2017 Annual Groundwater Monitoring Report

San Juan 29-7 Unit 37
Rio Arriba County, New Mexico
API# 30-039-07643
NMOCD# 3R-425

Hilcorp Energy Company

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

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1. Introduction

This Annual Groundwater Monitoring Report presents groundwater data collected during the 2017 reporting period conducted by GHD Services, Inc. (GHD) on behalf of Hilcorp Energy Company (Hilcorp) at the San Juan 29-7 Unit 37 natural gas well (Site). Hilcorp acquired the Site with the sale of San Juan Basin assets from ConocoPhillips in August 2017. The Site is located within Unit Letter N, Section 12, Township 29N, Range 7W, Rio Arriba County, New Mexico (Latitude: 36.73552N; Longitude: 107.52488W) (Figure 1). The Site is located on private land. A Site detail map is included as Figure 2.

1.1 Site History

ConocoPhillips discovered a leaking inspection plate gasket on the above ground condensate tank on August 26, 2010. Approximately 23 barrels of condensate were released and fully contained within the berm; however, no liquids were recovered. The release was immediately reported to the New Mexico Oil Conservation Division (NMOCD) with a C-141 Release Notification and Corrective Action form, filed by ConocoPhillips on September 16, 2010.

Site characterization activities were conducted at the Site in 2010 and 2011 to delineate soil and groundwater impacted by a release that occurred from an above ground condensate tank. The Site characterization indicated hydrocarbon impacts from the release that exceeded New Mexico Water Quality Control Commission (NMWQCC) standards, including benzene, toluene and total xylenes in groundwater and total benzene, toluene, ethylbenzene, and xylenes (BTEX), and total petroleum hydrocarbons (TPH) in the vadose zone soil. Soil impacts were delineated in the area of the release to a maximum depth of approximately 130 feet below ground surface (bgs). Groundwater was impacted in the immediate area of the release and extended to approximately 60 feet down gradient from the release. A total of 18 soil borings and eight monitoring wells have been utilized to characterize and monitor subsurface soil and groundwater conditions. Soil and groundwater impacts at the Site were treated in 2012 with chemical oxidant.

1.2 Site Setting

The Site is located in Rio Arriba County, New Mexico, on privately owned ranch land. The elevation at the Site is approximately 6,292 feet above mean sea level (amsl).

The Tertiary aged San Jose Formation crops out as sandstone bluffs visible to the north and south of the Site and locally reaching an elevation of approximately 6,652 feet amsl.

Subsurface soils at the Site consist primarily of silts inter bedded with fine sands and clays. Groundwater is located at approximately 110 feet (ft) below ground surface (bgs) and locally flows towards the south and southwest.

1.3 Summary of Previous Investigations

Following the discovery of the release, approximately 5,100 cubic yards (cy) of soil was excavated from the Site between September 24, 2010 and January 3, 2011. The excavation measured

approximately 70 ft by 120 ft by 30 ft deep (Figure 2). The horizontal and vertical extent of the hydrocarbon impacted area was not completely determined at that time. For practical and safety reasons and due to limitations posed by surface structures, the southern extent of the excavation and the vertical extent of the excavation were halted at approximately 30 ft bgs. At completion of the excavation approximately 3,444 cy of hydrocarbon impacted soil had been removed and transported to the Industrial Ecosystems, Incorporated landfarm located in Aztec, New Mexico. The excavation was subsequently backfilled with clean soil.

To further delineate vertical impacts of the release, Tetra Tech Inc. sampled subsurface soils in the impacted area and in close proximity to the release point between January 12 and 14, 2011 (Site Details Map, Figure 2). Impacts were noted in the soil above the NMOCD recommended field screening level for organic vapors (100 parts per million (ppm)) from 30 ft bgs to the total depth of the soil boring at 129.5 ft bgs. All analytical results for soil samples collected from boring B-1 were below the NMOCD recommended remediation action levels (RRALs) with the exception of the sample collected from 30 to 32 ft bgs that had a total BTEX concentration and total TPH concentration exceeding the RRALs for total BTEX and TPH at 50 mg/kg and 100 mg/kg, respectively.

Analytical results from the groundwater sample collected from the open borehole, B-1, indicated BTEX in groundwater above the NMWQCC standard.

Tetra Tech advanced two additional soil borings, B-2 and B-3 (Figure 2), between February 28 and March 4, 2011, near the center of the previously excavated area and also installed monitoring wells, MW-1 through MW-4, at the Site.

Field screening of B-2 soil samples indicated soil impacts above the NMOCD RRAL of 100 pm. The total BTEX concentration of 122.5 mg/kg also exceeded the NMOCD RRAL from 45 to 47 feet bgs in boring B-2.

Field screening of soil samples collected from B-3 showed no signs of hydrocarbon impacts to a total depth of 57 ft bgs. No samples were collected for laboratory analysis from B-3 since no hydrocarbon impacts were observed during field screening activities and groundwater was not encountered.

Monitoring well MW-1 was installed approximately 20 ft south of B-2 due to the elevated organic vapors encountered in B-2. The analytical results for this well from the March 2011 groundwater sampling event indicated that only benzene was detected above the NMWQCC standard at a concentration of 0.066 mg/L. Three additional monitoring wells, MW-2, MW-3 and MW-4, were installed at the Site (Figure 2). None of these monitoring wells showed any detection of hydrocarbon constituents above the NMWQCC groundwater quality standards.

Eleven soil borings and four monitoring wells were installed by GHD at the Site from September 2011 to October 2011 to further evaluate Site conditions and to delineate areas for remediation (Figure 2). The network of monitoring wells now consisted of MW-1 and MW-8 within the release area, MW-4 and MW-7 up gradient of the release area, and MW-2, MW-3, MW-5 and MW-6 down gradient of the release area.

Field screening of soil samples and laboratory results indicated impacts (organic vapors exceeding 100 ppm) in the immediate area of the release to depths ranging from 40 feet bgs to 110 feet bgs. Soil analytical results indicated Total BTEX and TPH above the NMOCD RRALs in four of the borings, B-4, B-5/MW-8, and B-8, which are located within the excavation area and one boring, B-10, located approximately 10 feet south of the excavation. In addition, soil boring B-6/MW-6 located approximately 60 feet southeast of the excavation indicated the TPH concentration above the NMOCD RRAL.

During this portion of the Site characterization, groundwater was encountered at approximately 110 feet bgs, which is consistent with groundwater levels encountered during previous phases of the site characterization. The groundwater flow direction was determined to be towards the south southwest. The analytical results for groundwater indicated that the benzene concentrations exceeded the NMWQCC standard at three locations (MW-1, MW-6 and MW-8). Toluene and total xylenes concentrations exceeded the standards at one location (MW-8).

For in situ site remediation activities, GHD retained DeepEarth Technologies, Inc. (DTI) to implement the Cool Ox™ Technology, a patented in situ process that uses a solution of calcium peroxide that generates a slow release of hydrogen peroxide and facilitates the oxidation of petroleum hydrocarbons.

From December 2011 to February 2012, the Cool Ox™ solution was injected in the area shown in Figure 2. DTI utilized a direct push technology (DPT) drill rig supported by DTI's mixing and injection trailer (the Deep Shot Rig™) to advance temporary 1.5 inch diameter injection points.

Approximately 52,889 gallons of solution were injected into the subsurface soil and groundwater using 93 injection points spaced approximately 8 feet apart in an approximate area of 5,950 square feet (70 feet x 85 feet). Approximately 8,815 yds. of impacted soils were treated. The injection process generally began at 30 feet bgs and continued to the depth that was assessed during the investigative phase. The depth of vadose zone soil impacts that were delineated during the investigative phase varied from 40 feet bgs to top of groundwater, which was encountered at approximately 110 feet bgs. In addition to groundwater treatment using the direct push rig, approximately 8,000 gallons of the solution was directly injected into groundwater monitoring wells MW-1, MW-6, MW-7 and MW-8.

To evaluate the effectiveness of the Cool Ox™ treatment, subsurface soil and groundwater conditions were analyzed at the Site after the treatment. Groundwater samples were collected and analyzed on a quarterly basis (February 2012, June 2012, September 2012, and January 2013). The subsurface soil was sampled in the area of the Cool Ox™ treatment by advancing five soil borings in August 2012.

Additional information regarding the Cool Ox™ treatment site activities can be found in the April 2013 Conestoga Rovers and Associates Subsurface Remediation and Annual Groundwater Monitoring Report.

Monitoring well MW-8 was plugged and abandoned by National Exploration, Wells, and Production of Peralta, New Mexico on July 16, 2013 because of damaged casing and installed a replacement monitoring well, MW-8R directly adjacent to the MW-8 location.

2. Groundwater Monitoring Summary

Groundwater sampling events were conducted at the Site on March 7, June 13, September 26, and December 19, 2017. Prior to collection of groundwater samples from monitoring wells MW-1, MW-2, MW-3, MW-4, MW-5, MW-6, MW-7 and MW-8R, depth to groundwater in each well was measured using an electronic water level meter. Groundwater elevations are detailed in Table 1. Groundwater potentiometric surface maps from quarterly 2017 data are presented as Figures 3, 4, 5, and 6, respectively. The groundwater potentiometric surface elevations have been consistent with little variability by season and throughout the history of monitoring the wells at the Site. Generally, groundwater was encountered across the Site at approximately 110 feet bgs during the 2017 reporting period.

For all of these monitoring periods, the groundwater flow at the site was towards the southwest at an average 0.002 feet per foot gradient, consistent with historical results. Site groundwater elevations have been decreasing slightly with a decline of approximately 0.25 ft over the last 5 years.

2.1 Groundwater Monitoring Methodology

Prior to sampling, at least three well volumes were purged from Site monitoring wells with a Monsoon™ submersible pump or a dedicated, polyethylene, 1.5 inch disposable bailer. Purge water was placed in the on Site produced water tank. While purging each well, groundwater parameter data including temperature, pH, conductivity, dissolved oxygen, and oxidation-reduction potential were collected using a multi parameter sonde. Field parameters are summarized on Table 2. Groundwater samples were placed in laboratory prepared bottles, packed on ice, and shipped under chain of custody documentation to Pace Analytical Services, Inc. of Lenexa, KS for analysis.

Groundwater samples were analyzed for the presence of BTEX by EPA method 8260 (MW-8R only), dissolved manganese and selenium by EPA method 6010, sulfate by EPA method 300.0 (MWs 4 and 6 only), and total dissolved solids (TDS) by method SM 2540C (MWs 4 and 6 only). A summary of analytical results is presented in Table 3. Completed groundwater laboratory analytical results are presented in Appendix A.

2.2 Groundwater Monitoring Analytical Results

The NMWQCC regulates groundwater quality in New Mexico under Title 20, Chapter 6, Part 2, Section 3103 of the New Mexico Administrative Code (20.6.2.3103 NMAC). Groundwater quality standards have been set for the protection of human health, domestic water supply, and irrigation use.

A Concentrations in Groundwater Map is presented as Figure 7. Groundwater concentrations of NMWQCC regulated constituents detected during the 2017 reporting period are discussed below:

Petroleum Hydrocarbons

- BTEX: The NMWQCC groundwater standard for benzene is 0.010 mg/L. Benzene, found in concentrations typically above the standard in in groundwater of monitoring well MW-8R, was

detected above the standard only during the March 7 sampling event in 2017. Toluene and xylenes were detected in MW-8R but at concentrations below the NMWQCC standards during the reporting period. No BTEX constituents were detected in groundwater above laboratory detection limits in any of the other Site wells during 2017.

Inorganics

- TDS and sulfate were detected in groundwater of monitor wells MW-4 and MW-6, the only two wells tested for these compounds during 2017, in the December samples. TDS and sulfate have historically been detected in all Site monitoring wells at concentrations above NMWQCC standards, including in up-gradient monitor well MW-4. The NMWQCC standard for TDS is 1000 mg/L and the standard for sulfate is 600 mg/L. Manganese was detected in groundwater of monitoring wells MW-1, MW-3, MW-5, MW-7 and MW-8R for all or some of the reporting period sampling events. The NMWQCC domestic water supply groundwater quality standard for dissolved manganese is 0.2 mg/L. Dissolved selenium was detected in groundwater of monitor well MW-2 for the two quarters for which this compound was analyzed during 2017. MW-2 remains the only Site monitor well in which dissolved selenium has been detected above the NMWQCC standard (0.05 mg/L) since 2013.

A Concentrations in Groundwater Map summarizing analytical results for 2017 is presented on Figure 7. Complete laboratory analytical reports are also presented in Appendix A.

3. Conclusions and Recommendations

Concentrations of benzene in groundwater samples collected from monitor well MW-8R declined to levels below NMWQCC standards for the first time. The March 2017 sample was the only occurrence of benzene above standards in this well during the reporting period. Other BTEX constituents (e.g. toluene, xylenes) also displayed this declining trend in 2017.

Groundwater samples from Site monitoring wells continue to exceed NMWQCC standards for inorganic constituents including dissolved manganese and selenium, sulfate, and TDS.

Monitoring well MW-4 is located up gradient of the hydrocarbon release area and therefore can be considered to represent background conditions. Sulfate and TDS concentrations in groundwater samples collected from this well consistently exceed NMWQCC standards. Sulfate and TDS concentrations in down gradient monitoring wells are within the same order of magnitude as the background concentrations (WM-4) suggesting these compounds are naturally occurring in Site groundwater.

All Site monitoring wells, with the exception of MW-8R, have displayed at least eight consecutive quarters of BTEX concentrations below the NMWQCC standards and therefore discontinuation of analysis for BTEX constituents in these wells is recommended.

BTEX constituents in monitoring wells downgradient from MW-8R (MWs-2, 3, 5 and 6) have not been detected in over 5 years indicating the plume of BTEX in groundwater of MW-8R is stable and confined to the immediate vicinity of this well. The correlation between declining BTEX concentrations at MW-8R and the slowly declining water table should become better understood as

time progresses, especially should groundwater levels rise. The continuation of quarterly groundwater monitoring at the Site is recommended. The next scheduled event is March 2018.

Respectfully Submitted,

GHD

Jeff Walker
Senior Project Manager

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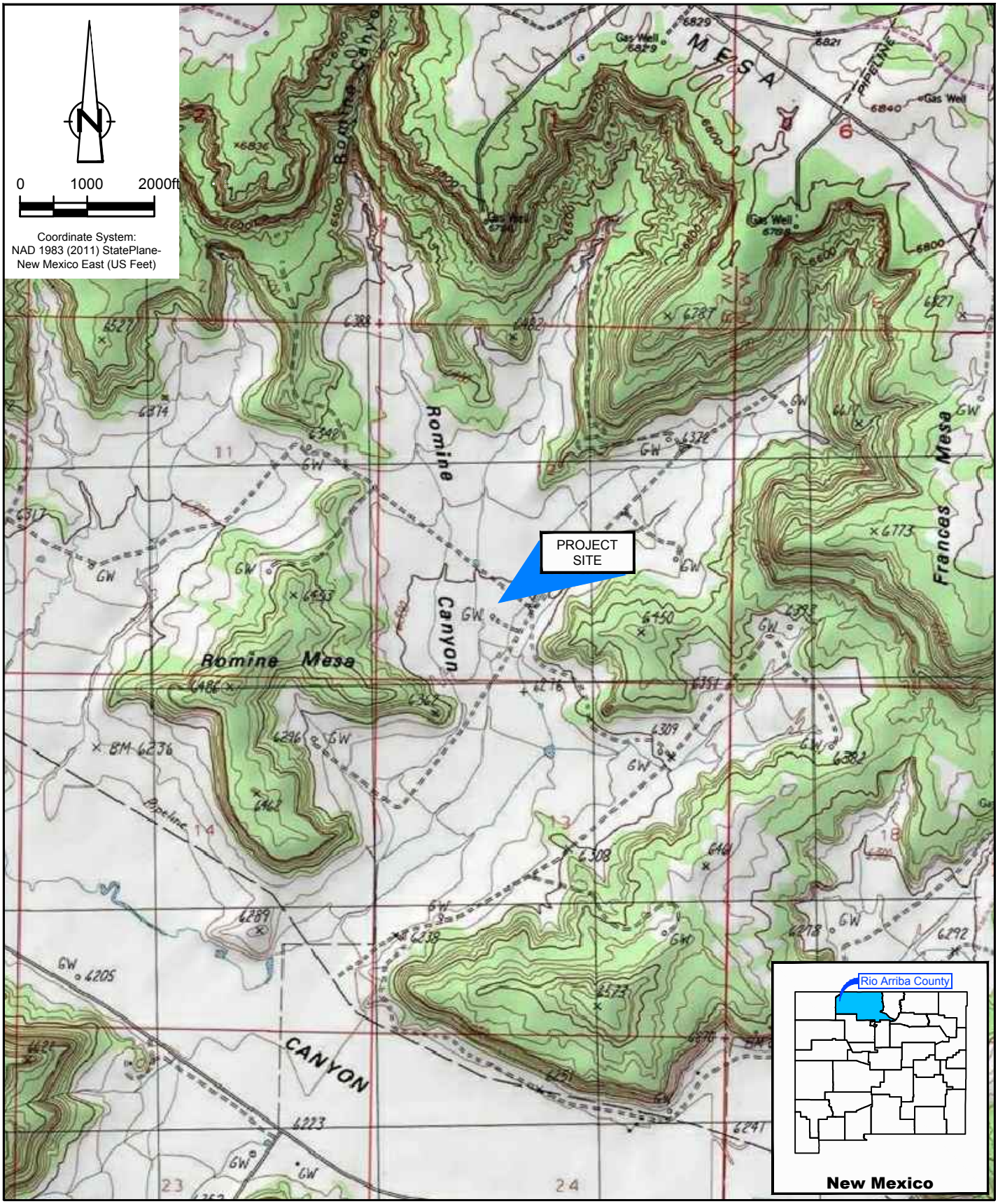
Figures



Source: USGS 7.5 Minute Quad "Delgadita, New Mexico"

Lat/Long: 36.736131° North, 107.525100° West

HILCORP ENERGY COMPANY
UNIT LETTER N. SEC 12, T29N, R07W, RIO ARRIBA COUNTY, NEW MEXICO
SAN JUAN 29-7 UNIT 37, NATURAL GAS WELL SITE

11146005-00

Jan 16, 2018

SITE LOCATION MAP

FIGURE 1

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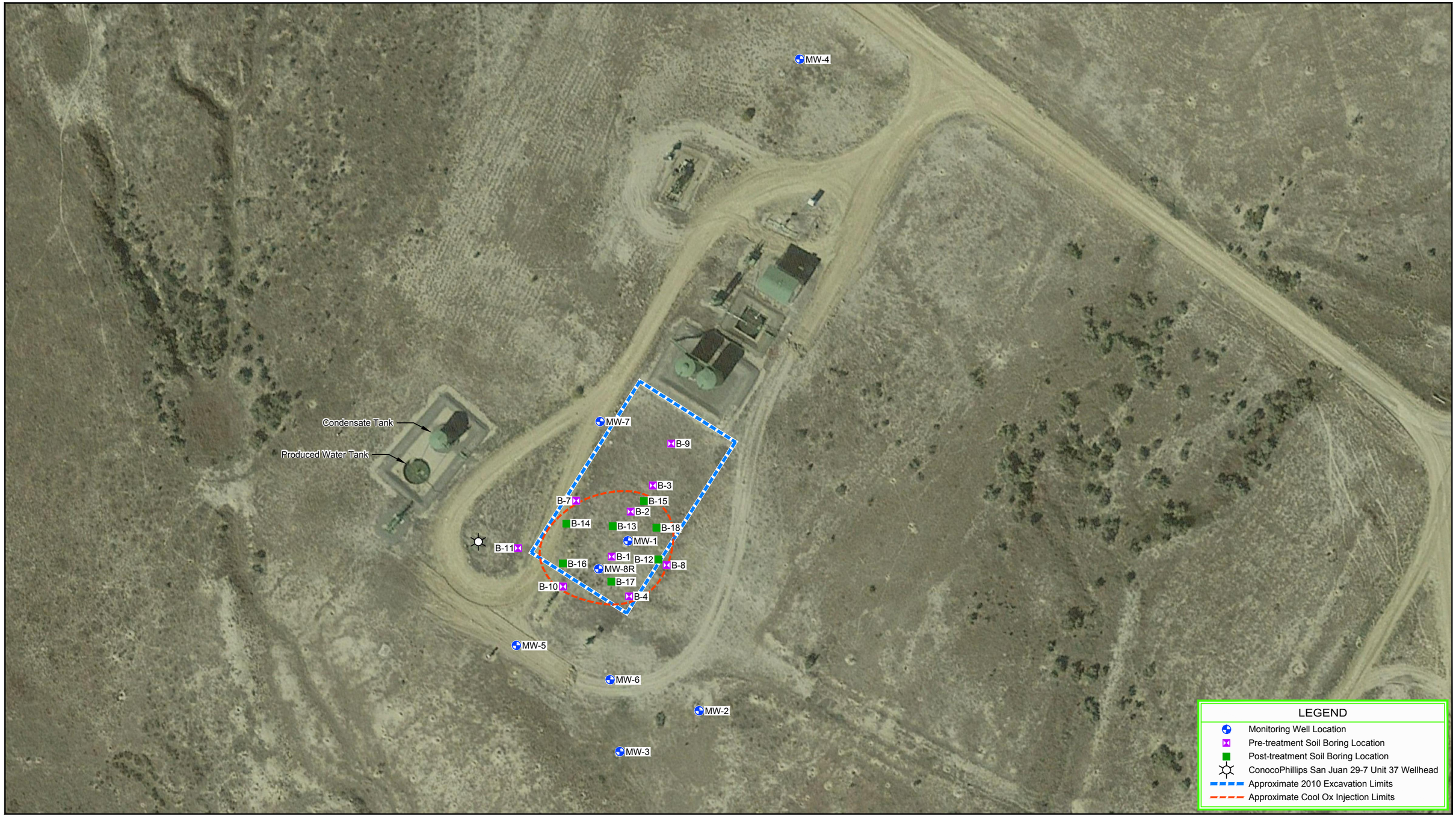

Source: Image © 2017 Google - Imagery Date: October 5, 2016

Lat/Long: 36.736131° North, 107.525100° West

0 30 60ft

Coordinate System:
NAD 1983 StatePlane-
Oklahoma North (US Feet)

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SITE DETAILS MAP

FIGURE 2

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GROUNDWATER POTENTIOMETRIC SURFACE MAP - MARCH 2017

11146005-00

Jan 31, 2018

FIGURE 3

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GROUNDWATER POTENTIOMETRIC SURFACE MAP - JUNE 2017

11146005-00

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FIGURE 4

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GROUNDWATER POTENTIOMETRIC SURFACE MAP - SEPTEMBER 2017

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FIGURE 5

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GROUNDWATER POTENTIOMETRIC SURFACE MAP - DECEMBER 2017

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Jan 31, 2018

FIGURE 6

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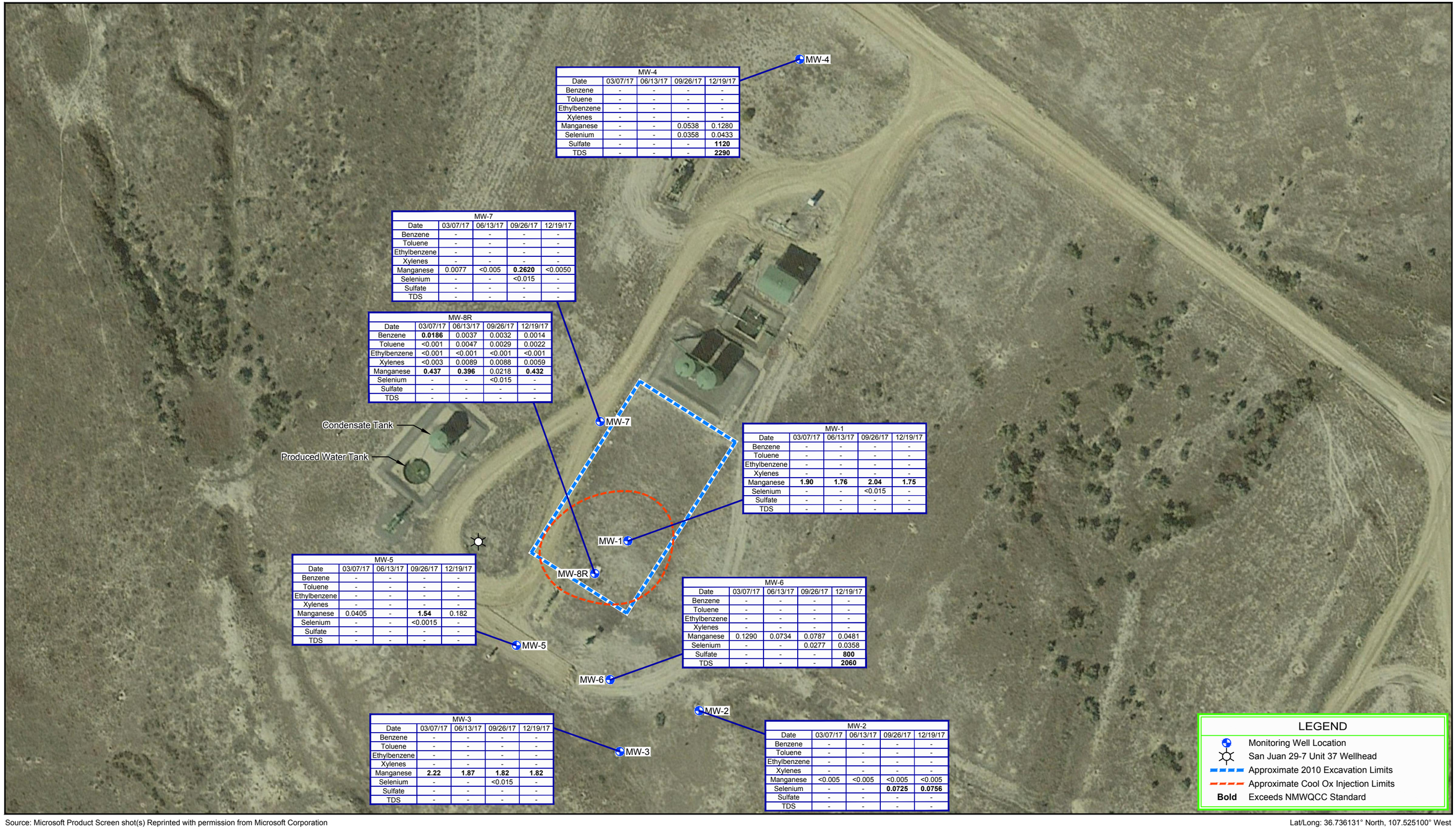

MW-4

Date	03/07/17	06/13/17	09/26/17	12/19/17
Benzene	-	-	-	-
Toluene	-	-	-	-
Ethylbenzene	-	-	-	-
Xylenes	-	-	-	-
Manganese	-	-	0.0538	0.1280
Selenium	-	-	0.0358	0.0433
Sulfate	-	-	-	**1120**
TDS	-	-	-	**2290**

MW-7

Date	03/07/17	06/13/17	09/26/17	12/19/17
Benzene	-	-	-	-
Toluene	-	-	-	-
Ethylbenzene	-	-	-	-
Xylenes	-	-	-	-
Manganese	0.0077	<0.005	**0.2620**	<0.0050
Selenium	-	-	<0.015	-
Sulfate	-	-	-	-
TDS	-	-	-	-

MW-8R

Date	03/07/17	06/13/17	09/26/17	12/19/17
Benzene	**0.0186**	0.0037	0.0032	0.0014
Toluene	<0.001	0.0047	0.0029	0.0022
Ethylbenzene	<0.001	<0.001	<0.001	<0.001
Xylenes	<0.003	0.0089	0.0088	0.0059
Manganese	**0.437**	**0.396**	0.0218	**0.432**
Selenium	-	-	<0.015	-
Sulfate	-	-	-	-
TDS	-	-	-	-

MW-1

Date	03/07/17	06/13/17	09/26/17	12/19/17
Benzene	-	-	-	-
Toluene	-	-	-	-
Ethylbenzene	-	-	-	-
Xylenes	-	-	-	-
Manganese	**1.90**	**1.76**	**2.04**	**1.75**
Selenium	-	-	<0.015	-
Sulfate	-	-	-	-
TDS	-	-	-	-

MW-5

Date	03/07/17	06/13/17	09/26/17	12/19/17
Benzene	-	-	-	-
Toluene	-	-	-	-
Ethylbenzene	-	-	-	-
Xylenes	-	-	-	-
Manganese	0.0405	-	**1.54**	0.182
Selenium	-	-	<0.0015	-
Sulfate	-	-	-	-
TDS	-	-	-	-

MW-6

Date	03/07/17	06/13/17	09/26/17	12/19/17
Benzene	-	-	-	-
Toluene	-	-	-	-
Ethylbenzene	-	-	-	-
Xylenes	-	-	-	-
Manganese	0.1290	0.0734	0.0787	0.0481
Selenium	-	-	0.0277	0.0358
Sulfate	-	-	-	**800**
TDS	-	-	-	**2060**

MW-3

Date	03/07/17	06/13/17	09/26/17	12/19/17
Benzene	-	-	-	-
Toluene	-	-	-	-
Ethylbenzene	-	-	-	-
Xylenes	-	-	-	-
Manganese	**2.22**	**1.87**	**1.82**	**1.82**
Selenium	-	-	<0.015	-
Sulfate	-	-	-	-
TDS	-	-	-	-

MW-2

Date	03/07/17	06/13/17	09/26/17	12/19/17
Benzene	-	-	-	-
Toluene	-	-	-	-
Ethylbenzene	-	-	-	-
Xylenes	-	-	-	-
Manganese	<0.005	<0.005	<0.005	<0.005
Selenium	-	-	**0.0725**	**0.0756**
Sulfate	-	-	-	-
TDS	-	-	-	-

Source: Microsoft Product Screen shot(s) Reprinted with permission from Microsoft Corporation

Lat/Long: 36.736131° North, 107.525100° West

0 30 60ft

Coordinate System:
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NOTES:

1. Analytical results reported in milligrams per liter (mg/L).
2. Bold notation indactes a level that exceeds the New Mexico Water Quality Control Commission standard.

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2017 CONCENTRATIONS IN GROUNDWATER MAP

FIGURE 7

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Tables

Table 1

Monitoring Well Specifications and Groundwater Elevations
Hilcorp Energy Company
San Juan 29-7 Unit 37
Rio Arriba County, New Mexico

Well ID	**TOC Elevation (ft)*	*Date Measured*	*Depth to Groundwater (ft-below TOC)*	*Groundwater Elevation (ft)*
MW-1	189.24	3/17/2011	108.91	80.33
		8/17/2011	108.81	80.43
		10/18/2011	108.87	80.37
		2/23/2012	108.74	80.50
		6/5/2012	108.75	80.49
		9/18/2012	108.68	80.56
		1/8/2013	108.62	80.62
		3/26/2013	108.69	80.55
		6/11/2013	108.81	80.43
		9/10/2013	109.04	80.2
		1/7/2014	109.26	79.98
		3/18/2014	109.10	80.14
		6/16/2014	109.31	79.93
		9/25/2014	109.54	79.70
		12/16/2014	109.59	79.65
		3/17/2015	109.61	79.63
		6/16/2015	109.68	79.56
		9/15/2015	109.62	79.62
		12/1/2015	109.78	79.46
		3/29/2016	109.61	79.63
		6/21/2016	109.89	79.35
		9/7/2016	109.87	79.37
		11/30/2016	109.89	79.35
		3/7/2017	109.92	79.32
		6/13/2017	110.06	79.18
		9/26/2017	110.00	79.24
		12/19/2017	109.99	79.25
MW-2	189.6	3/17/2011	109.20	80.40
		8/17/2011	109.10	80.50
		10/18/2011	109.13	80.47
		2/23/2012	109.05	80.55
		6/5/2012	109.10	80.50
		9/18/2012	109.28	80.32
		1/8/2013	109.07	80.53
		3/26/2013	109.12	80.48
		6/11/2013	109.32	80.28
		9/10/2013	109.32	80.28
		1/7/2014	109.71	79.89
		3/18/2014	109.71	79.89
		6/16/2014	109.83	79.77
		9/16/2014	109.94	79.66
		12/16/2014	110.04	79.56
		3/17/2015	110.09	79.51
		6/16/2015	110.17	79.43
		9/15/2015	110.14	79.46
		12/1/2015	110.23	79.37
		3/29/2016	110.26	79.34
		6/21/2016	110.31	79.29
		9/7/2016	110.33	79.27
		11/30/2016	110.39	79.21
		3/7/2017	110.37	79.23
		6/13/2017	110.35	79.25
		9/26/2017	110.54	79.06
		12/19/2017	110.50	79.10

Table 1

Monitoring Well Specifications and Groundwater Elevations
Hilcorp Energy Company
San Juan 29-7 Unit 37
Rio Arriba County, New Mexico

Well ID	**TOC Elevation (ft)*	*Date Measured*	*Depth to Groundwater (ft-below TOC)*	*Groundwater Elevation (ft)*
MW-3	189.13	3/17/2011	109.42	79.71
		8/17/2011	109.35	79.78
		10/18/2011	109.37	79.76
		2/23/2012	109.26	79.87
		6/5/2012	109.28	79.85
		9/18/2012	109.3	79.83
		1/8/2013	109.28	79.85
		3/26/2013	109.33	79.80
		6/11/2013	109.41	79.72
		9/10/2013	109.58	79.55
		1/7/2014	109.7	79.43
		3/18/2014	109.68	79.45
		6/16/2014	109.84	79.29
		9/16/2014	109.97	79.16
		12/16/2014	110.08	79.05
		3/17/2015	110.03	79.10
		6/16/2015	110.08	79.05
		9/15/2015	110.08	79.05
		12/1/2015	110.24	78.89
		3/29/2016	110.04	79.09
		6/21/2016	110.15	78.98
		9/7/2016	110.27	78.86
		11/30/2016	110.26	78.87
		3/7/2017	110.25	78.88
		6/13/2017	110.36	78.77
		9/26/2017	110.48	78.65
		12/19/2017	110.39	78.74
MW-4	197.6	3/17/2011	111.11	86.49
		8/17/2011	111.10	86.50
		10/18/2011	111.16	86.44
		2/23/2012	111.14	86.46
		6/5/2012	111.20	86.40
		9/18/2012	111.12	86.48
		1/8/2013	111.14	86.46
		3/26/2013	111.23	86.37
		6/11/2013	111.41	86.19
		9/10/2013	111.47	86.13
		1/7/2014	111.66	85.94
		3/18/2014	111.60	86.00
		6/16/2014	111.68	85.92
		9/25/2014	111.77	85.83
		12/16/2014	111.80	85.80
		3/17/2015	111.77	85.83
		6/16/2015	111.78	85.82
		9/15/2015	111.76	85.84
		12/1/2015	111.89	85.71
		3/29/2016	111.92	85.68
		6/21/2016	111.95	85.65
		9/7/2016	111.33	86.27
		11/30/2016	112.03	85.57
		3/7/2017	111.90	85.70
		6/13/2017	111.92	85.68
		9/26/2017	112.01	85.59
		12/19/2017	112.05	85.55

Table 1

Monitoring Well Specifications and Groundwater Elevations
Hilcorp Energy Company
San Juan 29-7 Unit 37
Rio Arriba County, New Mexico

Well ID	**TOC Elevation (ft)*	*Date Measured*	*Depth to Groundwater (ft-below TOC)*	*Groundwater Elevation (ft)*
MW-5	188.7	10/18/2011	118.05	70.65
		2/23/2012	108.44	80.26
		6/5/2012	108.38	80.32
		9/18/2012	108.11	80.59
		1/8/2013	108.36	80.34
		3/26/2013	108.72	79.98
		6/11/2013	108.56	80.14
		9/10/2013	108.77	79.93
		1/7/2014	108.91	79.79
		3/18/2014	108.91	79.79
		6/16/2014	109.01	79.69
		9/16/2014	109.2	79.5
		12/16/2014	109.22	79.48
		3/17/2015	109.25	79.45
		6/16/2015	109.33	79.37
		9/15/2015	109.37	79.33
		12/1/2015	109.37	79.33
		3/29/2016	109.38	79.32
		6/21/2016	109.63	79.07
		9/7/2016	109.58	79.12
		11/30/2016	109.54	79.16
		3/7/2017	109.63	79.07
		6/13/2017	109.65	79.05
		9/26/2017	109.72	78.98
		12/19/2017	110.64	78.06
MW-6	188.03	10/18/2011	109.55	78.48
		2/23/2012	108.01	80.02
		6/5/2012	108.05	79.98
		9/18/2012	108.06	79.97
		1/8/2013	108.07	79.96
		3/26/2013	108.09	79.94
		6/11/2013	108.25	79.78
		9/10/2013	108.43	79.6
		1/7/2014	108.70	79.33
		3/18/2014	108.70	79.33
		6/16/2014	108.85	79.18
		9/16/2014	108.99	79.04
		12/16/2014	109.10	78.93
		3/17/2015	109.14	78.89
		6/16/2015	109.23	78.80
		9/15/2015	109.20	78.83
		12/1/2015	109.30	78.73
		3/29/2016	109.34	78.69
		6/21/2016	108.58	79.45
		9/7/2016	109.47	78.56
		11/30/2016	109.51	78.52
		3/7/2017	109.47	78.56
		6/13/2017	109.48	78.55
		9/26/2017	109.64	78.39
		12/19/2017	109.64	78.39

Table 1

Monitoring Well Specifications and Groundwater Elevations
Hilcorp Energy Company
San Juan 29-7 Unit 37
Rio Arriba County, New Mexico

Well ID	**TOC Elevation (ft)*	*Date Measured*	*Depth to Groundwater (ft-below TOC)*	*Groundwater Elevation (ft)*
MW-7	189.93	10/18/2011	119.70	70.23
		2/23/2012	106.58	83.35
		6/5/2012	107.95	81.98
		9/18/2012	108.1	81.83
		1/8/2013	108.13	81.8
		3/26/2013	108.24	81.69
		6/11/2013	108.45	81.48
		9/10/2013	108.64	81.29
		1/7/2014	108.80	81.13
		3/18/2014	108.83	81.10
		6/16/2014	108.96	80.97
		9/25/2014	109.1	80.83
		12/16/2014	109.13	80.80
		3/17/2015	109.12	80.81
		6/16/2015	109.14	80.79
		9/15/2015	109.07	80.86
		12/1/2015	109.15	80.78
		3/29/2016	109.23	80.70
		6/21/2016	109.39	80.54
		9/7/2016	109.42	80.51
		11/30/2016	109.51	80.42
		3/7/2017	109.44	80.49
		6/13/2017	109.38	80.55
		9/26/2017	109.52	80.41
		12/19/2017	109.52	80.41
MW-8	189.86	10/19/2011	--	--
		2/23/2012	108.71	81.15
		6/5/2012	108.65	81.21
		9/20/2012	108.64	81.22
		1/8/2013	108.56	81.30
		3/26/2013	108.63	81.23
		6/11/2013	108.85	81.01
		7/13/2013	Plugged and Abandoned	
MW-8R	--	9/10/2013	108.39	--
		1/7/2014	108.65	--
		3/18/2014	108.62	--
		6/16/2014	108.77	--
		9/25/2014	108.91	--
		12/16/2014	108.95	--
		3/17/2015	109.00	--
		6/16/2015	109.12	--
		9/15/2015	109.01	--
		12/1/2015	109.18	--
		3/29/2016	109.12	--
		6/21/2016	109.32	--
		9/7/2016	109.31	--
		11/30/2016	109.26	--
		3/7/2017	109.31	--
		6/13/2017	109.27	--
		9/26/2017	109.40	--
		12/19/2017	109.39	--

Notes:
ft = Feet
TOC = Top of Casing
* = Elevation relative to an arbitrary 200 feet
-- = No data

Table 2

Field Parameters Summary
Hilcorp Energy Company
San Juan 29-7 Unit 37
Rio Arriba 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	3/17/2015	18.10	7.28	2.200	3380	--	53.0	2.75
	6/16/2015	17.70	7.30	1.970	3030	1.39	-12.4	7.00
	9/15/2015	16.12	7.13	2.212	3403	1.09	50.2	7.00
	12/1/2015	16.63	7.72	2.361	3632	1.08	-100.5	6.50
	3/29/2016	16.64	7.22	2.100	3350	4.20	126.0	7.00
	6/21/2016	17.10	7.44	--	3320	0.46	6.5	7.00
	9/7/2016	16.31	7.34	2.139	3290	0.56	-66.0	6.75
	12/1/2016	12.71	7.55	--	2989	5.29	23.5	7.00
	3/7/2017	15.36	7.55	2.377	3657	1.25	-108.8	7.00
	6/13/2017	18.42	7.38	2.109	3245	1.67	-103.7	1.50
	9/26/2017	21.00	7.05	--	2844	--	--	--
	12/19/2017	13.89	7.37	--	3232	--	--	--
MW-2	3/17/20015	14.80	7.30	2.200	3430	--	165.0	5.00
	6/16/2015	14.90	6.91	1.925	2961	6.23	25.2	5.25
	9/15/2015	14.62	6.99	2.162	3327	6.27	75.5	3.75
	12/1/2015	13.50	7.61	2.277	3504	5.27	80.8	5.25
	3/29/2016	--	--	--	--	--	--	5.25
	6/21/2016	15.40	7.38	--	2850	0.56	-121.6	5.25
	9/7/2016	13.96	6.98	2.064	3175	6.37	60.7	5.25
	12/1/2016	13.33	7.92	--	2932	7.31	29.7	5.00
	3/7/2017	12.71	7.30	2.320	3570	3.81	-84.5	5.00
	6/13/2017	15.03	7.24	2.075	3191	5.55	-12.2	1.00
	9/26/2017	15.67	6.83	--	2795	--	--	--
	12/19/2017	11.60	7.05	--	3176	--	--	--
MW-3	3/17/2015	15.10	7.45	1.900	3040	--	-94.0	5.50
	6/16/2015	15.09	7.31	1.717	2641	1.23	-123.5	5.50
	9/15/2015	15.03	7.30	1.912	2941	1.39	-125.0	5.75
	12/1/2015	13.73	7.78	2.044	3144	1.48	-164.2	5.50
	3/29/2016	15.82	7.34	1.900	2940	5.66	-103.0	5.75
	6/21/2016	14.70	7.00	--	3230	4.62	56.2	5.50
	9/7/2016	14.55	7.10	1.816	2794	1.50	-102.7	5.50
	12/1/2016	14.91	7.74	--	2556	1.97	-116.2	5.50
	3/7/2017	12.81	7.63	2.044	3144	0.39	-192.6	5.00
	6/13/2017	14.77	7.58	1.819	2801	0.42	-123.9	1.00
	9/26/2017	15.05	7.25	--	2425	--	--	--
	12/19/2017	12.36	7.48	--	2776	--	--	--
MW-4	3/17/2015	16.30	7.43	2.000	3120	--	125.0	3.00
	6/16/2015	14.68	7.38	1.760	2707	6.38	13.6	5.75
	9/15/2015	14.75	6.99	1.980	3047	7.23	48.3	5.75
	12/1/2015	14.57	7.89	1.451	2231	5.92	-12.2	5.50
	3/29/2016	16.94	7.33	1.900	3030	7.71	110.0	5.50
	6/21/2016	15.30	7.62	--	2980	4.10	58.9	5.50
	9/7/2016	14.52	7.50	1.919	2953	6.36	65.1	5.75
	12/2/2016	12.48	7.81	--	2688	9.18	76.9	5.50
	3/7/2017	--	--	--	--	--	--	--
	9/26/2017	12.75	7.25	--	2537	--	--	6.00
	12/19/2017	12.22	7.49	--	2914	--	--	--

Table 2

Field Parameters Summary
Hilcorp Energy Company
San Juan 29-7 Unit 37
Rio Arriba County, New Mexico

Well ID	Sample Date	Temperature (°C)	pH	TDS (g/L)	Conductivity (µS/cm)	DO (mg/L)	ORP (mV)	Volume (gallons)
MW-5	3/17/2015	18.00	6.80	2.400	3790	--	87.0	3.50
	6/16/2015	17.17	6.49	2.174	3345	2.36	63.2	5.00
	9/15/2015	16.10	6.64	2.468	3796	1.97	64.7	5.00
	12/1/2015	15.73	7.10	2.603	4004	2.66	168.2	5.00
	3/29/2016	19.44	6.87	2.400	3750	3.01	66.0	5.00
	6/21/2016	18.00	6.68	--	3660	0.92	91.1	5.00
	9/7/2016	15.71	6.89	2.331	3586	3.99	55.4	5.00
	12/1/2016	16.15	7.40	--	3266	3.55	22.4	5.00
	3/7/2017	13.27	7.64	2.617	4026	3.10	-64.7	15.00
	9/26/2017	14.09	6.85	--	3030	--	--	4.50
	12/19/2017	12.49	6.85	--	3513	--	--	--
MW-6	3/17/2015	17.30	6.90	1.800	2800	--	103.0	3.25
	6/16/2015	17.77	6.73	1.584	2437	2.12	1.9	4.00
	9/15/2015	15.96	6.57	1.784	2745	2.87	84.3	3.75
	12/1/2015	16.18	7.32	1.867	2873	2.93	82.9	3.75
	3/29/2016	16.64	6.77	1.700	2630	4.89	103.0	3.75
	6/21/2016	17.00	7.11	--	27	3.86	59.8	4.25
	9/7/2016	16.48	7.00	1.676	2578	1.87	8.7	3.75
	12/2/2016	12.07	7.29	--	2409	4.10	50.8	4.00
	3/7/2017	14.16	7.10	1.936	2979	2.01	-63.8	3.50
	6/13/2017	16.86	7.00	1.716	2640	2.29	-36.8	1.00
	9/26/2017	16.61	6.51	--	2287	--	--	1.50
	12/19/2017	13.49	6.85	--	2640	--	--	--
MW-7	3/17/2015	17.40	7.64	2.600	4100	--	118.0	3.50
	6/16/2015	17.05	8.28	2.366	3639	3.73	-48.2	6.25
	9/15/2015	16.47	7.66	2.663	4096	6.44	85.4	6.25
	12/1/2015	16.03	7.90	2.853	4389	2.00	-65.0	6.00
	3/29/2016	18.42	7.45	2.600	4050	7.12	108.0	6.25
	6/21/2016	16.40	7.50	--	3990	5.73	58.1	6.00
	9/7/2016	16.04	7.54	2.581	3970	6.15	59.2	6.00
	12/2/2016	14.19	7.57	--	3604	5.91	47.7	6.00
	3/7/2017	13.80	7.59	2.853	4390	8.58	-29.4	5.50
	6/13/2017	17.73	7.47	2.510	3863	9.30	-2.2	1.00
	9/26/2017	16.71	7.07	--	3337	--	--	--
	12/19/2017	13.35	7.33	--	3799	--	--	--
MW-8R	3/17/2015	19.30	6.96	2.100	3310	--	30.0	3.00
	6/16/2015	17.82	7.07	1.970	3033	0.48	-50.3	5.00
	9/15/2015	18.30	6.91	2.222	3431	1.20	-10.7	5.25
	12/1/2015	16.75	7.41	2.341	3595	1.08	-91.3	5.00
	3/29/2016	15.86	7.24	2.100	3340	4.49	-56.0	5.25
	6/21/2016	18.20	7.15	--	3230	0.18	-104.8	5.00
	9/7/2016	17.21	7.07	2.128	3274	0.53	-81.1	5.00
	12/1/2016	13.01	7.10	--	2930	2.36	39.6	5.00
	3/7/2017	14.89	7.40	2.368	3644	2.40	-144.1	5.00
	6/13/2017	17.30	7.13	2.061	3171	0.49	-103.0	1.50
	9/26/2017	19.77	6.97	--	2860	--	--	--
	12/19/2017	14.97	7.11	--	3176	--	--	--

Notes:

TDS = total dissolved solids
DO = dissolved oxygen
ORP = oxidation-reduction potential
°C = degrees Centigrade
mg/L = milligrams per liter
µS/cm = micro Siemens per centimeter
mV = millivolts

Table 3

Groundwater Analytical Results Summary
Hilcorp Energy Company
San Juan 29-7 Unit 37
Rio Arriba County, New Mexico

Well ID	Date	Benzene (mg/L)	Toluene (mg/L)	Ethylbenzene (mg/L)	Xylenes (total) (mg/L)	TPH-DRO (mg/L)	TPH-GRO (mg/L)	Manganese (dissolved) (mg/L)	Selenium (dissolved) (mg/L)	Nitrate (as N) (mg/L)	Sulfate (mg/L)	Total Dissolved Solids (TDS) (mg/L)	Heterotrophic Plate Count (CFU/mL)
NMWQCC Standards		**0.01**	**0.75**	**0.75**	**0.62**	**NE**	**NE**	**0.2**	**0.05**	**10**	**600**	**1,000**	**NE**
MW-1	3/17/2011	**0.066**	0.39	0.011	0.084	0.28	1.5	**2.77**	< 0.01	<0.500	**1,610**	**2,730**	NA
	8/17/2011	**0.0189**	0.0068	< 0.001	0.0044	< 0.50	< 0.50	**0.318**	< 0.015	0.25	**1,500**	**2,480**	180,000
	10/18/2011	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	300,000
	2/23/2012	< 0.001	< 0.001	< 0.001	< 0.003	NA	NA	**6.40**	**0.055**	0.78	**1,710**	**2,480**	23,000
	6/5/2012	< 0.001	0.002	< 0.001	< 0.003	NA	NA	**5.15**	0.033	9.4	**1,520**	NA	93,000
	6/5/2012 (DUP)	< 0.001	0.002	< 0.001	< 0.003	NA	NA	NA	NA	NA	NA	NA	NA
	9/18/2012	< 0.001	< 0.001	< 0.001	< 0.003	NA	NA	**2.60**	0.044	**27.5**	**1,070**	**2,140**	>80000
	9/18/2012 (DUP)	< 0.001	< 0.001	< 0.001	< 0.003	NA	NA	NA	NA	NA	NA	NA	>80,000
	1/8/2013	< 0.001	< 0.001	< 0.001	< 0.003	NA	NA	**1.10**	**0.568**	**25.3**	**1,150**	**2,180**	76,000
	1/8/2013 (DUP)	< 0.001	< 0.001	< 0.001	< 0.003	NA	NA	**NA**	**NA**	**NA**	**NA**	**NA**	142,000
	3/26/2013	< 0.001	< 0.001	< 0.001	< 0.003	NA	NA	**0.49**	**0.079**	**37**	**1,000**	**1,980**	280,000
	6/11/2013	< 0.001	< 0.001	< 0.001	< 0.003	NA	NA	**0.52**	**0.056**	**31.1**	**1,050**	NA	81,500
	6/11/2013 (DUP)	< 0.001	< 0.001	< 0.001	< 0.003	NA	NA	NA	NA	NA	NA	NA	NA
	9/10/2013	< 0.001	< 0.001	< 0.001	< 0.003	NA	NA	0.164	0.0492	**18.7**	**1,130**	**2,090**	2,300
	1/7/2014	< 0.001	< 0.001	< 0.001	< 0.003	NA	NA	0.132	0.0349	**22.5**	**1,040**	**1,990**	335,000
	3/18/2014	0.0036	< 0.001	< 0.001	< 0.003	NA	NA	**0.643**	< 0.015	**20.1**	**1,170**	**2,270**	6,700
	6/16/2014	NA	NA	NA	NA	NA	NA	**1.200**	< 0.015	5.7	**1,380**	**2,300**	NA
	9/25/2014	< 0.001	< 0.001	< 0.001	< 0.003	NA	NA	**1.570**	< 0.015	4.4	**1,690**	NA	NA
	12/16/2014	< 0.001	< 0.001	< 0.001	< 0.003	NA	NA	**1.49**	< 0.015	2.9	**1,580**	**2,410**	NA
	3/17/2015	< 0.001	< 0.001	< 0.001	< 0.003	NA	NA	**1.60**	< 0.015	3.4	**1,430**	**2,560**	NA
	6/16/2015	< 0.001	< 0.001	< 0.001	< 0.003	NA	NA	**1.36**	< 0.015	2.5	**1,470**	**1,920**	NA
	9/15/2015	< 0.001	< 0.001	< 0.001	< 0.003	NA	NA	**1.52**	< 0.015	2.8	**1,500**	**2,400**	NA
	12/1/2015	< 0.001	< 0.001	< 0.001	< 0.003	NA	NA	**1.76**	< 0.015	1.2	**1,420**	**2,370**	NA
	3/29/2016	< 0.001	< 0.001	< 0.001	< 0.003	NA	NA	**1.86**	< 0.015	0.4	**1,600**	**2,260**	NA
	6/21/2016	< 0.001	< 0.001	< 0.001	< 0.003	NA	NA	**1.72**	< 0.015	1.1	**1,390**	**2,250**	NA
	9/7/2016	< 0.001	< 0.001	< 0.001	< 0.003	NA	NA	**1.38**	< 0.015	1.7	**1,560**	**2,230**	NA
	12/2/2016	< 0.001	< 0.001	< 0.001	< 0.003	NA	NA	**--**	--	0.5	**1,450**	**2,410**	NA
	3/7/2017	--	--	--	--	--	--	**1.90**	--	--	--	--	--
	6/13/2017	--	--	--	--	--	--	**1.76**	--	--	--	--	--
	9/26/2017	--	--	--	--	--	--	**2.04**	< 0.015	--	--	--	--
	12/19/2017	--	--	--	--	--	--	**1.75**	--	--	--	--	--
MW-2	3/17/2011	< 0.001	< 0.001	< 0.001	< 0.001	< 0.11	< 0.1	**0.334**	**0.0664**	**55.8**	**1,000**	**2950**	NA
	8/17/2011	< 0.001	< 0.001	< 0.001	< 0.003	< 0.50	< 0.50	0.179	**0.0726**	**71.9 E / 54.1**	**1,040**	**2110**	61,000
	10/18/2011	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	124,000
	2/23/2012	< 0.001	< 0.001	< 0.001	< 0.003	NA	NA	0.0360	**0.059**	**44.9**	**1,350**	**2,220**	14,900
	6/5/2012	< 0.001	< 0.001	< 0.001	< 0.003	NA	NA	0.0078	**0.061**	4.3	**1,500**	NA	32,000
	9/18/2012	< 0.001	< 0.001	< 0.001	< 0.003	NA	NA	0.0194	**0.067**	**42.5**	**1,150**	**2,440**	6,500
	1/8/2013	< 0.001	< 0.001	< 0.001	< 0.003	NA	NA	0.0057	**0.0688**	**41.8**	**1,230**	**2,590**	29,000
	3/26/2013	< 0.001	< 0.001	< 0.001	< 0.003	NA	NA	0.0188	**0.0728**	**43.3**	**1,200**	**1,930**	4,100
	6/11/2013	< 0.001	< 0.001	< 0.001	< 0.003	NA	NA	0.0086	**0.0666**	**40.6**	**1,230**	NA	18,000
	9/10/2013	< 0.001	< 0.001	< 0.001	< 0.003	NA	NA	< 0.0050	**0.0657**	**35.6**	**1,200**	**2,210**	160
	1/7/2014	< 0.001	< 0.001	< 0.001	< 0.003	NA	NA	0.0069	**0.0745**	**33.5**	**1,300**	**2,390**	2,435
	3/18/2014	< 0.001	< 0.001	< 0.001	< 0.003	NA	NA	**0.281**	**0.080**	**40.2**	**1,320**	**2,580**	670
	6/16/2014	< 0.001	< 0.001	< 0.001	< 0.003	NA	NA	0.09	**0.073**	**22.2**	**1,280**	**2,360**	NA
	9/16/2014	< 0.001	< 0.001	< 0.001	< 0.003	NA	NA	**0.783**	**0.0734**	**34**	**1,140**	**2,440**	NA
	12/16/2014	< 0.001	< 0.001	< 0.001	< 0.003	NA	NA	**0.746**	**0.0715**	**31.0**	**1,380**	**2,360**	NA
	3/17/2015	< 0.001	< 0.001	< 0.001	< 0.003	NA	NA	0.0195	**0.0774**	**38.3**	**1,330**	**2,570**	NA
	6/16/2015	< 0.001	< 0.001	< 0.001	< 0.003	NA	NA	0.0703	**0.0776**	**32.7**	**1,310**	**1,840**	NA
	9/15/2015	< 0.001	< 0.001	< 0.001	< 0.003	NA	NA	< 0.005	**0.0811**	**37.4**	**1,310**	**2,360**	NA
	12/1/2015	< 0.001	< 0.001	< 0.001	< 0.003	NA	NA	0.0144	**0.0779**	**34.7**	**1,250**	**2,840**	NA
	3/29/2016	< 0.001	< 0.001	< 0.001	< 0.003	NA	NA	< 0.005	**0.0806**	**36.1**	**1,340**	**2,150**	NA
	6/21/2016	< 0.001	< 0.001	< 0.001	< 0.003	NA	NA	0.0099	**0.0764**	**40.6**	**1,260**	**2,190**	NA
	9/7/2016	< 0.001	< 0.001	< 0.001	< 0.003	NA	NA	0.0104	**0.074**	**29.9**	**1,390**	**2,320**	NA
	12/2/2016	< 0.001	< 0.001	< 0.001	< 0.003	NA	NA	< 0.005	**0.0759**	**33.6**	**1,290**	**2,410**	NA
	3/7/2017	--	--	--	--	--	--	< 0.005	--	--	--	--	--
	6/13/2017	--	--	--	--	--	--	< 0.005	--	--	--	--	--
	9/26/2017	--	--	--	--	--	--	< 0.005	**0.0725**	--	--	--	--
	12/19/2017	--	--	--	--	--	--	< 0.005	**0.0756**	--	--	--	--
MW-3	3/17/2011	< 0.001	0.013	< 0.001	0.0042	< 0.1	< 0.1	**1.79**	0.0316	**29.7**	**857**	**2360**	NA
	8/17/2011	< 0.001	< 0.001	< 0.001	< 0.003	< 0.50	< 0.50	**1.42**	**0.0524**	**33.0**	**972**	**1960**	18,000
	10/18/2011	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	230,000
	2/23/2012	< 0.001	< 0.001	< 0.001	< 0.003	NA	NA	**1.600**	0.038	**22.0**	**1,140**	**2,050**	11,900
	6/5/2012	< 0.001	< 0.001	< 0.001	< 0.003	NA	NA	**1.43**	0.048	**15.0**	**1,380**	NA	22,000
	9/18/2012	< 0.001	< 0.001	< 0.001	< 0.003	NA	NA	**1.24**	0.032	**12.2**	**1,050**	**2,150**	23,000
	1/8/2013	< 0.001	< 0.001	< 0.001	< 0.003	NA	NA	**1.62**	**0.0673**	**24.6**	**1,140**	**2,240**	51,000
	3/26/2013	< 0.001	< 0.001	< 0.001	< 0.003	NA	NA	**1.83**	< 0.015	0.42	**1,080**	**2,030**	70
	6/11/2013	< 0.001	< 0.001	< 0.001	< 0.003	NA	NA	**1.75**	< 0.015	0.76	**1,110**	NA	830
	9/10/2013	< 0.001	< 0.001	< 0.001	< 0.003	NA	NA	**1.7**	< 0.015	1.4	**1,120**	**1,910**	110
	1/7/2014	< 0.001	< 0.001	< 0.001	< 0.003	NA	NA	**1.77**	< 0.015	0.15	**1,180**	**1,970**	284
	1/7/2014 (DUP)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	350
	3/18/2014	< 0.001	< 0.001	< 0.001	< 0.003	NA	NA	**1.81**	< 0.015	0.11	**1,150**	**2,050**	870
	6/16/2014	< 0.001	< 0.001	< 0.001	< 0.003	NA	NA	**2**	0.024	8.8	**1,130**	**1,190**	NA
	9/16/2014	< 0.001	< 0.001	< 0.001	< 0.003	NA	NA	**2.29**	0.0261	**11.3**	**1,060**	**2,240**	NA
	12/16/2014	< 0.001	< 0.001	< 0.001	< 0.003	NA	NA	**2.06**	< 0.015	6.1	**1,210**	**2,110**	NA
	3/17/2015	< 0.001	< 0.001	< 0.001	< 0.003	NA	NA	**2.06**	< 0.015	4.3	**1,150**	**2,100**	NA
	6/16/2015	< 0.001	< 0.001	< 0.001	< 0.003	NA	NA	**1.88**	< 0.015	6	**1,120**	**1,380**	NA
	9/15/2015	< 0.001	< 0.001	< 0.001	< 0.003	NA	NA	**2.1**	< 0.015	8.1	**1,120**	**2,040**	NA
	12/1/2015	< 0.001	< 0.001	< 0.001	< 0.003	NA	NA	**2.17**	< 0.015	7.2	**1,040**	**2,210**	NA
	3/29/2016	< 0.001	< 0.001	< 0.001	< 0.003	NA	NA	**2.14**	< 0.015	8.2	**1,130**	**2,020**	NA
	6/21/2016	< 0.001	< 0.001	< 0.001	< 0.003	NA	NA	**1.92**	< 0.015	**10.6**	**1,060**	**1,930**	NA
	9/7/2016	< 0.001	< 0.001	< 0.001	< 0.003	NA	NA	**1.88**	< 0.015	2.3	**1,190**	**1,780**	NA
	12/2/2016	< 0.001	< 0.001	< 0.001	< 0.003	NA	NA	**1.98**	< 0.015	6.9	**1,080**	**1,970**	NA
	3/7/2017	--	--	--	--	--	--	**2.22**	--	--	--	--	--
	6/13/2017	--	--	--	--	--	--	**1.87**	--	--	--	--	--
	9/26/2017	--	--	--	--	--	--	**1.82**	<0.015	--	--	--	--
	12/19/2017	--	--	--	--	--	--	**1.82**	--	--	--	--	--

Table 3

Groundwater Analytical Results Summary
Hilcorp Energy Company
San Juan 29-7 Unit 37
Rio Arriba County, New Mexico

Well ID	Date	Benzene (mg/L)	Toluene (mg/L)	Ethylbenzene (mg/L)	Xylenes (total) (mg/L)	TPH-DRO (mg/L)	TPH-GRO (mg/L)	Manganese (dissolved) (mg/L)	Selenium (dissolved) (mg/L)	Nitrate (as N) (mg/L)	Sulfate (mg/L)	Total Dissolved Solids (TDS) (mg/L)	Heterotrophic Plate Count (CFU/mL)
NMWQCC Standards		**0.01**	**0.75**	**0.75**	**0.62**	**NE**	**NE**	**0.2**	**0.05**	**10**	**600**	**1,000**	**NE**
MW-4	3/17/2011	< 0.001	< 0.001	< 0.001	< 0.001	0.14	< 0.1	0.022	0.042	**10.4**	**1,290**	**2,650**	NA
	8/17/2011	< 0.001	< 0.001	< 0.001	< 0.003	< 0.50	< 0.50	0.0062	0.0402	9.4	**1,240**	**2,000**	9,800
	10/18/2011	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	90,000
	2/23/2012	< 0.001	< 0.001	< 0.001	< 0.003	NA	NA	0.0170	0.0350	8.6	**1,380**	**2,070**	40,000
	6/5/2012	< 0.001	< 0.001	< 0.001	< 0.003	NA	NA	0.0814	0.0369	7.5	**1,540**	NA	49,000
	9/18/2012	< 0.001	< 0.001	< 0.001	< 0.003	NA	NA	0.1030	0.0394	7.8	**1,190**	**2,180**	4,000
	1/8/2013	< 0.001	< 0.001	< 0.001	< 0.003	NA	NA	0.0289	0.0386	9.3	**1,240**	**2,230**	202,000
	3/26/2013	< 0.001	< 0.001	< 0.001	< 0.003	NA	NA	0.0605	0.0441	8.9	**1,200**	**1,950**	42,500
	6/11/2013	< 0.001	< 0.001	< 0.001	< 0.003	NA	NA	0.0484	0.0369	7.3	**1,260**	NA	33,000
	9/10/2013	< 0.001	< 0.001	< 0.001	< 0.003	NA	NA	0.0303	0.0369	8.6	**1,180**	**2,090**	910
	1/7/2014	< 0.001	< 0.001	< 0.001	< 0.003	NA	NA	0.0265	0.0381	5.5	**1,350**	**1,960**	1,160
	3/18/2014	< 0.001	< 0.001	< 0.001	< 0.003	NA	NA	0.0227	0.0410	8.2	**1,280**	**2,180**	1,865
	6/16/2014	NA	NA	NA	NA	NA	NA	0.0080	0.0340	6.5	**1,240**	**1,950**	NA
	9/25/2014	< 0.001	< 0.001	< 0.001	< 0.003	NA	NA	0.0160	0.0335	7	**1,260**	NA	NA
	12/16/2014	< 0.001	< 0.001	< 0.001	< 0.003	NA	NA	0.0155	0.0314	6.8	**1,330**	**2,250**	NA
	3/17/2015	< 0.001	< 0.001	< 0.001	< 0.003	NA	NA	0.0156	0.0432	6.7	**1,300**	**2,280**	NA
	6/16/2015	< 0.001	< 0.001	< 0.001	< 0.003	NA	NA	0.0226	0.0408	5.6	**1,280**	**2,100**	NA
	9/15/2015	< 0.001	< 0.001	< 0.001	< 0.003	NA	NA	0.0088	0.0406	7.1	**1,260**	**1,960**	NA
	12/1/2015	< 0.001	0.0023	< 0.001	< 0.003	NA	NA	0.0118	0.0402	7.1	**1,210**	**2,320**	NA
	3/29/2016	< 0.001	< 0.001	< 0.001	< 0.003	NA	NA	0.0134	0.0416	7.7	**1,300**	**2,080**	NA
	6/21/2016	< 0.001	< 0.001	< 0.001	< 0.003	NA	NA	0.0713	0.0427	9.3	**1,210**	**2,210**	NA
	9/7/2016	< 0.001	< 0.001	< 0.001	< 0.003	NA	NA	0.0138	0.0354	6.3	**1,340**	**2,140**	NA
	12/2/2016	< 0.001	< 0.001	< 0.001	< 0.003	NA	NA	--	--	6.9	**1,250**	**1,950**	NA
	3/7/2017	--	--	--	--	--	--	--	--	--	--	--	--
	6/13/2017	--	--	--	--	--	--	--	--	--	--	--	--
	9/26/2017	--	--	--	--	--	--	0.0538	0.0358	--	--	--	--
	12/19/2017	--	--	--	--	--	--	0.1280	0.0433	--	**1120**	**2290**	--
MW-5	10/18/2011	< 0.001	< 0.001	< 0.001	< 0.003	< 0.5	< 0.5	NA	NA	NA	NA	NA	970,000
	2/23/2012	< 0.001	< 0.001	< 0.001	< 0.003	NA	NA	**1.10**	< 0.015	0.12	**3,500**	**2,760**	252,000
	6/5/2012	< 0.001	< 0.001	< 0.001	< 0.003	NA	NA	**0.868**	< 0.015	< 0.10	**2,040**	NA	63,000
	9/18/2012	< 0.001	< 0.001	< 0.001	< 0.003	NA	NA	**0.791**	< 0.015	< 0.10	**1,620**	**2,830**	130,000
	1/8/2013	< 0.001	< 0.001	< 0.001	< 0.003	NA	NA	**0.58**	< 0.015	< 0.10	**1,710**	**2,950**	102,000
	3/26/2013	< 0.001	< 0.001	< 0.001	< 0.003	NA	NA	**0.356**	< 0.015	0.3	**1,700**	**2,370**	16,950
	6/11/2013	< 0.001	< 0.001	< 0.001	< 0.003	NA	NA	**0.609**	< 0.015	0.25	**1,630**	NA	20,500
	9/10/2013	< 0.001	< 0.001	< 0.001	< 0.003	NA	NA	**0.368**	< 0.015	< 0.10	**1,640**	**2,540**	660
	1/7/2014	< 0.001	< 0.001	< 0.001	< 0.003	NA	NA	**0.396**	< 0.015	< 0.10	**1,740**	**2,770**	5,450
	3/18/2014	< 0.001	< 0.001	< 0.001	< 0.003	NA	NA	**0.606**	< 0.015	< 0.10	**1,760**	**2,800**	1,315
	6/16/2014	< 0.001	< 0.001	< 0.001	< 0.003	NA	NA	**0.93**	< 0.015	0.17	**1,730**	**2,320**	NA
	9/16/2014	< 0.001	< 0.001	< 0.001	< 0.003	NA	NA	**0.433**	< 0.015	0.14	**1,490**	**2,850**	NA
	12/16/2014	< 0.001	< 0.001	< 0.001	< 0.003	NA	NA	0.0706	< 0.015	0.13	**1,790**	**2,710**	NA
	3/17/2015	< 0.001	< 0.001	< 0.001	< 0.003	NA	NA	0.0433	< 0.015	0.11	**1,730**	**3,030**	NA
	6/16/2015	< 0.001	< 0.001	< 0.001	< 0.003	NA	NA	0.0331	< 0.015	< 0.10	**1,720**	**2,780**	NA
	9/15/2015	< 0.001	< 0.001	< 0.001	< 0.003	NA	NA	0.0215	< 0.015	0.14	**1,810**	**3,180**	NA
	12/1/2015	< 0.001	< 0.001	< 0.001	< 0.003	NA	NA	0.0163	< 0.015	0.16	**1,670**	**3,100**	NA
	3/29/2016	< 0.001	< 0.001	< 0.001	< 0.003	NA	NA	0.128	< 0.015	< 0.10	**1,760**	**2,700**	NA
	6/21/2016	< 0.001	< 0.001	< 0.001	< 0.003	NA	NA	0.0109	< 0.015	0.11	**1,610**	**2,630**	NA
	9/7/2016	< 0.001	< 0.001	< 0.001	< 0.003	NA	NA	**0.235**	< 0.015	< 0.10	**1,850**	**2,760**	NA
	12/2/2016	< 0.001	< 0.001	< 0.001	< 0.003	NA	NA	**0.214**	< 0.015	< 0.10	**1,680**	**2,630**	NA
	3/7/2017	--	--	--	--	--	--	0.0405	--	--	**--**	**--**	--
	6/13/2017	--	--	--	--	--	--	--	--	--	--	--	--
	9/26/2017	--	--	--	--	--	--	**1.54**	<0.0015	--	--	--	--
	12/19/2017	--	--	--	--	--	--	0.182	--	--	--	--	--
MW-6	10/18/2011	**0.033**	< 0.001	< 0.001	0.012	< 0.5	< 0.5	NA	NA	NA	NA	NA	720,000
	2/23/2012	< 0.001	< 0.001	< 0.001	< 0.003	NA	NA	<0.005	**0.0590**	**25.8**	**950**	**1,760**	8,900
	6/5/2012	< 0.001	< 0.001	< 0.001	< 0.003	NA	NA	**1.600**	0.0454	**35.0**	**1,090**	NA	35,000
	9/18/2012	< 0.001	< 0.001	< 0.001	< 0.003	NA	NA	**1.110**	0.0460	**29.5**	**955**	**1,990**	12,000
	1/8/2013	0.0012	< 0.001	< 0.001	< 0.003	NA	NA	0.158	**0.0536**	**25.6**	**978**	**1,980**	1,910,000
	3/26/2013	0.0022	< 0.001	< 0.001	< 0.003	NA	NA	**0.282**	**0.0602**	**30.9**	**945**	**1,740**	25,500
	6/11/2013	< 0.001	< 0.001	< 0.001	< 0.003	NA	NA	**0.328**	**0.0621**	**27.6**	**946**	NA	4,750
	9/10/2013	< 0.001	< 0.001	< 0.001	< 0.003	NA	NA	**0.299**	0.0389	**22.7**	**929**	**1,710**	65
	1/7/2014	0.0026	< 0.001	< 0.001	0.0034	NA	NA	**0.268**	0.0417	**19.5**	**984**	**2,060**	2,460
	3/18/2014	0.0012	< 0.001	< 0.001	< 0.003	NA	NA	**0.246**	0.0392	**23.6**	**1,000**	**2,000**	710
	6/16/2014	< 0.001	< 0.001	< 0.001	< 0.003	NA	NA	0.140	0.0360	4.6	**955**	**1,780**	NA
	9/16/2014	< 0.001	< 0.001	< 0.001	< 0.003	NA	NA	0.115	0.0386	**23.2**	**846**	**1,930**	NA
	12/16/2014	0.0014	< 0.001	< 0.001	< 0.003	NA	NA	0.147	0.0343	**27.2**	**1,000**	**1,830**	NA
	3/17/2015	< 0.001	0.0018	< 0.001	< 0.003	NA	NA	0.114	0.0360	**26**	**986**	**1,990**	NA
	6/16/2015	< 0.001	0.002	< 0.001	0.0037	NA	NA	0.0917	0.0370	**22.2**	**988**	**1,400**	NA
	9/15/2015	< 0.001	< 0.001	< 0.001	< 0.003	NA	NA	0.0456	0.0369	**26.4**	**980**	**1,940**	NA
	12/1/2015	< 0.001	< 0.001	< 0.001	< 0.003	NA	NA	0.0396	0.0373	**25.3**	**904**	**2,130**	NA
	3/29/2016	0.0020	0.0034	0.0015	0.0048	NA	NA	0.0338	0.0364	**24.6**	**963**	**1,900**	NA
	6/21/2016	< 0.001	< 0.001	< 0.001	< 0.003	NA	NA	0.0819	0.0296	**26.2**	**884**	**1,880**	NA
	9/7/2016	< 0.001	< 0.001	< 0.001	< 0.003	NA	NA	0.1070	0.0272	**22.4**	**1,000**	**1,940**	NA
	12/2/2016	< 0.001	< 0.001	< 0.001	< 0.003	NA	NA	--	--	**24.8**	**936**	**1,860**	NA
	3/7/2017	--	--	--	--	--	--	0.1290	--	--	--	--	--
	6/13/2017	--	--	--	--	--	--	0.0734	--	--	--	--	--
	9/26/2017	--	--	--	--	--	--	0.0787	0.0277	--	--	--	--
	12/19/2017	--	--	--	--	--	--	0.0481	0.0358	--	**800**	**2060**	--

Table 3

Groundwater Analytical Results Summary
Hilcorp Energy Company
San Juan 29-7 Unit 37
Rio Arriba County, New Mexico

Well ID	Date	Benzene (mg/L)	Toluene (mg/L)	Ethylbenzene (mg/L)	Xylenes (total) (mg/L)	TPH-DRO (mg/L)	TPH-GRO (mg/L)	Manganese (dissolved) (mg/L)	Selenium (dissolved) (mg/L)	Nitrate (as N) (mg/L)	Sulfate (mg/L)	Total Dissolved Solids (TDS) (mg/L)	Heterotrophic Plate Count (CFU/mL)
NMWQCC Standards		**0.01**	**0.75**	**0.75**	**0.62**	**NE**	**NE**	**0.2**	**0.05**	**10**	**600**	**1,000**	**NE**
MW-7	10/18/2011	< 0.001	< 0.001	< 0.001	< 0.003	< 0.5	< 0.5	NA	NA	NA	NA	NA	2,000,000
	2/23/2012	< 0.001	0.0011	< 0.001	0.0034	NA	NA	< 0.005	0.022	4.6	**3,320**	**4,660**	< 1
	6/5/2012	< 0.001	< 0.001	< 0.001	< 0.003	NA	NA	0.019	0.030	1.1	**1,820**	NA	8
	9/18/2012	< 0.001	< 0.001	< 0.001	< 0.003	NA	NA	0.012	0.024	1.0	**1,610**	**4,280**	1,900
	1/8/2013	< 0.001	< 0.001	< 0.001	< 0.003	NA	NA	0.0093	0.0164	1.3	**1,770**	**3,400**	145,000
	3/26/2013	< 0.001	< 0.001	< 0.001	< 0.003	NA	NA	<0.005	< 0.015	5.3	**1,730**	**3,050**	79
	6/11/2013	< 0.001	< 0.001	< 0.001	< 0.003	NA	NA	0.0082	< 0.015	**18.7**	**1,700**	NA	18
	9/10/2013	< 0.001	< 0.001	< 0.001	< 0.003	NA	NA	0.168	< 0.015	**31.4**	**1,740**	**3,080**	110
	1/7/2014	< 0.001	< 0.001	< 0.001	< 0.003	NA	NA	**0.452**	< 0.015	**28.5**	**1,950**	**3,320**	8,300
	3/18/2014	< 0.001	< 0.001	< 0.001	< 0.003	NA	NA	**0.438**	< 0.015	**35**	**1,920**	**3,350**	940
	6/16/2014	NA	NA	NA	NA	NA	NA	**0.49**	< 0.015	2.7	**1,930**	**2,940**	NA
	9/25/2014	< 0.001	< 0.001	< 0.001	< 0.003	NA	NA	**0.231**	< 0.015	**29.7**	**1,970**	NA	NA
	12/16/2014	0.0013	0.0031	< 0.001	< 0.003	NA	NA	**0.435**	< 0.015	3.9	**2,140**	**2,610**	NA
	3/17/2015	< 0.001	< 0.001	< 0.001	< 0.003	NA	NA	**0.321**	< 0.015	**23.9**	**2,030**	**3,530**	NA
	6/16/2015	0.0023	0.0071	< 0.001	0.0045	NA	NA	**0.256**	< 0.015	**18.2**	**1,970**	**2,300**	NA
	9/15/2015	< 0.001	< 0.001	< 0.001	< 0.003	NA	NA	**0.227**	< 0.015	**20.2**	**2,010**	**3,100**	NA
	12/1/2015	0.0012	0.0053	< 0.001	< 0.003	NA	NA	0.108	< 0.015	**20.2**	**1,900**	**2,600**	NA
	3/29/2016	< 0.001	< 0.001	< 0.001	< 0.003	NA	NA	0.102	< 0.015	**17.2**	**2,080**	**3,120**	NA
	6/21/2016	< 0.001	< 0.001	< 0.001	< 0.003	NA	NA	0.0552	< 0.015	**21.2**	**1,900**	**2,960**	NA
	9/7/2016	< 0.001	< 0.001	< 0.001	< 0.003	NA	NA	0.0387	< 0.015	**16**	**2,160**	**2,910**	NA
	12/2/2016	< 0.001	< 0.001	< 0.001	< 0.003	NA	NA	--	--	**17.3**	**1,950**	**3,090**	NA
	3/7/2017	--	--	--	--	--	--	0.0077	--	--	--	--	--
	6/13/2017	--	--	--	--	--	--	<0.005	--	--	--	--	--
	9/26/2017	--	--	--	--	--	--	**0.2620**	<0.015	--	--	--	--
	12/19/2017	--	--	--	--	--	--	<0 .0050	--	--	--	--	--
MW-8	10/19/2011	**0.15**	**1.24**	0.070	**1.43**	< 0.5	7.1	NA	NA	NA	NA	NA	2,300,000
	2/23/2012	**0.036**	**0.772**	0.054	**1.35**	NA	NA	<0.005	0.049	3.2	**813**	**5,790**	14
	2/23/2012 (DUP)	**0.069**	**0.876**	0.109	**1.66**	NA	NA	NA	NA	NA	NA	NA	NA
	6/5/2012	**0.013**	0.120	0.025	0.447	NA	NA	0.022	0.045	**18.1**	**793**	NA	630
	9/20/2012	0.0098	0.002	0.006	0.342	NA	NA	NA	NA	**21.8**	**1,130**	**2,960**	NA
	1/8/2013	**0.0369**	0.0199	0.0018	0.0488	NA	NA	NA	NA	**30.4**	**1,260**	**2,700**	222,000
	3/26/2013	Not sampled due to damaged well casing.											
	6/11/2013	Not sampled due to damaged well casing.											
	7/13/2013	Plugged and Abandoned											
MW-8R	9/10/2013	**0.0100**	0.0171	0.0017	0.0615	NA	NA	**0.395**	0.038	**38.6**	**1,230**	**2,430**	5,700
	9/10/2013 (DUP)	0.0083	0.0125	0.0018	0.0443	NA	NA	NA	NA	NA	NA	NA	8,700
	1/7/2014	**0.179**	0.353	0.0105	**0.69**	NA	NA	**0.255**	0.0374	**28.3**	**1,360**	**2,900**	425,000
	1/7/2014 (DUP)	**0.192**	0.344	0.0107	**0.715**	NA	NA	NA	NA	NA	NA	NA	NA
	3/18/2014	**0.103**	0.154	0.0076	0.164	NA	NA	0.106	< 0.015	**35.0**	**1,290**	**2,460**	8,550
	3/18/2014 (DUP)	**0.116**	0.149	0.0077	0.156	NA	NA	NA	NA	NA	NA	NA	NA
	6/16/2014	**0.319**	**0.846**	0.0305	0.505	NA	NA	**1.5**	< 0.015	4.4	**1,510**	**2,330**	NA
	6/16/2014 (DUP)	**0.291**	**0.816**	0.0296	**0.642**	NA	NA	NA	NA	NA	NA	NA	NA
	9/25/2014	**0.172**	0.0022	< 0.001	0.0067	NA	NA	**1.38**	< 0.015	6.6	**1,530**	NA	NA
	9/25/2014 (DUP)	**0.182**	0.0025	< 0.001	0.0068	NA	NA	NA	NA	NA	NA	NA	NA
	12/16/2014	**0.187**	0.301	0.0248	0.368	NA	NA	**1.01**	< 0.015	**13**	**1,470**	**2,440**	NA
	12/16/2014 (DUP)	**0.195**	0.283	0.0246	0.353	NA	NA	NA	NA	NA	NA	NA	NA
	3/17/2015	**0.262**	0.0205	0.714	0.501	NA	NA	**0.323**	0.021	**27**	**1,320**	**2,240**	NA
	3/17/2015(DUP)	**0.263**	0.0205	0.701	0.494	NA	NA	NA	NA	NA	NA	NA	NA
	6/16/2015	**0.191**	0.418	0.0147	0.300	NA	NA	**0.707**	< 0.015	**11.2**	**1,410**	**2,040**	NA
	6/16/2015 (DUP)	**0.193**	0.412	0.0141	0.293	NA	NA	NA	NA	NA	NA	NA	NA
	9/15/2015	**0.451**	**1.04**	0.0587	**0.881**	NA	NA	**0.7**	< 0.015	**18**	**1,340**	**2,340**	NA
	9/15/2015 (DUP)	**0.449**	**0.965**	0.0603	**0.83**	NA	NA	NA	NA	NA	NA	NA	NA
	12/1/2015	**0.412**	**0.873**	0.0257	0.508	NA	NA	**0.84**	< 0.015	**13.1**	**1,290**	**2,180**	NA
	12/1/2015 (DUP)	**0.418**	**0.922**	0.0264	0.526	NA	NA	NA	NA	NA	NA	NA	NA
	3/29/2016	**0.173**	0.313	0.0136	0.222	NA	NA	**1.16**	< 0.015	2.8	**1560**	**2280**	NA
	3/29/2016 (DUP)	**0.17**	0.278	0.0148	0.247	NA	NA	**NA**	NA	NA	NA	NA	NA
	6/21/2016	**0.193**	0.586	0.0168	0.466	NA	NA	**0.431**	< 0.015	**20.7**	**1280**	**2180**	NA
	6/21/2016 (DUP)	**0.204**	0.625	0.0182	0.456	NA	NA	NA	NA	NA	NA	NA	NA
	9/7/2016	**0.27**	**0.901**	0.0291	**0.670**	NA	NA	**0.758**	< 0.015	**13.7**	**1500**	**2300**	NA
	9/7/2016 (DUP)	**0.3**	**1.12**	0.0372	**0.812**	NA	NA	NA	NA	NA	NA	NA	NA
	12/2/2016	**0.162**	0.122	< 0.005	0.246	NA	NA	**0.488**	< 0.015	**17.6**	**1320**	**2260**	NA
	3/7/2017	**0.0186**	<0.001	<0.001	<0.003	--	--	**0.437**	--	--	--	--	--
	6/13/2017	0.0037	0.0047	<0.001	0.0089	--	--	**0.396**	--	--	--	--	--
	9/26/2017	0.0032	0.0029	<0.001	0.0088	--	--	0.0218	<0.015	--	--	--	--
	12/19/2017	0.0014	0.0022	< 0.001	0.0059	--	--	**0.432**	--	--	--	--	--

Notes:
MW = Monitoring Well
NMWQCC = New Mexico Water Quality Control Commission
BOLD = Exceeds NMWQCC Groundwater Quality Standard
mg/L = milligrams per liter (parts per million)
'< ' = Analyte not detected above set laboratory detection limit
-- = No data
E = Analyte concentration exceeded the calibration range
NE = Not Established
NA = Not analyzed
TPH DRO = total petroleum hydrocarbons diesel range organics
TPH GRO = total petroleum hydrocarbons gasoline range organics
Cells shaded in gray indicate groundwater samples collected prior to CoolOx™ treatment

Appendix A
Groundwater Laboratory Analytical Reports

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

March 22, 2017

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

RE: Project: 075034 COP San Juan 29-7 No.37
Pace Project No.: 60239521

Dear Christine Mathews:
Enclosed are the analytical results for sample(s) received by the laboratory on March 10, 2017. 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
(913)563-1409
Project Manager

Enclosures

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

Pace Analytical Services, LLC
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CERTIFICATIONS

Project: 075034 COP San Juan 29-7 No.37
Pace Project No.: 60239521

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: 075034 COP San Juan 29-7 No.37
Pace Project No.: 60239521

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60239521001	**GW-075034-030717-CN-MW-1**	Water	03/07/17 15:17	03/10/17 09:10
60239521002	**GW-075034-030717-CN-MW-2**	Water	03/07/17 14:06	03/10/17 09:10
60239521003	**GW-075034-030717-CN-MW-3**	Water	03/07/17 13:36	03/10/17 09:10
60239521004	**GW-075034-030717-CN-MW-5**	Water	03/07/17 12:24	03/10/17 09:10
60239521005	**GW-075034-030717-CN-MW-6**	Water	03/07/17 13:01	03/10/17 09:10
60239521006	**GW-075034-030717-CN-MW-7**	Water	03/07/17 15:56	03/10/17 09:10
60239521007	**GW-075034-030717-CN-MW-8R**	Water	03/07/17 14:44	03/10/17 09:10

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SAMPLE ANALYTE COUNT

Project: 075034 COP San Juan 29-7 No.37
Pace Project No.: 60239521

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60239521001	**GW-075034-030717-CN-MW-1**	EPA 6010	ZBM	1	PASI-K
60239521002	**GW-075034-030717-CN-MW-2**	EPA 6010	ZBM	1	PASI-K
60239521003	**GW-075034-030717-CN-MW-3**	EPA 6010	ZBM	1	PASI-K
60239521004	**GW-075034-030717-CN-MW-5**	EPA 6010	ZBM	1	PASI-K
60239521005	**GW-075034-030717-CN-MW-6**	EPA 6010	ZBM	1	PASI-K
60239521006	**GW-075034-030717-CN-MW-7**	EPA 6010	ZBM	1	PASI-K
60239521007	**GW-075034-030717-CN-MW-8R**	EPA 6010	ZBM	1	PASI-K
		EPA 8260	JDH	8	PASI-K

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PROJECT NARRATIVE

Project: 075034 COP San Juan 29-7 No.37
Pace Project No.: 60239521

Method: **EPA 6010**
Description: 6010 MET ICP, Dissolved
Client: GHD Services_COP NM
Date: March 22, 2017

General Information:
7 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, LLC
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(913)599-5665

PROJECT NARRATIVE

Project: 075034 COP San Juan 29-7 No.37
Pace Project No.: 60239521

Method: **EPA 8260**
Description: 8260 MSV UST, Water
Client: GHD Services_COP NM
Date: March 22, 2017

General Information:
1 sample was 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: 468894

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

Additional Comments:

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

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ANALYTICAL RESULTS

Project: 075034 COP San Juan 29-7 No.37
Pace Project No.: 60239521

Sample: GW-075034-030717-CN-MW-1 **Lab ID: 60239521001** Collected: 03/07/17 15:17 Received: 03/10/17 09:10 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							
Manganese, Dissolved	**1900**	ug/L	5.0	1	03/14/17 09:00	03/14/17 19:10	7439-96-5	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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ANALYTICAL RESULTS

Project: 075034 COP San Juan 29-7 No.37
Pace Project No.: 60239521

Sample: GW-075034-030717-CN-MW-2 **Lab ID: 60239521002** Collected: 03/07/17 14:06 Received: 03/10/17 09:10 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							
Manganese, Dissolved	ND	ug/L	5.0	1	03/14/17 09:00	03/14/17 19:14	7439-96-5	

REPORT OF LABORATORY ANALYSIS

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(913)599-5665

ANALYTICAL RESULTS

Project: 075034 COP San Juan 29-7 No.37
Pace Project No.: 60239521

Sample: GW-075034-030717-CN-MW-3 **Lab ID: 60239521003** Collected: 03/07/17 13:36 Received: 03/10/17 09:10 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							
Manganese, Dissolved	**2220**	ug/L	5.0	1	03/14/17 09:00	03/14/17 19:17	7439-96-5	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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ANALYTICAL RESULTS

Project: 075034 COP San Juan 29-7 No.37
Pace Project No.: 60239521

Sample: GW-075034-030717-CN-MW-5 **Lab ID: 60239521004** Collected: 03/07/17 12:24 Received: 03/10/17 09:10 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							
Manganese, Dissolved	**40.5**	ug/L	5.0	1	03/14/17 09:00	03/14/17 19:19	7439-96-5	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 075034 COP San Juan 29-7 No.37
Pace Project No.: 60239521

Sample: GW-075034-030717-CN-MW-6 **Lab ID: 60239521005** Collected: 03/07/17 13:01 Received: 03/10/17 09:10 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							
Manganese, Dissolved	**129**	ug/L	5.0	1	03/14/17 09:00	03/14/17 19:21	7439-96-5	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 075034 COP San Juan 29-7 No.37
Pace Project No.: 60239521

Sample: GW-075034-030717-CN-MW-7 **Lab ID: 60239521006** Collected: 03/07/17 15:56 Received: 03/10/17 09:10 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							
Manganese, Dissolved	**7.7**	ug/L	5.0	1	03/14/17 09:00	03/14/17 19:28	7439-96-5	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 075034 COP San Juan 29-7 No.37
Pace Project No.: 60239521

Sample: GW-075034-030717-CN-MW-8R **Lab ID: 60239521007** Collected: 03/07/17 14:44 Received: 03/10/17 09:10 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							
Manganese, Dissolved	**437**	ug/L	5.0	1	03/14/17 09:00	03/14/17 19:31	7439-96-5	
8260 MSV UST, Water	Analytical Method: EPA 8260							
Benzene	**18.6**	ug/L	1.0	1		03/15/17 21:06	71-43-2	
Ethylbenzene	ND	ug/L	1.0	1		03/15/17 21:06	100-41-4	
Toluene	ND	ug/L	1.0	1		03/15/17 21:06	108-88-3	
Xylene (Total)	ND	ug/L	3.0	1		03/15/17 21:06	1330-20-7	
Surrogates								
Toluene-d8 (S)	99	%	80-108	1		03/15/17 21:06	2037-26-5	
4-Bromofluorobenzene (S)	92	%	80-113	1		03/15/17 21:06	460-00-4	
1,2-Dichloroethane-d4 (S)	82	%	80-114	1		03/15/17 21:06	17060-07-0	
Preservation pH	**1.0**		1.0	1		03/15/17 21:06		

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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QUALITY CONTROL DATA

Project: 075034 COP San Juan 29-7 No.37
Pace Project No.: 60239521

QC Batch: 468585 Analysis Method: EPA 6010
QC Batch Method: EPA 3010 Analysis Description: 6010 MET Dissolved
Associated Lab Samples: 60239521001, 60239521002, 60239521003, 60239521004, 60239521005, 60239521006, 60239521007

METHOD BLANK: 1918211 Matrix: Water
Associated Lab Samples: 60239521001, 60239521002, 60239521003, 60239521004, 60239521005, 60239521006, 60239521007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Manganese, Dissolved	ug/L	ND	5.0	03/14/17 18:22	

LABORATORY CONTROL SAMPLE: 1918212

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Manganese, Dissolved	ug/L	1000	1080	108	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1918213 1918214

Parameter	Units	60239390004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Manganese, Dissolved	ug/L	757	1000	1000	1780	1790	103	104	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

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

QUALITY CONTROL DATA

Project: 075034 COP San Juan 29-7 No.37
Pace Project No.: 60239521

QC Batch: 468894 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV UST-WATER
Associated Lab Samples: 60239521007

METHOD BLANK: 1919380 Matrix: Water
Associated Lab Samples: 60239521007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ug/L	ND	1.0	03/15/17 17:54	
Ethylbenzene	ug/L	ND	1.0	03/15/17 17:54	
Toluene	ug/L	ND	1.0	03/15/17 17:54	
Xylene (Total)	ug/L	ND	3.0	03/15/17 17:54	
1,2-Dichloroethane-d4 (S)	%	92	80-114	03/15/17 17:54	
4-Bromofluorobenzene (S)	%	94	80-113	03/15/17 17:54	
Toluene-d8 (S)	%	101	80-108	03/15/17 17:54	

LABORATORY CONTROL SAMPLE: 1919381

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	20	19.7	98	82-115	
Ethylbenzene	ug/L	20	20.5	102	83-112	
Toluene	ug/L	20	20.0	100	78-113	
Xylene (Total)	ug/L	60	60.6	101	83-114	
1,2-Dichloroethane-d4 (S)	%			94	80-114	
4-Bromofluorobenzene (S)	%			92	80-113	
Toluene-d8 (S)	%			101	80-108	

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: 075034 COP San Juan 29-7 No.37
Pace Project No.: 60239521

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.

LABORATORIES

PASI-K Pace Analytical Services - Kansas City

BATCH QUALIFIERS

Batch: 468894

[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: 075034 COP San Juan 29-7 No.37
Pace Project No.: 60239521

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60239521001	**GW-075034-030717-CN-MW-1**	EPA 3010	468585	EPA 6010	468633
60239521002	**GW-075034-030717-CN-MW-2**	EPA 3010	468585	EPA 6010	468633
60239521003	**GW-075034-030717-CN-MW-3**	EPA 3010	468585	EPA 6010	468633
60239521004	**GW-075034-030717-CN-MW-5**	EPA 3010	468585	EPA 6010	468633
60239521005	**GW-075034-030717-CN-MW-6**	EPA 3010	468585	EPA 6010	468633
60239521006	**GW-075034-030717-CN-MW-7**	EPA 3010	468585	EPA 6010	468633
60239521007	**GW-075034-030717-CN-MW-8R**	EPA 3010	468585	EPA 6010	468633
60239521007	**GW-075034-030717-CN-MW-8R**	EPA 8260	468894		

Pace Analytical
www.pacelabs.com

Sample Condition Upon Receipt

WO# : 60239521

60239521

Client Name: COP GHD Services

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

Tracking #: 7044 6660 1870 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 ☑ 2plc

Thermometer Used: CF +1.5 / CF +0.9 T-266 / T-239 **Type of Ice:** (Wet) Blue None

Cooler Temperature (°C): **As-read** 4.2 **Corr. Factor** CF +1.5 CF +0.9 **Corrected** _____

Date and initials of person examining contents: 3/10/17

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: 03/13/17

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:		Company Name:	
	Albuquerque, NM 87110			Address:	
Email:	christine.mathews@ghd.com	Purchase Order #:		Pace Quote:	
Phone:	505-884-0672 Fax:	Project Name:	075034 COP San Juan 29-7 No.37	Pace Project Manager:	alice.spiller@pacelabs.com,
Requested Due Date:		Project #:		Pace Profile #:	8644, line 3

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	Requested Analysis Filtered (Y/N) Y/N	Analyses Test: 8260 BTEX	Dissolved Mn-field filtered	Residual Chlorine (Y/N)	00239521
1	GW-075034-030717-CN-MW-1	WT	G	3-7-17	1517				4			✓	✓						✓	✓		BP3F15 001
2	GW-075034-030717-CN-MW-2	WT	G	3-7-17	1406				4			✓								✓		002
3	GW-075034-030717-CN-MW-3	WT	G	3-7-17	1336				1			✓								✓		003
4	GW-075034-030717-CN-MW-5	WT	G	3-7-17	1224				1			✓								✓		004
5	GW-075034-030717-CN-MW-6	WT	G	3-7-17	1301				1			✓								✓		005
6	GW-075034-030717-CN-MW-7	WT	G	3-7-17	1556				1			✓								✓		006
7	GW-075034-030717-CN-MW-8R	WT	G	3-7-17	1444				4			✓	✓						✓	✓	3049H	007
8																						
9																						
10																						
11																						
12																						

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
	Charles Nalgh	3-9-17	1500	E Brockett / Pace	3/10/17	0910	4.2	Y	Y	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:	Charles Nalgh					
SIGNATURE of SAMPLER:	Charles Nalgh	DATE Signed: 3-9-17				

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

June 29, 2017

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

RE: Project: 075034 COP SAN JUAN 29-7 NO.37
Pace Project No.: 60246794

Dear Christine Mathews:
Enclosed are the analytical results for sample(s) received by the laboratory on June 17, 2017. 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
(913)563-1409
Project Manager

Enclosures

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

Pace Analytical Services, LLC
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CERTIFICATIONS

Project: 075034 COP SAN JUAN 29-7 NO.37
Pace Project No.: 60246794

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: 075034 COP SAN JUAN 29-7 NO.37
Pace Project No.: 60246794

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60246794001	**GW-075034-061317-CN-MW-6**	Water	06/13/17 11:05	06/17/17 08:30
60246794002	**GW-075034-061317-CN-MW-3**	Water	06/13/17 11:55	06/17/17 08:30
60246794003	**GW-075034-061317-CN-MW-2**	Water	06/13/17 12:50	06/17/17 08:30
60246794004	**GW-075034-061317-CN-MW-8R**	Water	06/13/17 13:30	06/17/17 08:30
60246794005	**GW-075034-061317-CN-MW-1**	Water	06/13/17 14:15	06/17/17 08:30
60246794006	**GW-075034-061317-CN-MW-7**	Water	06/13/17 14:50	06/17/17 08:30
60246794007	**TRIP BLANK**	Water	06/13/17 14:50	06/17/17 08:30

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SAMPLE ANALYTE COUNT

Project: 075034 COP SAN JUAN 29-7 NO.37
Pace Project No.: 60246794

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60246794001	**GW-075034-061317-CN-MW-6**	EPA 6010	SMW	1	PASI-K
60246794002	**GW-075034-061317-CN-MW-3**	EPA 6010	SMW	1	PASI-K
60246794003	**GW-075034-061317-CN-MW-2**	EPA 6010	SMW	1	PASI-K
60246794004	**GW-075034-061317-CN-MW-8R**	EPA 6010	SMW	1	PASI-K
		EPA 8260	EAG	8	PASI-K
60246794005	**GW-075034-061317-CN-MW-1**	EPA 6010	SMW	1	PASI-K
60246794006	**GW-075034-061317-CN-MW-7**	EPA 6010	SMW	1	PASI-K

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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PROJECT NARRATIVE

Project: 075034 COP SAN JUAN 29-7 NO.37
Pace Project No.: 60246794

Method: **EPA 6010**
Description: 6010 MET ICP, Dissolved
Client: GHD Services_COP NM
Date: June 29, 2017

General Information:
6 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: 075034 COP SAN JUAN 29-7 NO.37
Pace Project No.: 60246794

Method: **EPA 8260**
Description: 8260 MSV UST, Water
Client: GHD Services_COP NM
Date: June 29, 2017

General Information:
1 sample was 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: 482824

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

Additional Comments:

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

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ANALYTICAL RESULTS

Project: 075034 COP SAN JUAN 29-7 NO.37
Pace Project No.: 60246794

Sample: GW-075034-061317-CN-MW-6 **Lab ID: 60246794001** Collected: 06/13/17 11:05 Received: 06/17/17 08:30 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							
Manganese, Dissolved	**73.4**	ug/L	5.0	1	06/23/17 16:10	06/26/17 11:13	7439-96-5	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 075034 COP SAN JUAN 29-7 NO.37
Pace Project No.: 60246794

Sample: GW-075034-061317-CN-MW-3 **Lab ID: 60246794002** Collected: 06/13/17 11:55 Received: 06/17/17 08:30 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							
Manganese, Dissolved	**1870**	ug/L	5.0	1	06/23/17 16:10	06/26/17 11:16	7439-96-5	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 075034 COP SAN JUAN 29-7 NO.37
Pace Project No.: 60246794

Sample: GW-075034-061317-CN-MW-2 **Lab ID: 60246794003** Collected: 06/13/17 12:50 Received: 06/17/17 08:30 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							
Manganese, Dissolved	ND	ug/L	5.0	1	06/23/17 16:10	06/26/17 11:18	7439-96-5	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 075034 COP SAN JUAN 29-7 NO.37
Pace Project No.: 60246794

Sample: GW-075034-061317-CN-MW-8R **Lab ID: 60246794004** Collected: 06/13/17 13:30 Received: 06/17/17 08:30 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							
Manganese, Dissolved	**396**	ug/L	5.0	1	06/23/17 16:10	06/26/17 11:21	7439-96-5	
8260 MSV UST, Water	Analytical Method: EPA 8260							
Benzene	**3.7**	ug/L	1.0	1		06/27/17 14:04	71-43-2	
Ethylbenzene	ND	ug/L	1.0	1		06/27/17 14:04	100-41-4	
Toluene	**4.7**	ug/L	1.0	1		06/27/17 14:04	108-88-3	
Xylene (Total)	**8.9**	ug/L	3.0	1		06/27/17 14:04	1330-20-7	
Surrogates								
Toluene-d8 (S)	102	%	80-108	1		06/27/17 14:04	2037-26-5	
4-Bromofluorobenzene (S)	105	%	80-113	1		06/27/17 14:04	460-00-4	
1,2-Dichloroethane-d4 (S)	102	%	80-114	1		06/27/17 14:04	17060-07-0	
Preservation pH	**1.0**		1.0	1		06/27/17 14:04		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 075034 COP SAN JUAN 29-7 NO.37
Pace Project No.: 60246794

Sample: GW-075034-061317-CN-MW-1 **Lab ID: 60246794005** Collected: 06/13/17 14:15 Received: 06/17/17 08:30 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							
Manganese, Dissolved	**1760**	ug/L	5.0	1	06/23/17 16:10	06/26/17 11:23	7439-96-5	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 075034 COP SAN JUAN 29-7 NO.37
Pace Project No.: 60246794

Sample: GW-075034-061317-CN-MW-7 **Lab ID: 60246794006** Collected: 06/13/17 14:50 Received: 06/17/17 08:30 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							
Manganese, Dissolved	ND	ug/L	5.0	1	06/23/17 16:10	06/26/17 11:25	7439-96-5	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 075034 COP SAN JUAN 29-7 NO.37
Pace Project No.: 60246794

QC Batch: 482383 Analysis Method: EPA 6010
QC Batch Method: EPA 3010 Analysis Description: 6010 MET Dissolved
Associated Lab Samples: 60246794001, 60246794002, 60246794003, 60246794004, 60246794005, 60246794006

METHOD BLANK: 1975951 Matrix: Water
Associated Lab Samples: 60246794001, 60246794002, 60246794003, 60246794004, 60246794005, 60246794006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Manganese, Dissolved	ug/L	ND	5.0	06/26/17 11:09	

LABORATORY CONTROL SAMPLE: 1975952

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Manganese, Dissolved	ug/L	1000	984	98	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1975953 1975954

Parameter	Units	60246772001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Manganese, Dissolved	ug/L	839	1000	1000	1770	1780	93	94	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: 075034 COP SAN JUAN 29-7 NO.37
Pace Project No.: 60246794

QC Batch: 482824 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV UST-WATER
Associated Lab Samples: 60246794004

METHOD BLANK: 1977957 Matrix: Water
Associated Lab Samples: 60246794004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ug/L	ND	1.0	06/27/17 13:21	
Ethylbenzene	ug/L	ND	1.0	06/27/17 13:21	
Toluene	ug/L	ND	1.0	06/27/17 13:21	
Xylene (Total)	ug/L	ND	3.0	06/27/17 13:21	
1,2-Dichloroethane-d4 (S)	%	102	80-114	06/27/17 13:21	
4-Bromofluorobenzene (S)	%	106	80-113	06/27/17 13:21	
Toluene-d8 (S)	%	101	80-108	06/27/17 13:21	

LABORATORY CONTROL SAMPLE: 1977958

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	20	20.1	100	82-115	
Ethylbenzene	ug/L	20	20.0	100	83-112	
Toluene	ug/L	20	19.9	100	78-113	
Xylene (Total)	ug/L	60	59.4	99	83-114	
1,2-Dichloroethane-d4 (S)	%			101	80-114	
4-Bromofluorobenzene (S)	%			98	80-113	
Toluene-d8 (S)	%			101	80-108	

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: 075034 COP SAN JUAN 29-7 NO.37
Pace Project No.: 60246794

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.

LABORATORIES

PASI-K Pace Analytical Services - Kansas City

BATCH QUALIFIERS

Batch: 482824

[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: 075034 COP SAN JUAN 29-7 NO.37
Pace Project No.: 60246794

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60246794001	**GW-075034-061317-CN-MW-6**	EPA 3010	482383	EPA 6010	482480
60246794002	**GW-075034-061317-CN-MW-3**	EPA 3010	482383	EPA 6010	482480
60246794003	**GW-075034-061317-CN-MW-2**	EPA 3010	482383	EPA 6010	482480
60246794004	**GW-075034-061317-CN-MW-8R**	EPA 3010	482383	EPA 6010	482480
60246794005	**GW-075034-061317-CN-MW-1**	EPA 3010	482383	EPA 6010	482480
60246794006	**GW-075034-061317-CN-MW-7**	EPA 3010	482383	EPA 6010	482480
60246794004	**GW-075034-061317-CN-MW-8R**	EPA 8260	482824		

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Sample Condition Upon Receipt
ESI Tech Spec Client

WO# : 60246794

60246794

Client Name: GHD P66

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

Tracking #: 7869 0826 1730 Pace Shipping Label Used? Yes ☐ No ☐

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

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

Thermometer Used: T-266 (CF +2.9) / T-239 (CF +0.2) **Type of Ice:** (Wet) Blue None

Cooler Temperature (°C): **As-read** 4.0 **Corr. Factor** (CF +2.9) (CF +0.2) **Corrected** 4.2

Date and initials of person examining contents: JB 12/17

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 2/6/17	
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? (HNO3, H2SO4, 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 2/6/17	
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: 1055	Start:
End: 1101	End:
Temp:	Temp:

Project Manager Review: Alice Date: 06/19/17

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
Phone:	505-884-0672 Fax:
Requested Due Date:	

Section B
Required Project Information:

Report To:	Christine Mathews
Copy To:	
Purchase Order #:	
Project Name:	075034 COP San Juan 29-7 No.37
Project #:	

Section C
Invoice Information:

Attention:	
Company Name:	
Address:	
Pace Quote:	
Pace Project Manager:	alice.spiller@pacelabs.com,
Pace Profile #:	8644, line 3

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	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	8260 BTEX	Dissolved Mn-field filtered	Residual Chlorine (Y/N)	6024794
1	GW-075034-061317-CN-MW-6	WT	G	6-13-17	1105			1												X		BP3F 01
2	GW-075034-061317-CN-MW-3			↓	1155			1												↓		02
3	GW-075034-061317-CN-MW-2			↓	1250			1												↓		03
4	GW-075034-061317-CN-MW-8R			↓	1330			4											X	↓		(3)DG9H 04
5	GW-075034-061317-CN-MW-1			↓	1415			1												↓		05
6	GW-075034-061317-CN-MW-7			↓	1450			1												↓		06
7																						(3)DG9H 07
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)
	Charles [signature]	6-16-17	1600	[signature]	6/17/17	0830	4.2	Y	Y	Y

SAMPLE CONDITIONS

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Charles [illegible]

SIGNATURE of SAMPLER: [signature] DATE Signed: 6-16-17

Pace Analytical Services, LLC
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(913)599-5665

October 10, 2017

Jeff Walker
GHD Services
6121 indian School Rd
Ste 200
Albuquerque, NM 87110

RE: Project: 11146005 SAN JUAN 29-7 NO 37
Pace Project No.: 60254351

Dear Jeff Walker:
Enclosed are the analytical results for sample(s) received by the laboratory on September 29, 2017. 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
(913)563-1409
Project Manager

Enclosures

cc: Angela Bown, GHD Services
Christine Mathews, GHD Services

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CERTIFICATIONS

Project: 11146005 SAN JUAN 29-7 NO 37
Pace Project No.: 60254351

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: 11146005 SAN JUAN 29-7 NO 37
Pace Project No.: 60254351

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60254351001	**GW-11146005-092617-SP-MW-1**	Water	09/26/17 13:25	09/29/17 08:35
60254351002	**GW-11146005-092617-SP-MW-2**	Water	09/26/17 12:00	09/29/17 08:35
60254351003	**GW-11146005-092617-SP-MW-3**	Water	09/26/17 11:25	09/29/17 08:35
60254351004	**GW-11146005-092617-SP-MW-4**	Water	09/26/17 14:20	09/29/17 08:35
60254351005	**GW-11146005-092617-SP-MW-5**	Water	09/26/17 09:50	09/29/17 08:35
60254351006	**GW-11146005-092617-SP-MW-6**	Water	09/26/17 10:41	09/29/17 08:35
60254351007	**GW-11146005-092617-SP-MW-7**	Water	09/26/17 13:59	09/29/17 08:35
60254351008	**GW-11146005-092617-SP-MW-8R**	Water	09/26/17 12:41	09/29/17 08:35
60254351009	**TRIP BLANK**	Water	09/26/17 09:50	09/29/17 08:35

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SAMPLE ANALYTE COUNT

Project: 11146005 SAN JUAN 29-7 NO 37
Pace Project No.: 60254351

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60254351001	**GW-11146005-092617-SP-MW-1**	EPA 6010	TDS	2	PASI-K
60254351002	**GW-11146005-092617-SP-MW-2**	EPA 6010	TDS	2	PASI-K
60254351003	**GW-11146005-092617-SP-MW-3**	EPA 6010	TDS	2	PASI-K
60254351004	**GW-11146005-092617-SP-MW-4**	EPA 6010	TDS	2	PASI-K
60254351005	**GW-11146005-092617-SP-MW-5**	EPA 6010	TDS	2	PASI-K
60254351006	**GW-11146005-092617-SP-MW-6**	EPA 6010	TDS	2	PASI-K
60254351007	**GW-11146005-092617-SP-MW-7**	EPA 6010	TDS	2	PASI-K
60254351008	**GW-11146005-092617-SP-MW-8R**	EPA 6010	TDS	2	PASI-K
		EPA 8260	EAG	8	PASI-K

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ANALYTICAL RESULTS

Project: 11146005 SAN JUAN 29-7 NO 37
Pace Project No.: 60254351

Sample: GW-11146005-092617-SP-MW-1 **Lab ID: 60254351001** Collected: 09/26/17 13:25 Received: 09/29/17 08:35 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							
Manganese, Dissolved	**2040**	ug/L	5.0	1	10/09/17 12:18	10/09/17 18:36	7439-96-5	
Selenium, Dissolved	ND	ug/L	15.0	1	10/09/17 12:18	10/09/17 18:36	7782-49-2	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 11146005 SAN JUAN 29-7 NO 37
Pace Project No.: 60254351

Sample: GW-11146005-092617-SP-MW-2 **Lab ID: 60254351002** Collected: 09/26/17 12:00 Received: 09/29/17 08:35 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							
Manganese, Dissolved	ND	ug/L	5.0	1	10/09/17 12:18	10/09/17 18:43	7439-96-5	
Selenium, Dissolved	**72.5**	ug/L	15.0	1	10/09/17 12:18	10/09/17 18:43	7782-49-2	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 11146005 SAN JUAN 29-7 NO 37
Pace Project No.: 60254351

Sample: GW-11146005-092617-SP-MW-3 **Lab ID: 60254351003** Collected: 09/26/17 11:25 Received: 09/29/17 08:35 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							
Manganese, Dissolved	**1820**	ug/L	5.0	1	10/09/17 12:18	10/09/17 18:46	7439-96-5	
Selenium, Dissolved	ND	ug/L	15.0	1	10/09/17 12:18	10/09/17 18:46	7782-49-2	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 11146005 SAN JUAN 29-7 NO 37
Pace Project No.: 60254351

Sample: GW-11146005-092617-SP-MW-4 **Lab ID: 60254351004** Collected: 09/26/17 14:20 Received: 09/29/17 08:35 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							
Manganese, Dissolved	**53.8**	ug/L	5.0	1	10/09/17 12:18	10/09/17 18:48	7439-96-5	
Selenium, Dissolved	**35.8**	ug/L	15.0	1	10/09/17 12:18	10/09/17 18:48	7782-49-2	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 11146005 SAN JUAN 29-7 NO 37
Pace Project No.: 60254351

Sample: GW-11146005-092617-SP-MW-5 **Lab ID: 60254351005** Collected: 09/26/17 09:50 Received: 09/29/17 08:35 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							
Manganese, Dissolved	**1540**	ug/L	5.0	1	10/09/17 12:18	10/09/17 18:51	7439-96-5	
Selenium, Dissolved	ND	ug/L	15.0	1	10/09/17 12:18	10/09/17 18:51	7782-49-2	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 11146005 SAN JUAN 29-7 NO 37
Pace Project No.: 60254351

Sample: GW-11146005-092617-SP-MW-6 **Lab ID: 60254351006** Collected: 09/26/17 10:41 Received: 09/29/17 08:35 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							
Manganese, Dissolved	**78.7**	ug/L	5.0	1	10/09/17 12:18	10/09/17 18:53	7439-96-5	
Selenium, Dissolved	**27.7**	ug/L	15.0	1	10/09/17 12:18	10/09/17 18:53	7782-49-2	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 11146005 SAN JUAN 29-7 NO 37
Pace Project No.: 60254351

Sample: GW-11146005-092617-SP-MW-7 **Lab ID: 60254351007** Collected: 09/26/17 13:59 Received: 09/29/17 08:35 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							
Manganese, Dissolved	**262**	ug/L	5.0	1	10/06/17 16:14	10/09/17 13:16	7439-96-5	
Selenium, Dissolved	ND	ug/L	15.0	1	10/06/17 16:14	10/09/17 13:16	7782-49-2	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 11146005 SAN JUAN 29-7 NO 37
Pace Project No.: 60254351

Sample: GW-11146005-092617-SP-MW-8R **Lab ID: 60254351008** Collected: 09/26/17 12:41 Received: 09/29/17 08:35 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							
Manganese, Dissolved	**21.8**	ug/L	5.0	1	10/06/17 16:14	10/09/17 13:23	7439-96-5	
Selenium, Dissolved	ND	ug/L	15.0	1	10/06/17 16:14	10/09/17 13:23	7782-49-2	
8260 MSV UST, Water	Analytical Method: EPA 8260							
Benzene	**3.2**	ug/L	1.0	1		10/05/17 06:39	71-43-2	
Ethylbenzene	ND	ug/L	1.0	1		10/05/17 06:39	100-41-4	
Toluene	**2.9**	ug/L	1.0	1		10/05/17 06:39	108-88-3	
Xylene (Total)	**8.8**	ug/L	3.0	1		10/05/17 06:39	1330-20-7	
Surrogates								
Toluene-d8 (S)	105	%	80-108	1		10/05/17 06:39	2037-26-5	
4-Bromofluorobenzene (S)	104	%	80-113	1		10/05/17 06:39	460-00-4	
1,2-Dichloroethane-d4 (S)	97	%	80-114	1		10/05/17 06:39	17060-07-0	
Preservation pH	**1.0**		1.0	1		10/05/17 06:39		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 11146005 SAN JUAN 29-7 NO 37
Pace Project No.: 60254351

QC Batch: 497371 Analysis Method: EPA 6010
QC Batch Method: EPA 3010 Analysis Description: 6010 MET Dissolved
Associated Lab Samples: 60254351007, 60254351008

METHOD BLANK: 2034591 Matrix: Water
Associated Lab Samples: 60254351007, 60254351008

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Manganese, Dissolved	ug/L	ND	5.0	10/09/17 13:12	
Selenium, Dissolved	ug/L	ND	15.0	10/09/17 13:12	

LABORATORY CONTROL SAMPLE: 2034592

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Manganese, Dissolved	ug/L	1000	965	96	80-120	
Selenium, Dissolved	ug/L	1000	1010	101	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2034593 2034594

Parameter	Units	60254351007 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Manganese, Dissolved	ug/L	262	1000	1000	1220	1210	96	95	75-125	1	20	
Selenium, Dissolved	ug/L	ND	1000	1000	1080	1070	107	106	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: 11146005 SAN JUAN 29-7 NO 37
Pace Project No.: 60254351

QC Batch: 497830 Analysis Method: EPA 6010
QC Batch Method: EPA 3010 Analysis Description: 6010 MET Dissolved
Associated Lab Samples: 60254351001, 60254351002, 60254351003, 60254351004, 60254351005, 60254351006

METHOD BLANK: 2036648 Matrix: Water
Associated Lab Samples: 60254351001, 60254351002, 60254351003, 60254351004, 60254351005, 60254351006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Manganese, Dissolved	ug/L	ND	5.0	10/09/17 18:07	
Selenium, Dissolved	ug/L	ND	15.0	10/09/17 18:07	

LABORATORY CONTROL SAMPLE: 2036649

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Manganese, Dissolved	ug/L	1000	976	98	80-120	
Selenium, Dissolved	ug/L	1000	1000	100	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2036650 2036651

Parameter	Units	60254337001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Manganese, Dissolved	ug/L	739	1000	1000	1720	1750	98	101	75-125	2	20	
Selenium, Dissolved	ug/L	ND	1000	1000	256	294	26	29	75-125	13	20	M1

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, LLC
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Lenexa, KS 66219
(913)599-5665

QUALITY CONTROL DATA

Project: 11146005 SAN JUAN 29-7 NO 37
Pace Project No.: 60254351

QC Batch: 497196
QC Batch Method: EPA 8260
Analysis Method: EPA 8260
Analysis Description: 8260 MSV UST-WATER
Associated Lab Samples: 60254351008

METHOD BLANK: 2033965
Matrix: Water
Associated Lab Samples: 60254351008

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ug/L	ND	1.0	10/05/17 05:57	
Ethylbenzene	ug/L	ND	1.0	10/05/17 05:57	
Toluene	ug/L	ND	1.0	10/05/17 05:57	
Xylene (Total)	ug/L	ND	3.0	10/05/17 05:57	
1,2-Dichloroethane-d4 (S)	%	97	80-114	10/05/17 05:57	
4-Bromofluorobenzene (S)	%	97	80-113	10/05/17 05:57	
Toluene-d8 (S)	%	103	80-108	10/05/17 05:57	

LABORATORY CONTROL SAMPLE: 2033966

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	20	17.3	87	82-115	
Ethylbenzene	ug/L	20	19.2	96	83-112	
Toluene	ug/L	20	19.2	96	78-113	
Xylene (Total)	ug/L	60	58.1	97	83-114	
1,2-Dichloroethane-d4 (S)	%			97	80-114	
4-Bromofluorobenzene (S)	%			94	80-113	
Toluene-d8 (S)	%			105	80-108	

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: 11146005 SAN JUAN 29-7 NO 37
Pace Project No.: 60254351

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.

TNTC - Too Numerous To Count

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.

LABORATORIES

PASI-K Pace Analytical Services - Kansas City

BATCH QUALIFIERS

Batch: 497196

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

ANALYTE QUALIFIERS

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

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 11146005 SAN JUAN 29-7 NO 37
Pace Project No.: 60254351

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60254351001	**GW-11146005-092617-SP-MW-1**	EPA 3010	497830	EPA 6010	497899
60254351002	**GW-11146005-092617-SP-MW-2**	EPA 3010	497830	EPA 6010	497899
60254351003	**GW-11146005-092617-SP-MW-3**	EPA 3010	497830	EPA 6010	497899
60254351004	**GW-11146005-092617-SP-MW-4**	EPA 3010	497830	EPA 6010	497899
60254351005	**GW-11146005-092617-SP-MW-5**	EPA 3010	497830	EPA 6010	497899
60254351006	**GW-11146005-092617-SP-MW-6**	EPA 3010	497830	EPA 6010	497899
60254351007	**GW-11146005-092617-SP-MW-7**	EPA 3010	497371	EPA 6010	497774
60254351008	**GW-11146005-092617-SP-MW-8R**	EPA 3010	497371	EPA 6010	497774
60254351008	**GW-11146005-092617-SP-MW-8R**	EPA 8260	497196		

Pace Analytical
www.pacelabs.com

Sample Condition Upon Receipt

WO# : 60254351

60254351

AFS

Client Name: GDA Services

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

Tracking #: 7978 9032 2298 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 0.0 T-266 / CF +0.3 T-239 **Type of Ice:** Wet Blue None

RH 9-29-17

Date and initials of person examining contents:

Cooler Temperature (°C): **As-read** 2.3 **Corr. Factor** CF 0.0 CF +0.3 **Corrected** 2.3

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	2 (DG9H)
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: 10/03/17

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, New Mexico	Report To:	Jeff Walker	Attention:	
Address:	6121 indian School Rd	Copy To:		Company Name:	
	Albuquerque, NM 87110			Address:	
Email:	jeff.walker@ghd.com	Purchase Order #:		Pace Quote:	
Phone:	505-884-0672 Fax	Project Name:	11146005 San Juan 29-7 No 37	Pace Project Manager:	alice.spiller@pacelabs.com
Requested Due Date:		Project #:		Pace Profile #:	10540 line 1

Regulatory Agency:

State / Location: NM

Requested Analysis Filtered (Y/N)

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	6010 Dissolved Mn-field filte	6010 Dissolved Se-field filte	Residual Chlorine (Y/N)	60254351
1	GW-11146005-092617-SP-MW-1	WT	G	9-26-17	1325				1			X	X										BP3NF001
2	GW-11146005-092617-SP-MW-2				1200																		002
3	GW-11146005-092617-SP-MW-3				1125																		003
4	GW-11146005-092617-SP-MW-4				1920																		004
5	GW-11146005-092617-SP-MW-5				0950																		005
6	GW-11146005-092617-SP-MW-6				1041																		006
7	GW-11146005-092617-SP-MW-7				1359				↓														007
8	GW-11146005-092617-SP-MW-SR	↓	↓	↓	1741				2			X	X						X	↓	↓		BP3N(DUP-092617) 008
9																							TRIP BLANK 009
10																							
11																							
12																							

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

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
	Steven Perez	9/28/17	1105	Pace	9-29	0035	2.3	Y	Y	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Steven Perez

SIGNATURE of SAMPLER: Steven Perez DATE Signed: 9/28/17

TEMP in C | Received on Ice (Y/N) | Custody Sealed Cooler (Y/N) | Samples Intact (Y/N)

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

January 03, 2018

Jeff Walker
GHD Services
6121 indian School Rd
Ste 200
Albuquerque, NM 87110

RE: Project: 11146005 San Juan 29-7 No 37
Pace Project No.: 60261005

Dear Jeff Walker:
Enclosed are the analytical results for sample(s) received by the laboratory on December 22, 2017. 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,

Colleen Clyne
colleen.clyne@pacelabs.com
1(913)563-1406
Project Manager

Enclosures

cc: Angela Bown, GHD Services
Christine Mathews, GHD Services

Pace Analytical Services, LLC
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CERTIFICATIONS

Project: 11146005 San Juan 29-7 No 37
Pace Project No.: 60261005

Kansas Certification IDs

9608 Loiret Boulevard, Lenexa, KS 66219
WY STR Certification #: 2456.01
Arkansas Certification #: 17-016-0
Illinois Certification #: 200030
Iowa Certification #: 118
Kansas/NELAP Certification #: E-10116
Louisiana Certification #: 03055
Nevada Certification #: KS000212018-1
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: 11146005 San Juan 29-7 No 37
Pace Project No.: 60261005

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60261005001	**GW-11146005-121917-JP-MW-1**	Water	12/19/17 12:30	12/22/17 10:10
60261005002	**GW-11146005-121917-JP-MW-2**	Water	12/19/17 11:05	12/22/17 10:10
60261005003	**GW-11146005-121917-JP-MW-3**	Water	12/19/17 11:50	12/22/17 10:10
60261005004	**GW-11146005-121917-JP-MW-4**	Water	12/19/17 14:25	12/22/17 10:10
60261005005	**GW-11146005-121917-JP-MW-5**	Water	12/19/17 09:15	12/22/17 10:10
60261005006	**GW-11146005-121917-JP-MW-6**	Water	12/19/17 10:15	12/22/17 10:10
60261005007	**GW-11146005-121917-JP-MW-7**	Water	12/19/17 13:50	12/22/17 10:10
60261005008	**GW-11146005-121917-JP-MW-8R**	Water	12/19/17 13:10	12/22/17 10:10

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SAMPLE ANALYTE COUNT

Project: 11146005 San Juan 29-7 No 37
Pace Project No.: 60261005

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60261005001	**GW-11146005-121917-JP-MW-1**	EPA 6010	JGP	1	PASI-K
60261005002	**GW-11146005-121917-JP-MW-2**	EPA 6010	JGP	2	PASI-K
60261005003	**GW-11146005-121917-JP-MW-3**	EPA 6010	JGP	1	PASI-K
60261005004	**GW-11146005-121917-JP-MW-4**	EPA 6010	JGP	2	PASI-K
		SM 2540C	LDF	1	PASI-K
		EPA 300.0	OL	1	PASI-K
60261005005	**GW-11146005-121917-JP-MW-5**	EPA 6010	JGP	1	PASI-K
60261005006	**GW-11146005-121917-JP-MW-6**	EPA 6010	JGP	2	PASI-K
		SM 2540C	LDF	1	PASI-K
		EPA 300.0	OL	1	PASI-K
60261005007	**GW-11146005-121917-JP-MW-7**	EPA 6010	JGP	1	PASI-K
60261005008	**GW-11146005-121917-JP-MW-8R**	EPA 6010	JGP	1	PASI-K
		EPA 8260	EAG	8	PASI-K

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ANALYTICAL RESULTS

Project: 11146005 San Juan 29-7 No 37
Pace Project No.: 60261005

Sample: GW-11146005-121917-JP-MW-1 **Lab ID: 60261005001** Collected: 12/19/17 12:30 Received: 12/22/17 10:10 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							
Manganese, Dissolved	**1750**	ug/L	5.0	1	12/28/17 12:43	01/03/18 14:34	7439-96-5	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 11146005 San Juan 29-7 No 37
Pace Project No.: 60261005

Sample: GW-11146005-121917-JP-MW-2 **Lab ID: 60261005002** Collected: 12/19/17 11:05 Received: 12/22/17 10:10 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							
Manganese, Dissolved	ND	ug/L	5.0	1	12/28/17 12:43	01/03/18 14:45	7439-96-5	
Selenium, Dissolved	**75.6**	ug/L	15.0	1	12/28/17 12:43	01/03/18 14:45	7782-49-2	

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ANALYTICAL RESULTS

Project: 11146005 San Juan 29-7 No 37
Pace Project No.: 60261005

Sample: GW-11146005-121917-JP-MW-3 **Lab ID: 60261005003** Collected: 12/19/17 11:50 Received: 12/22/17 10:10 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							
Manganese, Dissolved	**1820**	ug/L	5.0	1	12/28/17 12:43	01/03/18 14:48	7439-96-5	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 11146005 San Juan 29-7 No 37
Pace Project No.: 60261005

Sample: GW-11146005-121917-JP-MW-4 **Lab ID: 60261005004** Collected: 12/19/17 14:25 Received: 12/22/17 10:10 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							
Manganese, Dissolved	**128**	ug/L	5.0	1	12/28/17 12:43	01/03/18 14:52	7439-96-5	
Selenium, Dissolved	**43.3**	ug/L	15.0	1	12/28/17 12:43	01/03/18 14:52	7782-49-2	
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
Total Dissolved Solids	**2290**	mg/L	5.0	1		12/26/17 15:21		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0							
Sulfate	**1120**	mg/L	100	100		12/30/17 16:06	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 11146005 San Juan 29-7 No 37
Pace Project No.: 60261005

Sample: GW-11146005-121917-JP-MW-5 **Lab ID: 60261005005** Collected: 12/19/17 09:15 Received: 12/22/17 10:10 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							
Manganese, Dissolved	**182**	ug/L	5.0	1	12/28/17 12:43	01/03/18 14:56	7439-96-5	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 11146005 San Juan 29-7 No 37
Pace Project No.: 60261005

Sample: GW-11146005-121917-JP-MW-6 **Lab ID: 60261005006** Collected: 12/19/17 10:15 Received: 12/22/17 10:10 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							
Manganese, Dissolved	**48.1**	ug/L	5.0	1	12/28/17 12:43	01/03/18 15:00	7439-96-5	
Selenium, Dissolved	**35.8**	ug/L	15.0	1	12/28/17 12:43	01/03/18 15:00	7782-49-2	
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
Total Dissolved Solids	**2060**	mg/L	5.0	1		12/26/17 15:22		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0							
Sulfate	**800**	mg/L	100	100		12/30/17 16:20	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 11146005 San Juan 29-7 No 37
Pace Project No.: 60261005

Sample: GW-11146005-121917-JP-MW-7 **Lab ID: 60261005007** Collected: 12/19/17 13:50 Received: 12/22/17 10:10 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							
Manganese, Dissolved	ND	ug/L	5.0	1	12/28/17 12:43	01/03/18 15:11	7439-96-5	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 11146005 San Juan 29-7 No 37
Pace Project No.: 60261005

Sample: GW-11146005-121917-JP-MW-8R **Lab ID: 60261005008** Collected: 12/19/17 13:10 Received: 12/22/17 10:10 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							
Manganese, Dissolved	**432**	ug/L	5.0	1	12/28/17 12:43	01/03/18 15:15	7439-96-5	
8260 MSV UST, Water	Analytical Method: EPA 8260							
Benzene	**1.4**	ug/L	1.0	1		12/28/17 01:10	71-43-2	
Ethylbenzene	ND	ug/L	1.0	1		12/28/17 01:10	100-41-4	
Toluene	**2.2**	ug/L	1.0	1		12/28/17 01:10	108-88-3	
Xylene (Total)	**5.9**	ug/L	3.0	1		12/28/17 01:10	1330-20-7	
Surrogates								
Toluene-d8 (S)	103	%	80-115	1		12/28/17 01:10	2037-26-5	
4-Bromofluorobenzene (S)	95	%	80-119	1		12/28/17 01:10	460-00-4	
1,2-Dichloroethane-d4 (S)	96	%	87-117	1		12/28/17 01:10	17060-07-0	
Preservation pH	**1.0**		1.0	1		12/28/17 01:10		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 11146005 San Juan 29-7 No 37
Pace Project No.: 60261005

QC Batch: 508991 Analysis Method: EPA 6010
QC Batch Method: EPA 3010 Analysis Description: 6010 MET Dissolved
Associated Lab Samples: 60261005001, 60261005002, 60261005003, 60261005004, 60261005005, 60261005006, 60261005007, 60261005008

METHOD BLANK: 2085006 Matrix: Water
Associated Lab Samples: 60261005001, 60261005002, 60261005003, 60261005004, 60261005005, 60261005006, 60261005007, 60261005008

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Manganese, Dissolved	ug/L	ND	5.0	01/03/18 14:26	
Selenium, Dissolved	ug/L	ND	15.0	01/03/18 14:26	

LABORATORY CONTROL SAMPLE: 2085007

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Manganese, Dissolved	ug/L	1000	998	100	80-120	
Selenium, Dissolved	ug/L	1000	1010	101	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2085008 2085009

Parameter	Units	60261005001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Manganese, Dissolved	ug/L	1750	1000	1000	2910	2760	116	101	75-125	5	20	
Selenium, Dissolved	ug/L	ND	1000	1000	1040	984	104	98	75-125	6	20	

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REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: 11146005 San Juan 29-7 No 37
Pace Project No.: 60261005

QC Batch: 508832
QC Batch Method: EPA 8260
Analysis Method: EPA 8260
Analysis Description: 8260 MSV UST-WATER
Associated Lab Samples: 60261005008

METHOD BLANK: 2084621 Matrix: Water
Associated Lab Samples: 60261005008

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ug/L	ND	1.0	12/27/17 23:47	
Ethylbenzene	ug/L	ND	1.0	12/27/17 23:47	
Toluene	ug/L	ND	1.0	12/27/17 23:47	
Xylene (Total)	ug/L	ND	3.0	12/27/17 23:47	
1,2-Dichloroethane-d4 (S)	%	97	87-117	12/27/17 23:47	
4-Bromofluorobenzene (S)	%	93	80-119	12/27/17 23:47	
Toluene-d8 (S)	%	103	80-115	12/27/17 23:47	

LABORATORY CONTROL SAMPLE: 2084622

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	20	18.7	93	81-118	
Ethylbenzene	ug/L	20	20.3	101	80-118	
Toluene	ug/L	20	19.4	97	82-118	
Xylene (Total)	ug/L	60	60.8	101	81-120	
1,2-Dichloroethane-d4 (S)	%			95	87-117	
4-Bromofluorobenzene (S)	%			95	80-119	
Toluene-d8 (S)	%			102	80-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2084623 2084624

Parameter	Units	60260949005 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Benzene	ug/L	0.00016J mg/L	20	20	20.1	21.8	100	108	62-138	8	34	
Ethylbenzene	ug/L	ND	20	20	20.8	22.8	104	114	60-140	9	32	
Toluene	ug/L	ND	20	20	20.5	21.8	102	108	65-135	6	32	
Xylene (Total)	ug/L	ND	60	60	62.4	66.9	104	111	69-133	7	31	
1,2-Dichloroethane-d4 (S)	%						96	96	87-117			
4-Bromofluorobenzene (S)	%						93	95	80-119			
Toluene-d8 (S)	%						102	102	80-115			
Preservation pH		1.0			1.0	1.0				0	0	

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REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: 11146005 San Juan 29-7 No 37
Pace Project No.: 60261005

QC Batch: 508704 Analysis Method: SM 2540C
QC Batch Method: SM 2540C Analysis Description: 2540C Total Dissolved Solids
Associated Lab Samples: 60261005004, 60261005006

METHOD BLANK: 2084380 Matrix: Water
Associated Lab Samples: 60261005004, 60261005006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	5.0	12/26/17 15:18	

LABORATORY CONTROL SAMPLE: 2084381

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	1000	1080	108	80-120	

SAMPLE DUPLICATE: 2084382

Parameter	Units	60260814001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	711	729	3	10	

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REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: 11146005 San Juan 29-7 No 37
Pace Project No.: 60261005

QC Batch: 509311 Analysis Method: EPA 300.0
QC Batch Method: EPA 300.0 Analysis Description: 300.0 IC Anions
Associated Lab Samples: 60261005004, 60261005006

METHOD BLANK: 2085974 Matrix: Water
Associated Lab Samples: 60261005004, 60261005006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Sulfate	mg/L	ND	1.0	12/30/17 13:44	

LABORATORY CONTROL SAMPLE: 2085975

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

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, LLC
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Lenexa, KS 66219
(913)599-5665

QUALIFIERS

Project: 11146005 San Juan 29-7 No 37
Pace Project No.: 60261005

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.

TNTC - Too Numerous To Count

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.

LABORATORIES

PASI-K Pace Analytical Services - Kansas City

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

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 11146005 San Juan 29-7 No 37
Pace Project No.: 60261005

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60261005001	**GW-11146005-121917-JP-MW-1**	EPA 3010	508991	EPA 6010	509136
60261005002	**GW-11146005-121917-JP-MW-2**	EPA 3010	508991	EPA 6010	509136
60261005003	**GW-11146005-121917-JP-MW-3**	EPA 3010	508991	EPA 6010	509136
60261005004	**GW-11146005-121917-JP-MW-4**	EPA 3010	508991	EPA 6010	509136
60261005005	**GW-11146005-121917-JP-MW-5**	EPA 3010	508991	EPA 6010	509136
60261005006	**GW-11146005-121917-JP-MW-6**	EPA 3010	508991	EPA 6010	509136
60261005007	**GW-11146005-121917-JP-MW-7**	EPA 3010	508991	EPA 6010	509136
60261005008	**GW-11146005-121917-JP-MW-8R**	EPA 3010	508991	EPA 6010	509136
60261005008	**GW-11146005-121917-JP-MW-8R**	EPA 8260	508832		
60261005004	**GW-11146005-121917-JP-MW-4**	SM 2540C	508704		
60261005006	**GW-11146005-121917-JP-MW-6**	SM 2540C	508704		
60261005004	**GW-11146005-121917-JP-MW-4**	EPA 300.0	509311		
60261005006	**GW-11146005-121917-JP-MW-6**	EPA 300.0	509311		

Pace Analytical
www.pacelabs.com

Sample Condition Upon Receipt
ESI Tech Spec Client

WO# : 60261005

60261005

Client Name: GHD Services New Mexico

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

Tracking #: 7710 6919 1609 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 0.0 T-266 / CF +0.2 T-239 **Type of Ice:** Wet Blue None

Cooler Temperature (°C): **As-read** 5.3 **Corr. Factor** CF 0.0 CF +0.2 **Corrected** 5.3

Date and initials of person examining contents: RH 12/22/17

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? (HNO3, H2SO4, 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	2 (DGAB1)
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: _____ Date: _____

REVIEWED
By hwilson at 10:37 am, 12/26/17

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

Start: 1437	Start:
End: 1439	End:
Temp:	Temp:

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, New Mexico
Address:	6121 Indian School Rd
	Albuquerque, NM 87110
Email:	jeff.walker@ghd.com
Phone:	505-884-0672 Fax:
Requested Due Date:	

Section B — Required Project Information:

Report To:	Jeff Walker
Copy To:	
Purchase Order #:	
Project Name:	11146005 San Juan 29-7 No 37
Project #:	

Section C — Invoice Information:

Attention:	
Company Name:	
Address:	
Pace Quote:	
Pace Project Manager:	colleen.clyne@pacelabs.com
Pace Profile #:	10540 line 1

Regulatory Agency: —

State / Location: NM

Requested Analysis Filtered (Y/N)

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	6010 Dissolved Mn-field filt	6010 Dissolved Se-field filt	300.0 Chloride	300.0 Sulfate	2540 TDS	Residual Chlorine (Y/N)	
1	GW-11146005-121917-JP-MW-1			12/19	1230							✓								✓						BP3F	001
2	GW-11146005-121917-JP-MW-2			12/19	1105							✓								✓	✓					2(BP3F)	002
3	GW-11146005-121917-JP-MW-3			12/19	1150							✓								✓						BP3F	003
4	GW-11146005-121917-JP-MW-4			12/19	1425							✓								✓	✓		✓	✓		2(BP3F), BP2U, BP3U	004
5	GW-11146005-121917-JP-MW-5			12/19	0915							✓								✓						BP3F	005
6	GW-11146005-121917-JP-MW-6			12/19	1015							✓								✓	✓		✓	✓		2(BP3F), BP2U, BP3U	006
7	GW-11146005-121917-JP-MW-7			12/19	1350							✓								✓						BP3F	007
8	GW-11146005-121917-JP-MW-8R			12/19	1310							✓	✓						✓	✓						BP3F, 3(DG9H)	008
9																											
10																											
11																											
12																											

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
	Charles Neligh	122017	1600	Jeff Walker	12/21/17	1430				
					12/22	1010	5.3	Y	N	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Joshua Pigg / Charles Neligh

SIGNATURE of SAMPLER: Joshua Pigg Charles Neligh DATE Signed: 12/20/17

TEMP in C | Received on Ice (Y/N) | Custody Sealed Cooler (Y/N) | Samples Intact (Y/N)