbenzene	ug/L	ND	20	20	19.2	19.1	96	95	29-151	0	45	
Toluene	ug/L	ND	20	20	19.6	19.2	98	96	37-147	2	43	
Xylene (Total)	ug/L	ND	60	60	56.9	57.2	95	95	27-156	0	46	
1,2-Dichloroethane-d4 (S)	%						100	101	81-127			
4-Bromofluorobenzene (S)	%						100	99	77-130			
Toluene-d8 (S)	%						101	98	80-120			
Preservation pH		1.0			1.0	1.0				0		

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QUALITY CONTROL DATA

Project: 074926 COP Flora Vista No 1
Pace Project No.: 60221896

QC Batch: WETA/40375 Analysis Method: EPA 300.0
QC Batch Method: EPA 300.0 Analysis Description: 300.0 IC Anions
Associated Lab Samples: 60221896001, 60221896002, 60221896003, 60221896004

METHOD BLANK: 1787632 Matrix: Water
Associated Lab Samples: 60221896001, 60221896002, 60221896003, 60221896004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Sulfate	mg/L	ND	1.0	07/02/16 09:28	

LABORATORY CONTROL SAMPLE: 1787633

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfate	mg/L	5	5.1	101	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1787634 1787635

Parameter	Units	60221997017 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfate	mg/L	67.5	25	25	95.0	94.5	110	108	80-120	1	15	

MATRIX SPIKE SAMPLE: 1787636

Parameter	Units	60221896001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Sulfate	mg/L	134	50	184	100	80-120	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 074926 COP Flora Vista No 1
Pace Project No.: 60221896

QC Batch: WETA/40385 Analysis Method: EPA 300.0
QC Batch Method: EPA 300.0 Analysis Description: 300.0 IC Anions
Associated Lab Samples: 60221896005

METHOD BLANK: 1787906 Matrix: Water
Associated Lab Samples: 60221896005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Sulfate	mg/L	ND	1.0	07/03/16 09:06	

LABORATORY CONTROL SAMPLE: 1787907

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfate	mg/L	5	5.3	106	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1787908 1787909

Parameter	Units	60221896005 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfate	mg/L	13.8	5	5	18.3	18.5	90	93	80-120	1	15	

MATRIX SPIKE SAMPLE: 1787910

Parameter	Units	60221898001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Sulfate	mg/L	ND	100	114	94	80-120	

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QUALIFIERS

Project: 074926 COP Flora Vista No 1
Pace Project No.: 60221896

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

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.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

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/76596

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

ANALYTE QUALIFIERS

D3 Sample was diluted due to the presence of high levels of non-target analytes or other matrix interference.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 074926 COP Flora Vista No 1
Pace Project No.: 60221896

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60221896001	**GW-074926-062016-SP-MW2**	EPA 3010	MPRP/36443	EPA 6010	ICP/26565
60221896002	**GW-074926-062016-SP-MW3**	EPA 3010	MPRP/36443	EPA 6010	ICP/26565
60221896003	**GW-074926-062016-SP-MW4**	EPA 3010	MPRP/36443	EPA 6010	ICP/26565
60221896004	**GW-074926-062016-SP-MW5**	EPA 3010	MPRP/36443	EPA 6010	ICP/26565
60221896005	**GW-074926-062016-SP-MW1**	EPA 3010	MPRP/36443	EPA 6010	ICP/26565
60221896001	**GW-074926-062016-SP-MW2**	EPA 5030B/8260	MSV/76596		
60221896002	**GW-074926-062016-SP-MW3**	EPA 5030B/8260	MSV/76596		
60221896003	**GW-074926-062016-SP-MW4**	EPA 5030B/8260	MSV/76596		
60221896004	**GW-074926-062016-SP-MW5**	EPA 5030B/8260	MSV/76596		
60221896005	**GW-074926-062016-SP-MW1**	EPA 5030B/8260	MSV/76597		
60221896006	**GW-074926-062016-SP-DUP**	EPA 5030B/8260	MSV/76597		
60221896007	**GW-074926-062016-SP-DW1**	EPA 5030B/8260	MSV/76597		
60221896008	**GW-074926-062016-SP-DW2**	EPA 5030B/8260	MSV/76597		
60221896009	**Trip blank**	EPA 5030B/8260	MSV/76597		
60221896001	**GW-074926-062016-SP-MW2**	EPA 300.0	WETA/40375		
60221896002	**GW-074926-062016-SP-MW3**	EPA 300.0	WETA/40375		
60221896003	**GW-074926-062016-SP-MW4**	EPA 300.0	WETA/40375		
60221896004	**GW-074926-062016-SP-MW5**	EPA 300.0	WETA/40375		
60221896005	**GW-074926-062016-SP-MW1**	EPA 300.0	WETA/40385		

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Sample Condition Upon Receipt
ESI Tech Spec Client

WO#: 60221896

60221896

Client Name: GHD COP

Optional
Proj Due Date:
Proj Name:

Courier: FedEx [X] UPS ☐ VIA ☐ Clay ☐ PEX ☐ ECI ☐ Pace ☐ Other ☐ Client ☐

Tracking #: 6703 1644 5831 Pace Shipping Label Used? Yes ☐ No ☐

Custody Seal on Cooler/Box Present: Yes [X] No ☐ Seals intact: Yes [X] No ☐

Packing Material: Bubble Wrap ☐ Bubble Bags [X] Foam ☐ None ☐ Other ☐

Thermometer Used: CF -0.1 T-239 / CF 0.0 T-262 **Type of Ice:** Wet Blue None ☐ Samples received on ice, cooling process has begun.
(circle one)

Cooler Temperature: 2.7

Date and initials of person examining contents: JB 6/22

Temperature should be above freezing to 6°C

Chain of Custody present:	[X]Yes ☐No ☐N/A	1. Additional Samples not listed on COC
Chain of Custody filled out:	[X]Yes ☐No ☐N/A	2. GW-074926-062016-SP-DW1 6/20/16 1530 (3)DG9H 007
Chain of Custody relinquished:	[X]Yes ☐No ☐N/A	3. GW-074926-062016-SP-DW2 6/20/16 1520 (3)DG9H 008
Sampler name & signature on COC:	[X]Yes ☐No ☐N/A	4.
Samples arrived within holding time:	[X]Yes ☐No ☐N/A	5.
Short Hold Time analyses (<72hr):	☐Yes [X]No ☐N/A	6.
Rush Turn Around Time requested:	☐Yes [X]No ☐N/A	7.
Sufficient volume:	[X]Yes ☐No ☐N/A	8.
Correct containers used:	[X]Yes ☐No ☐N/A	
Pace containers used:	[X]Yes ☐No ☐N/A	9.
Containers intact:	[X]Yes ☐No ☐N/A	10.
Unpreserved 5035A soils frozen w/in 48hrs?	☐Yes ☐No [X]N/A	11.
Filtered volume received for dissolved tests?	[X]Yes ☐No ☐N/A	12.
Sample labels match COC:	[X]Yes ☐No ☐N/A	
Includes date/time/ID/analyses Matrix: WT		13.
All containers needing preservation have been checked.	[X]Yes ☐No ☐N/A	
All containers needing preservation are found to be in compliance with EPA recommendation.	[X]Yes ☐No ☐N/A	14.
Exceptions: VOA, Coliform, O&G, WI-DRO (water)	[X]Yes ☐No	Initial when completed / Lot # of added preservative
Trip Blank present:	[X]Yes ☐No ☐N/A	
Pace Trip Blank lot # (if purchased): 6/14		15.
Headspace in VOA vials (>6mm):	☐Yes [X]No ☐N/A	16.
Project sampled in USDA Regulated Area:	☐Yes ☐No [X]N/A	17. List State:
Additional labels attached to 5035A vials in the field?	☐Yes ☐No [X]N/A	18.

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

Person Contacted: Date/Time:

Comments/ Resolution: Include additional samples received that were omitted from the chain of custody - Scheduled for 8260 VOC BTEX.

Project Manager Review: aaf Date: 6/22/16

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

Start: 1220	Start:
End: 1232	End:
Temp:	Temp:

Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Document

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

Section A Required Client Information:

Company:	GHD Services_COP NM
Address:	6212 Indian School Rd. NE St2
	Albuquerque, NM 87110
Email:	christine.mathews@ghd.com
Phone:	505-884-0672 Fax
Requested Due Date:	

Section B Required Project Information:

Report To:	Christine Mathews
Copy To:	Jeff Walker
	Angela Bown
Purchase Order #:	
Project Name:	074926 COP Flora Vista No1
Project #:	

Section C Invoice Information:

Attention:	
Company Name:	
Address:	
Pace Quote:	
Pace Project Manager:	alice.flanagan@pacelabs.com,
Pace Profile #:	

Regulatory Agency
State / Location
NM

60221894

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

SAMPLE ID: One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	START TIME	END DATE	END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	8260 BTEX	Sulfate by 300.0	Dissolved Fe, Mn	Residual Chlorine (Y/N)		
1	GW-074926-062016-SP-MW2	WT	G	6-20	1645	—	—		5	1		1	3	[illegible]					X	X	X		BP3U DP3F (3)DG9H	001
2	GW-074926-062016-SP-MW3	↓	↓	6-20	1710	—	—		5	1		1	3	[illegible]					↓	↓	↓		↓	002
3	GW-074926-062016-SP-MW4			6-20	1725	—	—		5	1		1	3	[illegible]										003
4	GW-074926-062016-SP-MW5			6-20	1735	—	—		5	1		1	3	[illegible]										004
5	GW-074926-062016-SP-MW1			6-20	1745	—	—		5	1		1	3	[illegible]										005
6	GW-074926-062016-SP-DUP			6-20		—	—		3	0		0	3	0										006
7																							(3)DG9H TB	009
8																								
9																								
10																								
11																								
12																								

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
	Steven Perez	6-21-16	1640	J. [illegible] / Pace	6/22	0850	2.7	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: Steven Perez

SIGNATURE of SAMPLER: Steven Perez DATE Signed: 6-21-16

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

September 26, 2016

Christine Mathews
GHD Services, Inc.
6212 Indian School Rd. NE St2
Albuquerque, NM 87110

RE: Project: 074926 COP FLORA VISTA NO 1
Pace Project No.: 60227293

Dear Christine Mathews:
Enclosed are the analytical results for sample(s) received by the laboratory on September 09, 2016. 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 Spiller

Alice Spiller
alice.spiller@pacelabs.com
Project Manager

Enclosures

cc: Angela Bown, GHD Services, Inc,
Jeffrey Walker, GHD Services, Inc

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

CERTIFICATIONS

Project: 074926 COP FLORA VISTA NO 1
Pace Project No.: 60227293

Kansas Certification IDs

9608 Loiret Boulevard, Lenexa, KS 66219
WY STR Certification #: 2456.01
Arkansas Certification #: 15-016-0
Illinois Certification #: 003097
Iowa Certification #: 118
Kansas/NELAP Certification #: E-10116
Louisiana Certification #: 03055
Nevada Certification #: KS000212008A
Oklahoma Certification #: 9205/9935
Texas Certification #: T104704407
Utah Certification #: KS00021
Kansas Field Laboratory Accreditation: # E-92587

REPORT OF LABORATORY ANALYSIS

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

SAMPLE SUMMARY

Project: 074926 COP FLORA VISTA NO 1
Pace Project No.: 60227293

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60227293001	**GW-074926-090716-SP-MW-1**	Water	09/07/16 17:42	09/09/16 08:50
60227293002	**GW-074926-090716-SP-MW-2**	Water	09/07/16 18:00	09/09/16 08:50
60227293003	**GW-074926-090716-SP-MW-3**	Water	09/07/16 18:10	09/09/16 08:50
60227293004	**GW-074926-090716-SP-MW-4**	Water	09/07/16 18:30	09/09/16 08:50
60227293005	**GW-074926-090716-SP-MW-5**	Water	09/07/16 17:45	09/09/16 08:50
60227293006	**GW-074926-090716-SP-DUP**	Water	09/07/16 00:00	09/09/16 08:50
60227293007	**TRIP BLANK**	Solid	09/07/16 17:42	09/09/16 08:50

REPORT OF LABORATORY ANALYSIS

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(913)599-5665

SAMPLE ANALYTE COUNT

Project: 074926 COP FLORA VISTA NO 1
Pace Project No.: 60227293

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60227293001	**GW-074926-090716-SP-MW-1**	EPA 6010	TDS	2
		EPA 8260	JTK	8
		EPA 300.0	OL	1
60227293002	**GW-074926-090716-SP-MW-2**	EPA 6010	TDS	2
		EPA 8260	JTK	8
		EPA 300.0	OL	1
60227293003	**GW-074926-090716-SP-MW-3**	EPA 6010	TDS	2
		EPA 8260	JTK	8
		EPA 300.0	OL	1
60227293004	**GW-074926-090716-SP-MW-4**	EPA 6010	TDS	2
		EPA 8260	JTK	8
		EPA 300.0	OL	1
60227293005	**GW-074926-090716-SP-MW-5**	EPA 6010	TDS	2
		EPA 8260	JTK	8
		EPA 300.0	OL	1
60227293006	**GW-074926-090716-SP-DUP**	EPA 8260	JTK	8

REPORT OF LABORATORY ANALYSIS

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(913)599-5665

PROJECT NARRATIVE

Project: 074926 COP FLORA VISTA NO 1
Pace Project No.: 60227293

Method: **EPA 6010**
Description: 6010 MET ICP, Dissolved
Client: GHD Services_COP NM
Date: September 26, 2016

General Information:
5 samples were analyzed for EPA 6010. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

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:

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

PROJECT NARRATIVE

Project: 074926 COP FLORA VISTA NO 1
Pace Project No.: 60227293

Method: **EPA 8260**
Description: 8260 MSV UST, Water
Client: GHD Services_COP NM
Date: September 26, 2016

General Information:
6 samples were analyzed for EPA 8260. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

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: 446568

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 60227293005,60227374008

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MS (Lab ID: 1825963)
  - Toluene

Additional Comments:

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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PROJECT NARRATIVE

Project: 074926 COP FLORA VISTA NO 1
Pace Project No.: 60227293

Method: **EPA 300.0**
Description: 300.0 IC Anions 28 Days
Client: GHD Services_COP NM
Date: September 26, 2016

General Information:
5 samples were analyzed for EPA 300.0. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times 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:

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

Pace Analytical Services, Inc.
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ANALYTICAL RESULTS

Project: 074926 COP FLORA VISTA NO 1
Pace Project No.: 60227293

Sample: GW-074926-090716-SP-MW-1 **Lab ID: 60227293001** Collected: 09/07/16 17:42 Received: 09/09/16 08:50 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	**17600**	ug/L	50.0	1	09/12/16 12:15	09/13/16 12:33	7439-89-6	
Manganese, Dissolved	**1510**	ug/L	5.0	1	09/12/16 12:15	09/13/16 12:33	7439-96-5	
8260 MSV UST, Water	Analytical Method: EPA 8260							
Benzene	**525**	ug/L	20.0	20		09/10/16 09:56	71-43-2	
Ethylbenzene	**416**	ug/L	20.0	20		09/10/16 09:56	100-41-4	
Toluene	ND	ug/L	20.0	20		09/10/16 09:56	108-88-3	
Xylene (Total)	**1620**	ug/L	60.0	20		09/10/16 09:56	1330-20-7	
Surrogates								
Toluene-d8 (S)	99	%	80-120	20		09/10/16 09:56	2037-26-5	
4-Bromofluorobenzene (S)	103	%	77-130	20		09/10/16 09:56	460-00-4	
1,2-Dichloroethane-d4 (S)	102	%	81-127	20		09/10/16 09:56	17060-07-0	
Preservation pH	**1.0**		1.0	20		09/10/16 09:56		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0							
Sulfate	**2.4**	mg/L	1.0	1		09/23/16 16:38	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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(913)599-5665

ANALYTICAL RESULTS

Project: 074926 COP FLORA VISTA NO 1
Pace Project No.: 60227293

Sample: GW-074926-090716-SP-MW-2 **Lab ID: 60227293002** Collected: 09/07/16 18:00 Received: 09/09/16 08:50 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	**51.2**	ug/L	50.0	1	09/12/16 12:15	09/13/16 12:40	7439-89-6	
Manganese, Dissolved	ND	ug/L	5.0	1	09/12/16 12:15	09/13/16 12:40	7439-96-5	
8260 MSV UST, Water	Analytical Method: EPA 8260							
Benzene	ND	ug/L	1.0	1		09/10/16 10:11	71-43-2	
Ethylbenzene	ND	ug/L	1.0	1		09/10/16 10:11	100-41-4	
Toluene	ND	ug/L	1.0	1		09/10/16 10:11	108-88-3	
Xylene (Total)	ND	ug/L	3.0	1		09/10/16 10:11	1330-20-7	
Surrogates								
Toluene-d8 (S)	98	%	80-120	1		09/10/16 10:11	2037-26-5	
4-Bromofluorobenzene (S)	104	%	77-130	1		09/10/16 10:11	460-00-4	
1,2-Dichloroethane-d4 (S)	97	%	81-127	1		09/10/16 10:11	17060-07-0	
Preservation pH	**1.0**		1.0	1		09/10/16 10:11		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0							
Sulfate	**131**	mg/L	10.0	10		09/24/16 12:46	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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(913)599-5665

ANALYTICAL RESULTS

Project: 074926 COP FLORA VISTA NO 1
Pace Project No.: 60227293

Sample: GW-074926-090716-SP-MW-3 **Lab ID: 60227293003** Collected: 09/07/16 18:10 Received: 09/09/16 08:50 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	ug/L	50.0	1	09/12/16 12:15	09/13/16 12:42	7439-89-6	
Manganese, Dissolved	ND	ug/L	5.0	1	09/12/16 12:15	09/13/16 12:42	7439-96-5	
8260 MSV UST, Water	Analytical Method: EPA 8260							
Benzene	ND	ug/L	1.0	1		09/10/16 10:26	71-43-2	
Ethylbenzene	ND	ug/L	1.0	1		09/10/16 10:26	100-41-4	
Toluene	ND	ug/L	1.0	1		09/10/16 10:26	108-88-3	
Xylene (Total)	ND	ug/L	3.0	1		09/10/16 10:26	1330-20-7	
Surrogates								
Toluene-d8 (S)	98	%	80-120	1		09/10/16 10:26	2037-26-5	
4-Bromofluorobenzene (S)	105	%	77-130	1		09/10/16 10:26	460-00-4	
1,2-Dichloroethane-d4 (S)	100	%	81-127	1		09/10/16 10:26	17060-07-0	
Preservation pH	**1.0**		1.0	1		09/10/16 10:26		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0							
Sulfate	**149**	mg/L	10.0	10		09/24/16 13:57	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: 074926 COP FLORA VISTA NO 1
Pace Project No.: 60227293

Sample: GW-074926-090716-SP-MW-4 **Lab ID: 60227293004** Collected: 09/07/16 18:30 Received: 09/09/16 08:50 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	**4010**	ug/L	50.0	1	09/12/16 12:15	09/13/16 12:44	7439-89-6	
Manganese, Dissolved	**3840**	ug/L	5.0	1	09/12/16 12:15	09/13/16 12:44	7439-96-5	
8260 MSV UST, Water	Analytical Method: EPA 8260							
Benzene	**8.1**	ug/L	1.0	1		09/10/16 10:41	71-43-2	
Ethylbenzene	ND	ug/L	1.0	1		09/10/16 10:41	100-41-4	
Toluene	ND	ug/L	1.0	1		09/10/16 10:41	108-88-3	
Xylene (Total)	ND	ug/L	3.0	1		09/10/16 10:41	1330-20-7	
Surrogates								
Toluene-d8 (S)	105	%	80-120	1		09/10/16 10:41	2037-26-5	
4-Bromofluorobenzene (S)	102	%	77-130	1		09/10/16 10:41	460-00-4	
1,2-Dichloroethane-d4 (S)	99	%	81-127	1		09/10/16 10:41	17060-07-0	
Preservation pH	**1.0**		1.0	1		09/10/16 10:41		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0							
Sulfate	**145**	mg/L	10.0	10		09/24/16 14:11	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: 074926 COP FLORA VISTA NO 1
Pace Project No.: 60227293

Sample: GW-074926-090716-SP-MW-5 **Lab ID: 60227293005** Collected: 09/07/16 17:45 Received: 09/09/16 08:50 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	**4600**	ug/L	50.0	1	09/12/16 12:15	09/13/16 12:46	7439-89-6	
Manganese, Dissolved	**2070**	ug/L	5.0	1	09/12/16 12:15	09/13/16 12:46	7439-96-5	
8260 MSV UST, Water	Analytical Method: EPA 8260							
Benzene	**22.9**	ug/L	10.0	10		09/15/16 00:41	71-43-2	
Ethylbenzene	**332**	ug/L	10.0	10		09/15/16 00:41	100-41-4	
Toluene	ND	ug/L	10.0	10		09/15/16 00:41	108-88-3	
Xylene (Total)	**3450**	ug/L	30.0	10		09/15/16 00:41	1330-20-7	
Surrogates								
Toluene-d8 (S)	95	%	80-120	10		09/15/16 00:41	2037-26-5	
4-Bromofluorobenzene (S)	102	%	77-130	10		09/15/16 00:41	460-00-4	
1,2-Dichloroethane-d4 (S)	96	%	81-127	10		09/15/16 00:41	17060-07-0	
Preservation pH	**1.0**		1.0	10		09/15/16 00:41		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0							
Sulfate	**104**	mg/L	10.0	10		09/24/16 14:25	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: 074926 COP FLORA VISTA NO 1
Pace Project No.: 60227293

Sample: GW-074926-090716-SP-DUP **Lab ID: 60227293006** Collected: 09/07/16 00:00 Received: 09/09/16 08:50 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV UST, Water	Analytical Method: EPA 8260							
Benzene	**21.6**	ug/L	10.0	10		09/10/16 10:56	71-43-2	
Ethylbenzene	**393**	ug/L	10.0	10		09/10/16 10:56	100-41-4	
Toluene	ND	ug/L	10.0	10		09/10/16 10:56	108-88-3	
Xylene (Total)	**4460**	ug/L	150	50		09/15/16 01:25	1330-20-7	
Surrogates								
Toluene-d8 (S)	98	%	80-120	10		09/10/16 10:56	2037-26-5	
4-Bromofluorobenzene (S)	103	%	77-130	10		09/10/16 10:56	460-00-4	
1,2-Dichloroethane-d4 (S)	98	%	81-127	10		09/10/16 10:56	17060-07-0	
Preservation pH	**1.0**		1.0	10		09/10/16 10:56		

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: 074926 COP FLORA VISTA NO 1
Pace Project No.: 60227293

QC Batch: 446110 Analysis Method: EPA 6010
QC Batch Method: EPA 3010 Analysis Description: 6010 MET Dissolved
Associated Lab Samples: 60227293001, 60227293002, 60227293003, 60227293004, 60227293005

METHOD BLANK: 1824025 Matrix: Water
Associated Lab Samples: 60227293001, 60227293002, 60227293003, 60227293004, 60227293005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Iron, Dissolved	ug/L	ND	50.0	09/13/16 12:12	
Manganese, Dissolved	ug/L	ND	5.0	09/13/16 12:12	

LABORATORY CONTROL SAMPLE: 1824026

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Iron, Dissolved	ug/L	10000	10100	101	80-120	
Manganese, Dissolved	ug/L	1000	960	96	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1824027 1824028

Parameter	Units	60227292002 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	709	10000	10000	10900	10900	102	102	75-125	0	20	
Manganese, Dissolved	ug/L	1670	1000	1000	2600	2630	93	96	75-125	1	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1824029 1824030

Parameter	Units	60227293005 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	4600	10000	10000	14600	14700	100	101	75-125	1	20	
Manganese, Dissolved	ug/L	2070	1000	1000	3000	3020	94	95	75-125	0	20	

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REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: 074926 COP FLORA VISTA NO 1
Pace Project No.: 60227293

QC Batch: 446046 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV UST-WATER
Associated Lab Samples: 60227293001, 60227293002, 60227293003, 60227293004, 60227293006

METHOD BLANK: 1823489 Matrix: Water
Associated Lab Samples: 60227293001, 60227293002, 60227293003, 60227293004, 60227293006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ug/L	ND	1.0	09/10/16 06:13	
Ethylbenzene	ug/L	ND	1.0	09/10/16 06:13	
Toluene	ug/L	ND	1.0	09/10/16 06:13	
Xylene (Total)	ug/L	ND	3.0	09/10/16 06:13	
1,2-Dichloroethane-d4 (S)	%	96	81-127	09/10/16 06:13	
4-Bromofluorobenzene (S)	%	104	77-130	09/10/16 06:13	
Toluene-d8 (S)	%	100	80-120	09/10/16 06:13	

LABORATORY CONTROL SAMPLE: 1823490

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	20	20.6	103	79-116	
Ethylbenzene	ug/L	20	19.3	97	81-110	
Toluene	ug/L	20	20.2	101	82-111	
Xylene (Total)	ug/L	60	56.1	94	80-111	
1,2-Dichloroethane-d4 (S)	%			97	81-127	
4-Bromofluorobenzene (S)	%			99	77-130	
Toluene-d8 (S)	%			99	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1823491 1823492

Parameter	Units	60227292002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Benzene	ug/L	2.3	20	20	23.5	23.0	106	103	37-151	2	40	
Ethylbenzene	ug/L	1.1	20	20	20.4	19.7	96	93	29-151	3	45	
Toluene	ug/L	1.8	20	20	22.1	21.6	101	99	37-147	2	43	
Xylene (Total)	ug/L	5.4	60	60	61.6	59.0	94	89	27-156	4	46	
1,2-Dichloroethane-d4 (S)	%						95	97	81-127			
4-Bromofluorobenzene (S)	%						101	99	77-130			
Toluene-d8 (S)	%						98	99	80-120			
Preservation pH		1.0			1.0	1.0				0		

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REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: 074926 COP FLORA VISTA NO 1
Pace Project No.: 60227293

QC Batch: 446568 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV UST-WATER
Associated Lab Samples: 60227293005, 60227293006

METHOD BLANK: 1825959 Matrix: Water
Associated Lab Samples: 60227293005, 60227293006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ug/L	ND	1.0	09/15/16 00:26	
Ethylbenzene	ug/L	ND	1.0	09/15/16 00:26	
Toluene	ug/L	ND	1.0	09/15/16 00:26	
Xylene (Total)	ug/L	ND	3.0	09/15/16 00:26	
1,2-Dichloroethane-d4 (S)	%	96	81-127	09/15/16 00:26	
4-Bromofluorobenzene (S)	%	104	77-130	09/15/16 00:26	
Toluene-d8 (S)	%	97	80-120	09/15/16 00:26	

LABORATORY CONTROL SAMPLE: 1825960

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	20	21.0	105	79-116	
Ethylbenzene	ug/L	20	18.6	93	81-110	
Toluene	ug/L	20	19.3	97	82-111	
Xylene (Total)	ug/L	60	54.1	90	80-111	
1,2-Dichloroethane-d4 (S)	%			93	81-127	
4-Bromofluorobenzene (S)	%			101	77-130	
Toluene-d8 (S)	%			99	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1825961 1825962

Parameter	Units	60227293005 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Benzene	ug/L	22.9	200	200	228	223	103	100	37-151	2	40	
Ethylbenzene	ug/L	332	200	200	521	510	94	89	29-151	2	45	
Toluene	ug/L	ND	200	200	188	187	94	93	37-147	1	43	
Xylene (Total)	ug/L	3450	600	600	4020	3940	94	82	27-156	2	46	
1,2-Dichloroethane-d4 (S)	%						96	94	81-127			
4-Bromofluorobenzene (S)	%						100	100	77-130			
Toluene-d8 (S)	%						98	98	80-120			
Preservation pH		1.0			1.0	1.0				0		

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1825963 1825964

Parameter	Units	60227374008 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Benzene	ug/L	270	100	100	383	361	113	91	37-151	6	40	

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REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: 074926 COP FLORA VISTA NO 1
Pace Project No.: 60227293

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1825963 1825964

Parameter	Units	60227374008 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Ethylbenzene	ug/L	29.1	100	100	125	116	96	87	29-151	7	45	
Toluene	ug/L	901	100	100	1070	987	168	86	37-147	8	43	M1
Xylene (Total)	ug/L	670	300	300	1000	942	110	91	27-156	6	46	
1,2-Dichloroethane-d4 (S)	%						94	96	81-127			
4-Bromofluorobenzene (S)	%						101	101	77-130			
Toluene-d8 (S)	%						99	97	80-120			
Preservation pH		1.0			1.0	1.0				0		

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REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: 074926 COP FLORA VISTA NO 1
Pace Project No.: 60227293

QC Batch: 447743 Analysis Method: EPA 300.0
QC Batch Method: EPA 300.0 Analysis Description: 300.0 IC Anions
Associated Lab Samples: 60227293001

METHOD BLANK: 1831500 Matrix: Water
Associated Lab Samples: 60227293001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Sulfate	mg/L	ND	1.0	09/23/16 16:54	

LABORATORY CONTROL SAMPLE: 1831501

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfate	mg/L	5	4.7	95	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1831502 1831503

Parameter	Units	60227293001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfate	mg/L	2.4	5	5	7.1	7.2	94	95	80-120	1	15	

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REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: 074926 COP FLORA VISTA NO 1
Pace Project No.: 60227293

QC Batch: 447841 Analysis Method: EPA 300.0
QC Batch Method: EPA 300.0 Analysis Description: 300.0 IC Anions
Associated Lab Samples: 60227293002, 60227293003, 60227293004, 60227293005

METHOD BLANK: 1832280 Matrix: Water
Associated Lab Samples: 60227293002, 60227293003, 60227293004, 60227293005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Sulfate	mg/L	ND	1.0	09/24/16 12:18	

LABORATORY CONTROL SAMPLE: 1832281

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfate	mg/L	5	4.8	96	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1832282 1832283

Parameter	Units	60227293002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfate	mg/L	131	50	50	179	179	97	96	80-120	0	15	

MATRIX SPIKE SAMPLE: 1832284

Parameter	Units	60227293005 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Sulfate	mg/L	104	50	155	103	80-120	

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REPORT OF LABORATORY ANALYSIS

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

QUALIFIERS

Project: 074926 COP FLORA VISTA NO 1
Pace Project No.: 60227293

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

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.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

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.

ANALYTE QUALIFIERS

M1 Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

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

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 074926 COP FLORA VISTA NO 1
Pace Project No.: 60227293

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60227293001	**GW-074926-090716-SP-MW-1**	EPA 3010	446110	EPA 6010	446261
60227293002	**GW-074926-090716-SP-MW-2**	EPA 3010	446110	EPA 6010	446261
60227293003	**GW-074926-090716-SP-MW-3**	EPA 3010	446110	EPA 6010	446261
60227293004	**GW-074926-090716-SP-MW-4**	EPA 3010	446110	EPA 6010	446261
60227293005	**GW-074926-090716-SP-MW-5**	EPA 3010	446110	EPA 6010	446261
60227293001	**GW-074926-090716-SP-MW-1**	EPA 8260	446046		
60227293002	**GW-074926-090716-SP-MW-2**	EPA 8260	446046		
60227293003	**GW-074926-090716-SP-MW-3**	EPA 8260	446046		
60227293004	**GW-074926-090716-SP-MW-4**	EPA 8260	446046		
60227293005	**GW-074926-090716-SP-MW-5**	EPA 8260	446568		
60227293006	**GW-074926-090716-SP-DUP**	EPA 8260	446046		
60227293006	**GW-074926-090716-SP-DUP**	EPA 8260	446568		
60227293001	**GW-074926-090716-SP-MW-1**	EPA 300.0	447743		
60227293002	**GW-074926-090716-SP-MW-2**	EPA 300.0	447841		
60227293003	**GW-074926-090716-SP-MW-3**	EPA 300.0	447841		
60227293004	**GW-074926-090716-SP-MW-4**	EPA 300.0	447841		
60227293005	**GW-074926-090716-SP-MW-5**	EPA 300.0	447841		

Pace Analytical
www.pacelabs.com

Sample Condition Upon Receipt
ESI Tech Spec Client

WO# : 60227293

60227293

AFS

Client Name: GHD. COP. NM

Courier: FedEx ☒ UPS ☐ VIA ☐ Clay ☐ PEX ☐ ECI ☐ Pace ☐ Xroads ☐ Client ☐ Other ☐

Tracking #: 7044 6652 8006 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: CF +1.1 / CF -0.1 T-266 / T-239 **Type of Ice:** Wet Blue None

Cooler Temperature (°C): **As-read** -0.2 **Corr. Factor** CF +1.1 CF -0.1 **Corrected** 0.9

Date and initials of person examining contents: JMS 7/8/16 1030

Temperature should be above freezing to 6°C

Chain of Custody present:	☒Yes ☐No ☐N/A	
Chain of Custody relinquished:	☒Yes ☐No ☐N/A	
Samples arrived within holding time:	☒Yes ☐No ☐N/A	
Short Hold Time analyses (<72hr):	☐Yes ☒No ☐N/A	
Rush Turn Around Time requested:	☐Yes ☒No ☐N/A	
Sufficient volume:	☒Yes ☐No ☐N/A	
Correct containers used:	☒Yes ☐No ☐N/A	
Pace containers used:	☒Yes ☐No ☐N/A	
Containers intact:	☒Yes ☐No ☐N/A	
Unpreserved 5035A / TX1005/1006 soils frozen in 48hrs?	☐Yes ☐No ☒N/A	
Filtered volume received for dissolved tests?	☒Yes ☐No ☐N/A	
Sample labels match COC: Date / time / ID / analyses	☒Yes ☐No ☐N/A	
Samples contain multiple phases? Matrix: water	☐Yes ☐No ☒N/A	
Containers requiring pH preservation in compliance? (HNO_3, H_2SO_4, HCl<2; NaOH>9 Sulfide, NaOH>10 Cyanide) (Exceptions: VOA, Micro, O&G, KS TPH, OK-DRO)	☒Yes ☐No ☐N/A	
Cyanide water sample checks: ☐ N/A Lead acetate strip turns dark? (Record only) Potassium iodide test strip turns blue/purple? (Preserve)	☐Yes ☐No ☐Yes ☐No	
Trip Blank present:	☒Yes ☐No ☐N/A	
Headspace in VOA vials (>6mm):	☐Yes ☒No ☐N/A	
Samples from USDA Regulated Area: State:	☐Yes ☐No ☒N/A	
Additional labels attached to 5035A / TX1005 vials in the field?	☐Yes ☐No ☒N/A	

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

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

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

Start: 1015	Start:
End: 1020	End:
Temp:	Temp:

Project Manager Review: alice Date: 09/09/16

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:		Section B Required Project Information:		Section C Invoice Information:	
Company:	GHD Services_COP NM	Report To:	Christine Mathews	Attention:	
Address:	6212 Indian School Rd. NE St2	Copy To:	Jeff Walker, Angela Bown	Company Name:	
	Albuquerque, NM 87110			Address:	
Email:	christine.mathews@ghd.com	Purchase Order #:	34005858	Pace Quote:	
Phone:	505-884-0672 Fax:	Project Name:	074926 COP Flora Vista No1	Pace Project Manager:	alice.spiller@pacelabs.com,
Requested Due Date:		Project #:		Pace Profile #:	8644, 22

Regulatory Agency	
State / Location	NM

ITEM #	SAMPLE ID (One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique)	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	8260 BTEX	Sulfate by 300.0	Dissolved Fe, Mn-field filter	Residual Chlorine (Y/N)	60227293
1	GW-074926-090716-SP-MW-1	WT	G	9-7-16	1742				5										X	X	X			001
2	GW-074926-090716-SP-MW-2				1800				5															002
3	GW-074926-090716-SP-MW-3				1810				5															003
4	GW-074926-090716-SP-MW-4				1830				5															004
5	GW-074926-090716-SP-MW-5				1745				8															005
6	GW-074926-090716-SP-DUP								3															QA/QC sample collected 006
7																								007
8																								
9																								
10																								
11																								
12																								

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
	Steve Perez	9-8-16	1625	Pace	9/9/16	850	0.9	Y	N	Y

SAMPLER NAME AND SIGNATURE			TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
PRINT Name of SAMPLER:	Steve Perez					
SIGNATURE of SAMPLER:	Steve Perez	DATE Signed: 9-8-16				

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

December 19, 2016

Jeffrey Walker
GHD Services, Inc
6121 Indian School Rd NE
Ste 200
Albuquerque, NM 87110

RE: Project: 074926 COP Flora Vista No1
Pace Project No.: 60233335

Dear Jeffrey Walker:
Enclosed are the analytical results for sample(s) received by the laboratory on December 01, 2016. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC 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 Spiller

Alice Spiller
alice.spiller@pacelabs.com
Project Manager

Enclosures

cc: Angela Bown, GHD Services, Inc,

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

CERTIFICATIONS

Project: 074926 COP Flora Vista No1
Pace Project No.: 60233335

Kansas Certification IDs

9608 Loiret Boulevard, Lenexa, KS 66219
WY STR Certification #: 2456.01
Arkansas Certification #: 15-016-0
Illinois Certification #: 003097
Iowa Certification #: 118
Kansas/NELAP Certification #: E-10116
Louisiana Certification #: 03055
Nevada Certification #: KS000212008A
Oklahoma Certification #: 9205/9935
Texas Certification #: T104704407
Utah Certification #: KS00021
Kansas Field Laboratory Accreditation: # E-92587
Missouri Certification: 10070

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SAMPLE SUMMARY

Project: 074926 COP Flora Vista No1
Pace Project No.: 60233335

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60233335001	**GW-074926-112916-CN-MW2**	Water	11/29/16 15:35	12/01/16 08:55
60233335002	**GW-074926-112916-CN-MW3**	Water	11/29/16 15:10	12/01/16 08:55
60233335003	**GW-074926-112916-CN-MW4**	Water	11/29/16 15:20	12/01/16 08:55
60233335004	**TRIP BLANK**	Water	11/29/16 15:10	12/01/16 08:55

Pace Analytical Services, LLC
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SAMPLE ANALYTE COUNT

Project: 074926 COP Flora Vista No1
Pace Project No.: 60233335

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60233335001	**GW-074926-112916-CN-MW2**	EPA 6010	JGP	2
		EPA 8260	EAG	8
		EPA 300.0	OL	1
60233335002	**GW-074926-112916-CN-MW3**	EPA 6010	JGP	2
		EPA 8260	EAG	8
		EPA 300.0	OL	1
60233335003	**GW-074926-112916-CN-MW4**	EPA 6010	JGP	2
		EPA 8260	EAG	8
		EPA 300.0	OL	1
60233335004	**TRIP BLANK**	EPA 8260	EAG	8

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PROJECT NARRATIVE

Project: 074926 COP Flora Vista No1
Pace Project No.: 60233335

Method: **EPA 6010**
Description: 6010 MET ICP, Dissolved
Client: GHD Services_COP NM
Date: December 19, 2016

General Information:
3 samples were analyzed for EPA 6010. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

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 COP Flora Vista No1
Pace Project No.: 60233335

Method: **EPA 8260**
Description: 8260 MSV UST, Water
Client: GHD Services_COP NM
Date: December 19, 2016

General Information:
4 samples were analyzed for EPA 8260. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

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: 458375

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

Additional Comments:

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PROJECT NARRATIVE

Project: 074926 COP Flora Vista No1
Pace Project No.: 60233335

Method: **EPA 300.0**
Description: 300.0 IC Anions 28 Days
Client: GHD Services_COP NM
Date: December 19, 2016

General Information:
3 samples were analyzed for EPA 300.0. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times 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:

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

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ANALYTICAL RESULTS

Project: 074926 COP Flora Vista No1
Pace Project No.: 60233335

Sample: GW-074926-112916-CN-MW2 **Lab ID: 60233335001** Collected: 11/29/16 15:35 Received: 12/01/16 08:55 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	ug/L	50.0	1	12/02/16 11:10	12/05/16 16:55	7439-89-6	
Manganese, Dissolved	ND	ug/L	5.0	1	12/02/16 11:10	12/05/16 16:55	7439-96-5	
8260 MSV UST, Water	Analytical Method: EPA 8260							
Benzene	ND	ug/L	1.0	1		12/10/16 04:30	71-43-2	
Ethylbenzene	ND	ug/L	1.0	1		12/10/16 04:30	100-41-4	
Toluene	ND	ug/L	1.0	1		12/10/16 04:30	108-88-3	
Xylene (Total)	ND	ug/L	3.0	1		12/10/16 04:30	1330-20-7	
Surrogates								
Toluene-d8 (S)	102	%	80-120	1		12/10/16 04:30	2037-26-5	
4-Bromofluorobenzene (S)	94	%	77-130	1		12/10/16 04:30	460-00-4	
1,2-Dichloroethane-d4 (S)	102	%	81-127	1		12/10/16 04:30	17060-07-0	
Preservation pH	**1.0**		1.0	1		12/10/16 04:30		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0							
Sulfate	**109**	mg/L	10.0	10		12/17/16 16:20	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 074926 COP Flora Vista No1
Pace Project No.: 60233335

Sample: GW-074926-112916-CN-MW3 **Lab ID: 60233335002** Collected: 11/29/16 15:10 Received: 12/01/16 08:55 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	**103**	ug/L	50.0	1	12/02/16 11:10	12/05/16 16:59	7439-89-6	
Manganese, Dissolved	**197**	ug/L	5.0	1	12/02/16 11:10	12/05/16 16:59	7439-96-5	
8260 MSV UST, Water	Analytical Method: EPA 8260							
Benzene	ND	ug/L	1.0	1		12/10/16 04:44	71-43-2	
Ethylbenzene	ND	ug/L	1.0	1		12/10/16 04:44	100-41-4	
Toluene	ND	ug/L	1.0	1		12/10/16 04:44	108-88-3	
Xylene (Total)	ND	ug/L	3.0	1		12/10/16 04:44	1330-20-7	
Surrogates								
Toluene-d8 (S)	103	%	80-120	1		12/10/16 04:44	2037-26-5	
4-Bromofluorobenzene (S)	95	%	77-130	1		12/10/16 04:44	460-00-4	
1,2-Dichloroethane-d4 (S)	98	%	81-127	1		12/10/16 04:44	17060-07-0	
Preservation pH	**1.0**		1.0	1		12/10/16 04:44		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0							
Sulfate	**147**	mg/L	10.0	10		12/17/16 16:34	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 074926 COP Flora Vista No1
Pace Project No.: 60233335

Sample: GW-074926-112916-CN-MW4 **Lab ID: 60233335003** Collected: 11/29/16 15:20 Received: 12/01/16 08:55 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	**4310**	ug/L	50.0	1	12/02/16 11:10	12/05/16 17:02	7439-89-6	
Manganese, Dissolved	**3880**	ug/L	5.0	1	12/02/16 11:10	12/05/16 17:02	7439-96-5	
8260 MSV UST, Water	Analytical Method: EPA 8260							
Benzene	**34.6**	ug/L	1.0	1		12/10/16 04:58	71-43-2	
Ethylbenzene	**7.7**	ug/L	1.0	1		12/10/16 04:58	100-41-4	
Toluene	ND	ug/L	1.0	1		12/10/16 04:58	108-88-3	
Xylene (Total)	**23.7**	ug/L	3.0	1		12/10/16 04:58	1330-20-7	
Surrogates								
Toluene-d8 (S)	106	%	80-120	1		12/10/16 04:58	2037-26-5	
4-Bromofluorobenzene (S)	97	%	77-130	1		12/10/16 04:58	460-00-4	
1,2-Dichloroethane-d4 (S)	97	%	81-127	1		12/10/16 04:58	17060-07-0	
Preservation pH	**1.0**		1.0	1		12/10/16 04:58		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0							
Sulfate	**72.8**	mg/L	5.0	5		12/17/16 16:48	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 074926 COP Flora Vista No1
Pace Project No.: 60233335

Sample: TRIP BLANK **Lab ID: 60233335004** Collected: 11/29/16 15:10 Received: 12/01/16 08:55 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV UST, Water	Analytical Method: EPA 8260							
Benzene	ND	ug/L	1.0	1		12/10/16 05:12	71-43-2	
Ethylbenzene	ND	ug/L	1.0	1		12/10/16 05:12	100-41-4	
Toluene	ND	ug/L	1.0	1		12/10/16 05:12	108-88-3	
Xylene (Total)	ND	ug/L	3.0	1		12/10/16 05:12	1330-20-7	
Surrogates								
Toluene-d8 (S)	103	%	80-120	1		12/10/16 05:12	2037-26-5	
4-Bromofluorobenzene (S)	97	%	77-130	1		12/10/16 05:12	460-00-4	
1,2-Dichloroethane-d4 (S)	101	%	81-127	1		12/10/16 05:12	17060-07-0	
Preservation pH	**1.0**		1.0	1		12/10/16 05:12		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 074926 COP Flora Vista No1
Pace Project No.: 60233335

QC Batch: 457310 Analysis Method: EPA 6010
QC Batch Method: EPA 3010 Analysis Description: 6010 MET Dissolved
Associated Lab Samples: 60233335001, 60233335002, 60233335003

METHOD BLANK: 1872141 Matrix: Water
Associated Lab Samples: 60233335001, 60233335002, 60233335003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Iron, Dissolved	ug/L	ND	50.0	12/05/16 16:34	
Manganese, Dissolved	ug/L	ND	5.0	12/05/16 16:34	

LABORATORY CONTROL SAMPLE: 1872142

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Iron, Dissolved	ug/L	10000	9900	99	80-120	
Manganese, Dissolved	ug/L	1000	1010	101	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1872143 1872144

Parameter	Units	60232824001 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	9200	10000	10000	19600	19400	103	102	75-125	1	20	
Manganese, Dissolved	ug/L	0.38 mg/L	1000	1000	1400	1390	101	101	75-125	1	20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 074926 COP Flora Vista No1
Pace Project No.: 60233335

QC Batch: 458375 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV UST-WATER
Associated Lab Samples: 60233335001, 60233335002, 60233335003, 60233335004

METHOD BLANK: 1876626 Matrix: Water
Associated Lab Samples: 60233335001, 60233335002, 60233335003, 60233335004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ug/L	ND	1.0	12/10/16 02:53	
Ethylbenzene	ug/L	ND	1.0	12/10/16 02:53	
Toluene	ug/L	ND	1.0	12/10/16 02:53	
Xylene (Total)	ug/L	ND	3.0	12/10/16 02:53	
1,2-Dichloroethane-d4 (S)	%	98	81-127	12/10/16 02:53	
4-Bromofluorobenzene (S)	%	96	77-130	12/10/16 02:53	
Toluene-d8 (S)	%	102	80-120	12/10/16 02:53	

LABORATORY CONTROL SAMPLE: 1876627

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	20	18.4	92	79-116	
Ethylbenzene	ug/L	20	19.3	97	81-110	
Toluene	ug/L	20	18.6	93	82-111	
Xylene (Total)	ug/L	60	58.6	98	80-111	
1,2-Dichloroethane-d4 (S)	%			96	81-127	
4-Bromofluorobenzene (S)	%			94	77-130	
Toluene-d8 (S)	%			103	80-120	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 074926 COP Flora Vista No1
Pace Project No.: 60233335

QC Batch: 458963 Analysis Method: EPA 300.0
QC Batch Method: EPA 300.0 Analysis Description: 300.0 IC Anions
Associated Lab Samples: 60233335001, 60233335002, 60233335003

METHOD BLANK: 1878843 Matrix: Water
Associated Lab Samples: 60233335001, 60233335002, 60233335003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Sulfate	mg/L	ND	1.0	12/17/16 09:14	

LABORATORY CONTROL SAMPLE: 1878844

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfate	mg/L	5	5.0	99	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1878845 1878846

Parameter	Units	60233523001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfate	mg/L	1450	500	500	1990	1980	108	107	80-120	0	15	

MATRIX SPIKE SAMPLE: 1878847

Parameter	Units	60233523002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Sulfate	mg/L	1290	500	1820	105	80-120	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: 074926 COP Flora Vista No1
Pace Project No.: 60233335

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

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.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

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: 458375

[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 COP Flora Vista No1
Pace Project No.: 60233335

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60233335001	**GW-074926-112916-CN-MW2**	EPA 3010	457310	EPA 6010	457385
60233335002	**GW-074926-112916-CN-MW3**	EPA 3010	457310	EPA 6010	457385
60233335003	**GW-074926-112916-CN-MW4**	EPA 3010	457310	EPA 6010	457385
60233335001	**GW-074926-112916-CN-MW2**	EPA 8260	458375		
60233335002	**GW-074926-112916-CN-MW3**	EPA 8260	458375		
60233335003	**GW-074926-112916-CN-MW4**	EPA 8260	458375		
60233335004	**TRIP BLANK**	EPA 8260	458375		
60233335001	**GW-074926-112916-CN-MW2**	EPA 300.0	458963		
60233335002	**GW-074926-112916-CN-MW3**	EPA 300.0	458963		
60233335003	**GW-074926-112916-CN-MW4**	EPA 300.0	458963		

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Sample Condition Upon Receipt
ESI Tech Spec Client

WO# : 60233335

60233335

Client Name: GHD

Courier: FedEx ☒ UPS ☐ VIA ☐ Clay ☐ PEX ☐ ECI ☐ Pace ☐ Xroads ☐ Client ☐ Other ☐

Tracking #: 7044 6656 7838 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: CF +0.7 / CF -0.5 T-266 / T-239 **Type of Ice:** Wet Blue None

Cooler Temperature (°C): **As-read** 0.0 **Corr. Factor** CF +0.7 CF -0.5 **Corrected** 0.7

Date and initials of person examining contents: JB 12/1/16

Temperature should be above freezing to 6°C

Chain of Custody present:	☒Yes ☐No ☐N/A	
Chain of Custody relinquished:	☒Yes ☐No ☐N/A	
Samples arrived within holding time:	☒Yes ☐No ☐N/A	
Short Hold Time analyses (<72hr):	☐Yes ☒No ☐N/A	
Rush Turn Around Time requested:	☐Yes ☒No ☐N/A	
Sufficient volume:	☒Yes ☐No ☐N/A	
Correct containers used:	☒Yes ☐No ☐N/A	
Pace containers used:	☒Yes ☐No ☐N/A	
Containers intact:	☒Yes ☐No ☐N/A	
Unpreserved 5035A / TX1005/1006 soils frozen in 48hrs?	☐Yes ☐No ☒N/A	
Filtered volume received for dissolved tests?	☒Yes ☐No ☐N/A	
Sample labels match COC: Date / time / ID / analyses	☒Yes ☐No ☐N/A	
Samples contain multiple phases? Matrix: WT	☐Yes ☒No ☐N/A	
Containers requiring pH preservation in compliance? (HNO_3, H_2SO_4, HCl<2; NaOH>9 Sulfide, NaOH>10 Cyanide) (Exceptions: VOA, Micro, O&G, KS TPH, OK-DRO)	☒Yes ☐No ☐N/A	
Cyanide water sample checks: ☒N/A Lead acetate strip turns dark? (Record only) Potassium iodide test strip turns blue/purple? (Preserve)	☐Yes ☐No ☐Yes ☐No	
Trip Blank present:	☒Yes ☐No ☐N/A	
Headspace in VOA vials (>6mm):	☐Yes ☒No ☐N/A	
Samples from USDA Regulated Area: State:	☐Yes ☐No ☒N/A	
Additional labels attached to 5035A / TX1005 vials in the field?	☐Yes ☐No ☒N/A	

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

Person Contacted: Date/Time:

Comments/ Resolution:

Project Manager Review: Alice Date: 12/01/16

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

Start: 1110	Start:
End: 1120	End:
Temp:	Temp:

Pace Analytical

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:	GHD Services_COP NM
Address:	6212 Indian School Rd. NE St2
	Albuquerque, NM 87110
Email:	~~christine.mathews~~@ghd.com Jeff walker
Phone:	505-884-8672 Fax
Requested Due Date:	

Section B
Required Project Information:

Report To:	~~Christine Mathews~~
Copy To:	Jeff Walker, Angela Bown
Purchase Order #:	34005858
Project Name:	074926 COP Flora Vista No1
Project #:	074926

Section C
Invoice Information:

Attention:	
Company Name:	
Address:	
Pace Quote:	
Pace Project Manager:	alice.spiller@pacelabs.com,
Pace Profile #:	8644, 22

Regulatory Agency	
State / Location	NM

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

A ambient

Requested Analysis Filtered (Y/N)

60233335

ITEM #	SAMPLE ID (One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique)	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	START TIME	END DATE	END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	8260 BTEX	Sulfate by 300.0	Dissolved Fe, Mn-field filtered								Residual Chlorine (Y/N)	60233335
1	GW-074926-112916-CN-MW2	GW	G	112916	1535	—	—	A	5	X		X	X						X	X	X									2.0 BB34 BB3F (3)DGAH
2	GW-074926-112916-CN-MW3	↓	↓	↓	1510	—	—	↓	↓	↓		↓	↓						X	X	X									↓ ↓ ↓
3	GW-074926-112916-CN-MW4	↓	↓	↓	1520	—	—	↓	↓	↓		↓	↓						X	X	X									(3)DG9H TB
4																														
5																														
6																														
7																														
8																														
9																														
10																														
11																														
12																														

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
	JWalker / GHD	113016	1352	[signature]	12/1/16	0855	0.7	Y	Y	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Jeff Walker for CN

SIGNATURE of SAMPLER: JWalker

DATE Signed: 11/30/16