2017 Annual Groundwater Monitoring Report

San Juan 28-6 No.79
Rio Arriba County, New Mexico
API# 30-039-07110
NMOCD# 3R-1027

Hilcorp Energy Company

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

11146007| Report No 1 | January 30, 2018

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1. Introduction

This Annual Groundwater Monitoring Report groundwater data collected during the 2017 reporting period by GHD Services, Inc. (GHD) on behalf of Hilcorp Energy Company (Hilcorp) at the San Juan 28-6 No.79 release site (hereafter referred to as the "Site"). The Site is located within the Carrizo Wash (wash) on private land in Section 11, Township 27N, Range 6W, of Rio Arriba, New Mexico. Geographical coordinates for the site are 36°35'10.25" North, 107°44'24.89" West. A Site Location Map is included as Figure 1.

1.1 Background

In January 2015, holes were detected in a pipeline connecting the San Juan 28-6 No.79 gas well to the meter run located on the south side of the Carrizo Wash. In February 2015, The previous operator, ConocoPhillips Company (COP) initiated excavation activities of impacted soils from an area measuring approximately 30 foot (ft.) by 32 ft. by 8 ft. Approximately 285 cubic yards of impacted soils were removed and hauled away for off-Site disposal at a licensed landfarm facility. Notifications were made to and permits secured from the U.S. Army Corps of Engineers prior to initiation of work within the wash, a designated wetland area. Excavation confirmation samples were collected by Animas Environmental Services, LLC (AES) and results were submitted to the New Mexico Oil Conservation Division (NMOCD). The NMOCD approved the soil remedial effort based on the confirmation sample results and granted a conditional no further action status for the Site with regard to soil impacts. The NMOCD condition to closure required that potential groundwater impacts be investigated.

In March and May 2015 AES mobilized to the site and collected groundwater samples via Hydropunch sampler within the wash. Groundwater samples were submitted for analyses of benzene, toluene, ethylbenzene and xylenes (BTEX) by EPA Methods 8021 and 8260. Initial groundwater concentrations collected in March 2015 were in excess of NMOCD standards for BTEX constituents but had decreased significantly by the subsequent May 2015 sampling event. The AES Final Excavation Report (August 24, 2015) and Release Assessment Report (December 4, 2015) are available for review via the NMOCD online database (OCD Online).

GHD was contracted by COP in 2016 to continue groundwater monitoring at the Site. GHD mobilized to the Site each quarter of 2017 to collect groundwater samples from within the wash. Samples could be collected only twice each during 2017 due to frequently flowing conditions in the wash that prevented safe access for sample collection. Site ownership from COP to Hilcorp Energy Company was announced in April 2017.

2. Groundwater Monitoring

2.1 Groundwater Monitoring Methodology

GHD collected groundwater samples from within the wash Site in June and December 2017. Surface water flow was encountered within the wash in March and September of 2017 preventing

access into the wash and sample collection during those quarters. Depth to groundwater in June and December 2017was measured using an electronic water level meter prior to collection of groundwater samples at each sample location (Table 1). Flow of the shallow groundwater beneath the surface of the wash is generally eastward, consistent with the direction of surface water flow when the wash is flowing.

A hand-driven Geoprobe sampling unit was used to insert a screened steel rod to intercept the water table and collect a sample. Groundwater was pumped to the surface through the center of the rod via peristaltic pump with ¼ inch polyethylene tubing. The steel screened section was decontaminated between each sample point using an Alconox and distilled water rinse. Groundwater samples from sample points GP-1 through GP-5 were collected into laboratory provided glass containers, preserved on ice and shipped to Pace Laboratory in Lenexa, Kansas under chain-of-custody protocol. Samples collected from the GP-1, GP-2, GP-3, GP-4 and GP-5 sampling points (Figure 2) during the June and December 2017 quarterly sampling events were analyzed for benzene, toluene, ethylbenzene, and xylenes (BTEX) by EPA Method 8260. Laboratory results and measured depths to groundwater are summarized in Table 1. Field parameters, including temperature, pH and conductivity were recorded for the December 2017 monitoring event and are summarized in Table 2.

2.2 Analytical Results

The June 2017 groundwater sample collected from GP-1 detected toluene at a concentration of 0.0088 milligrams per liter (mg/L). The June 2017 groundwater sample collected from GP-3 detected ethylbenzene at a concentration of 0.0062 and xylenes at a concentration of 0.0382 mg/L. These concentrations are significantly below the New Mexico Water Quality Control Commission (NMWQCC) standards for these constituents. Concentrations of benzene was not detected in Site groundwater samples in 2017. The December 2017 samples did not detect BTEX constituents in concentrations above laboratory reporting limits.

An historical analytical results summary is presented as Table 1. Copies of laboratory analytical reports for the 2017 groundwater sampling events are included in Appendix A. A Site map showing the concentrations of BTEX constituents present in groundwater during 2015 through 2017 groundwater sampling events is included as Figure 2.

3. Conclusions and Recommendations

Groundwater samples collected from the Geo-probe sample locations did not exceed NMWQCC drinking water quality standards for tested constituents during 2017 and have not exceeded standards since May 2015.

It is evident that natural degradation of hydrocarbons in the highly oxygenated, shallow groundwater beneath the release site are factors resulting in continued below standard concentrations of hydrocarbons in groundwater at the Site.

Impacted soils were removed from the release area resulting in no further action with regard to source removal being granted by the NMOCD. Groundwater sampling results for the last 2 years

show only trace hydrocarbon constituents remain in groundwater. These data demonstrate that this Site poses no threat to human health or the environment. Hilcorp therefore requests no further action with respect to groundwater monitoring be granted for this Site.

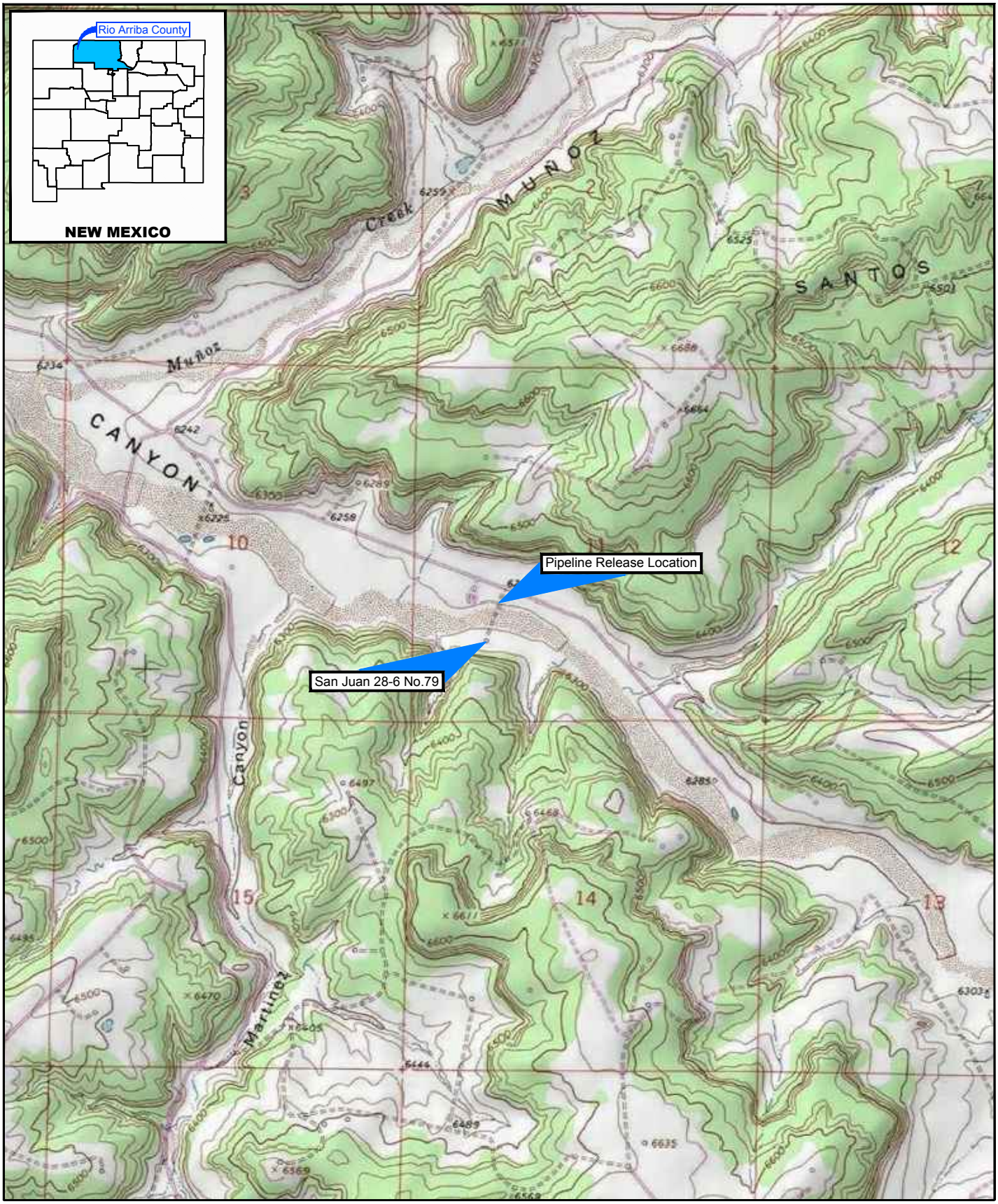
Respectfully Submitted,

GHD

Jeff Walker
Sr. Project Manager

Bernie Bockisch
Albuquerque Area Manager

Figures



Source: USGS 7.5 Minute Quad "Santos Peak, New Mexico"

Lat/Long: 36.58613° North, 107.44110° West

0 1000 2000ft

Coordinate System:
NAD 1983 (2011) StatePlane-
New Mexico Central (US Feet)

HILCORP ENERGY COMPANY
RIO ARRIBA COUNTY, NEW MEXICO
SAN JUAN 28-6 No. 79

11146007-00

Jan 2, 2018

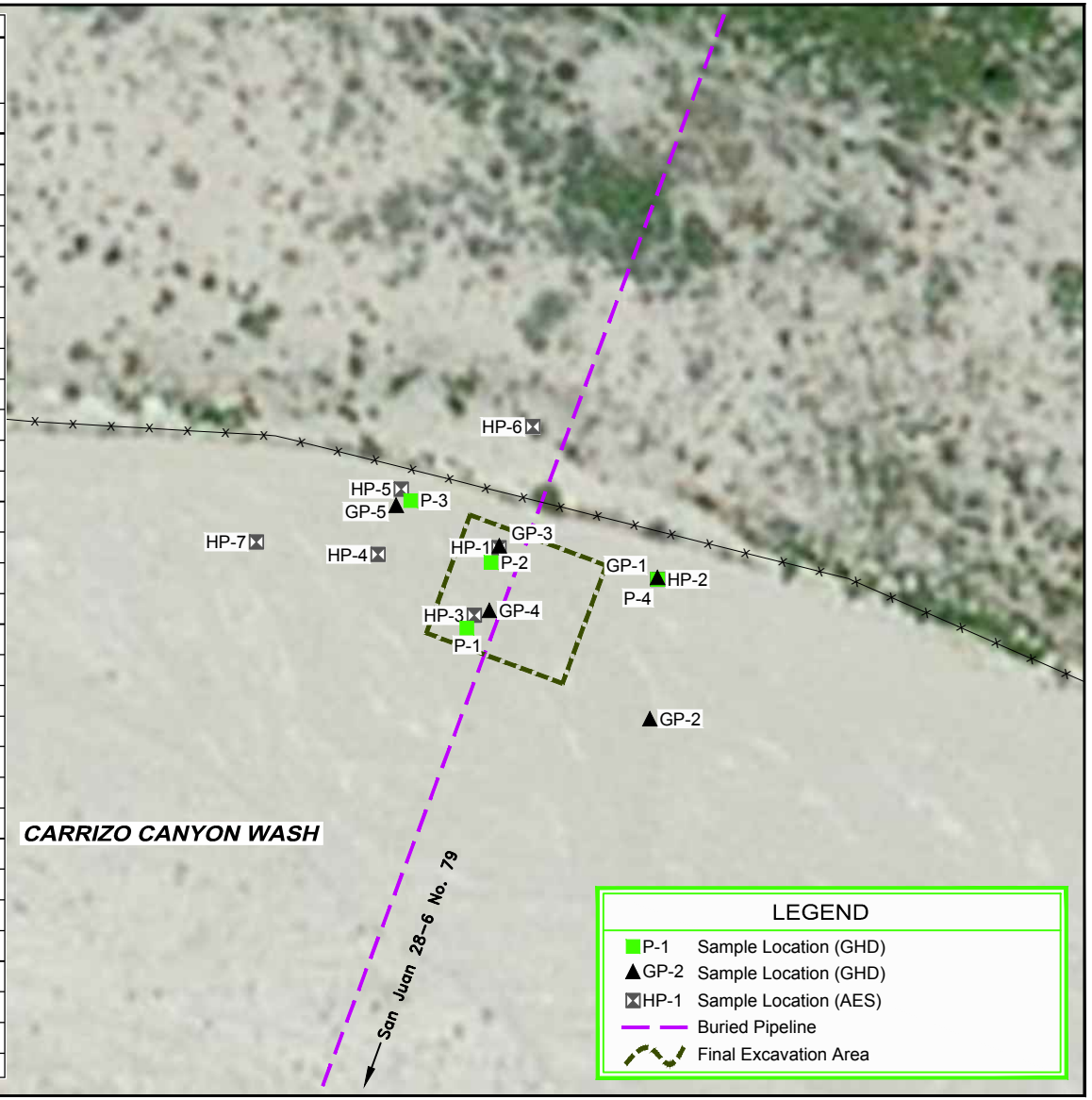
SITE LOCATION MAP

FIGURE 1

CAD File: I:\CAD\Files\Eight Digit Job Numbers\1114----\11146007-Hilcorp-San Juan 28-6 No. 79\11146007-00(000)GN-DL001.dwg

Groundwater Laboratory Analyitcal Results						
Sample ID	**Date**	**Depth to Water (ft)**	**Benzene (µg/L)**	**Toluene (µg/L)**	**Ethylbenzene (µg/L)**	**Xylenes (µg/L)**
NMWQCC groundwater standard			**10**	**750**	**750**	**620**
HP-1	**3/26/2015**	4	**3,900**	**8,100**	570	**6,100**
HP-1	**5/4/2015**	4	140	<2.0	3.3	18
HP-2	**3/31/2015**	3	**33**	<2.0	<2.0	**11**
HP-2	**5/4/2015**	3	160	3.1	3.1	47
HP-3	**3/31/2015**	3	<2.0	<2.0	<2.0	<4.0
HP-4	**3/31/2015**	3	**49**	2.1	<2.0	16
HP-4	**5/4/2015**	3	<2.0	<2.0	<2.0	<4.0
HP-5	**3/31/2015**	3	**4,300**	**3,200**	350	**2,500**
HP-5	**5/4/2015**	3	**200**	<2.0	<2.0	<4.0
HP-6	**3/31/2015**	4.5	<2.0	<2.0	<2.0	<4.0
HP-7	**3/31/2015**	3	<2.0	<2.0	<2.0	<4.0
P-1	**5/10/2016**	4.6	<1.0	<1.0	<1.0	<3.0
P-2	**5/10/2016**	3.3	5	<1.0	<1.0	<3.0
P-3	**5/10/2016**	8	<1.0	<1.0	<1.0	<3.0
P-4	**5/10/2016**	6.7	<1.0	<1.0	<1.0	<3.0
GP-1	**10/6/2016**	7.25	<0.001	<0.001	<0.001	<0.003
	6/16/2017	5.5	<5.0	8.8	<5.0	<15.0
	12/18/2017	13.3	<0.001	<0.001	<0.001	<0.003
GP-2	**10/6/2016**	4.85	<0.001	<0.001	<0.001	<0.003
	6/16/2017	9.2	<5.0	<5.0	<5.0	<15.0
	12/18/2017	16.6	<0.001	<0.001	<0.001	<0.003
GP-3	**10/6/2016**	--	<0.001	2.6	1	6.7
	6/16/2017	6.8	<5.0	<5.0	6.2	38.2
	12/18/2017	12.6	<5.0	<5.0	<5.0	<15.0
GP-4	**10/6/2016**	7.15	<0.001	<0.001	<0.001	<0.003
	6/16/2017	10.2	<5.0	<5.0	<5.0	<15.0
	12/18/2017	9.85	<0.001	<0.001	<0.001	<0.003
GP-5	**10/6/2016**	7.38	<0.001	<0.001	<0.001	<0.003
	6/16/2017	8.6	<5.0	<5.0	<5.0	<15.0
	12/18/2017	14.36	<5.0	<5.0	<5.0	<15.0

HP-1, P-1 thru P-4 and GP-1 thru GP-5 analyzed via EPA 8260; HP-2 thru HP-7 analyzed via EPA 8021B



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

Lat/Long: 36.58613° North, 107.44110° West

0 20 40ft

Coordinate System:
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New Mexico Central (US Feet)

HILCORP ENERGY COMPANY
RIO ARRIBA COUNTY, NEW MEXICO
SAN JUAN 28-6 No. 79

11146007-00

Jan 2, 2018

GROUNDWATER SAMPLE LOCATIONS AND RESULTS MAP

FIGURE 2

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Tables

Table 1

Groundwater Analytical Results and Depth to Groundwater Summary
San Juan 28-6 No. 79
Hilcorp Energy Company

Sample ID	Date	Depth to Water (ft)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Xylenes (µg/L)
NMWQCC groundwater standard			10	750	750	620
HP-1	03/26/15	4	**3,900**	**8,100**	570	**6,100**
HP-1	05/04/15	4	140	<2.0	3.3	18
HP-2	03/31/15	3	**33**	<2.0	<2.0	**11**
HP-2	05/04/15	3	160	3.1	3.1	47
HP-3	03/31/15	3	<2.0	<2.0	<2.0	<4.0
HP-4	03/31/15	3	**49**	2.1	<2.0	16
HP-4	05/04/15	3	<2.0	<2.0	<2.0	<4.0
HP-5	03/31/15	3	**4,300**	**3,200**	350	**2,500**
HP-5	05/04/15	3	**200**	<2.0	<2.0	<4.0
HP-6	03/31/15	4.5	<2.0	<2.0	<2.0	<4.0
HP-7	03/31/15	3	<2.0	<2.0	<2.0	<4.0
P-1	05/10/16	4.6	<1.0	<1.0	<1.0	<3.0
P-2	05/10/16	3.3	5	<1.0	<1.0	<3.0
P-3	05/10/16	8	<1.0	<1.0	<1.0	<3.0
P-4	05/10/16	6.7	<1.0	<1.0	<1.0	<3.0
GP-1	10/06/16	7.25	<0.001	<0.001	<0.001	<0.003
	06/16/17	5.5	<5.0	8.8	<5.0	<15.0
	12/18/17	13.3	<1.0	<1.0	<1.0	<3.0
GP-2	10/06/16	4.85	<0.001	<0.001	<0.001	<0.003
	06/16/17	9.2	<5.0	<5.0	<5.0	<15.0
	12/18/17	16.6	<1.0	<1.0	<1.0	<3.0
GP-3	10/06/16	--	<0.001	2.6	1	6.7
	06/16/17	6.8	<5.0	<5.0	6.2	38.2
	12/18/17	12.6	<5.0	<5.0	<5.0	<15.0
GP-4	10/06/16	7.15	<0.001	<0.001	<0.001	<0.003
	06/16/17	10.2	<5.0	<5.0	<5.0	<15.0
	12/18/17	9.85	<1.0	<1.0	<1.0	<3.0
GP-5	10/06/16	7.38	<0.001	<0.001	<0.001	<0.003
	06/16/17	8.6	<5.0	<5.0	<5.0	<15.0
	12/18/17	14.36	<5.0	<5.0	<5.0	<15.0
HP-1, P-1 thru P-4 and GP-1 thru GP-5 analyzed via EPA 8260; HP-2 thru HP-7 analyzed via EPA 8021B						

Notes:
ug/L = micrograms per liter
NMWQCC = New Mexico Water Quality Control Commission
HP-1 = Hydropunch sample point
P-1 = Geoprobe sample point
GP-1 = Geoprobe sample point
< x = analyte concentration below laboratory detection limit of x
Bold = exceeds NMWQCC groundwater standard

Table 2

Field Parameters
Hilcorp Energy Company
San Juan 28-6 No. 79
Rio Arriba County, New Mexico

Sample Point	Date	Temp˚C	pH	TDS (g/L)	SC (µS/cm)	DO (mg/L)	ORP (mV)	Volume (mL)
P-1	05/10/16	15.56	7.88	0.018	28	10.25	2.5	0.25
P-2	05/10/16	12.57	8.31	0.273	421	17.43	-71	0.75
P-3	05/10/16	22.12	8.22	0.469	722	7.7	-44.3	0.25
P-4	05/10/16	19.49	7.75	0.432	671	12.58	-33.7	0.5
GP-1	10/26/16	17.37	8.29	0.391	602	6.6	-533.4	0.25
	12/18/17	5.1	7.94	--	604	--	--	--
GP-2	10/26/16	17.33	7.97	0.425	653	6.98	132.7	0.25
	12/18/17	7.2	7.3	--	715	--	--	--
GP-3	10/26/16	16.94	8.03	0.415	638	8.18	-580.2	0.25
	12/18/17	10.5	7.93	--	561	--	--	--
GP-4	12/18/17	12.2	7.9	--	369	--	--	--
GP-5	10/26/16	17.81	8.1	0.421	647	6.79	-176.4	0.25
	12/18/17	14.8	7.76	--	545	--	--	--

Notes:
HP-1 = Hydropunch sample point
P-1 = Geoprobe sample point
GP-1 = Geoprobe sample point
TDS = Total dissolved solids
SC = Soil Conductivity
DO = Dissolved oxygen
ORP =Oxidation-reduction potential

Appendix A
Groundwater Laboratory Analytical Reports

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

July 12, 2017

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

RE: Project: 11119427 COP SAN JUAN 28-6#79
Pace Project No.: 60246788

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.

REVISED

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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Lenexa, KS 66219
(913)599-5665

CERTIFICATIONS

Project: 11119427 COP SAN JUAN 28-6#79
Pace Project No.: 60246788

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

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

SAMPLE SUMMARY

Project: 11119427 COP SAN JUAN 28-6#79
Pace Project No.: 60246788

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60246788001	**GW-11119427-061617-CN-GP-1**	Water	06/16/17 11:20	06/17/17 08:30
60246788002	**GW-11119427-061617-CN-GP-2**	Water	06/16/17 11:58	06/17/17 08:30
60246788003	**GW-11119427-061617-CN-GP-3**	Water	06/16/17 12:26	06/17/17 08:30
60246788004	**GW-11119427-061617-CN-GP-4**	Water	06/16/17 13:00	06/17/17 08:30
60246788005	**GW-11119427-061617-CN-GP-5**	Water	06/16/17 13:28	06/17/17 08:30

REPORT OF LABORATORY ANALYSIS

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

SAMPLE ANALYTE COUNT

Project: 11119427 COP SAN JUAN 28-6#79
Pace Project No.: 60246788

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60246788001	**GW-11119427-061617-CN-GP-1**	EPA 8260/OA1	EAG	8	PASI-K
60246788002	**GW-11119427-061617-CN-GP-2**	EPA 8260/OA1	EAG	8	PASI-K
60246788003	**GW-11119427-061617-CN-GP-3**	EPA 8260/OA1	EAG	8	PASI-K
60246788004	**GW-11119427-061617-CN-GP-4**	EPA 8260/OA1	EAG	8	PASI-K
60246788005	**GW-11119427-061617-CN-GP-5**	EPA 8260/OA1	EAG	8	PASI-K

REPORT OF LABORATORY ANALYSIS

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

PROJECT NARRATIVE

Project: 11119427 COP SAN JUAN 28-6#79
Pace Project No.: 60246788

Method: **EPA 8260/OA1**
Description: 8260/OA1 UST, Water
Client: GHD Services_COP NM
Date: July 12, 2017

General Information:
5 samples were analyzed for EPA 8260/OA1. 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.

pH: Post-analysis pH measurement indicates insufficient VOA sample preservation.
- GW-11119427-061617-CN-GP-4 (Lab ID: 60246788004)

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: 483052

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

Additional Comments:

Analyte Comments:

QC Batch: 483052

1e: Sample was diluted due to the presence of high levels of sediment in the vials.
- GW-11119427-061617-CN-GP-1 (Lab ID: 60246788001)
  - Toluene-d8 (S)
- GW-11119427-061617-CN-GP-2 (Lab ID: 60246788002)
  - Toluene-d8 (S)
- GW-11119427-061617-CN-GP-3 (Lab ID: 60246788003)
  - Toluene-d8 (S)

Pace Analytical Services, LLC
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(913)599-5665

PROJECT NARRATIVE

Project: 11119427 COP SAN JUAN 28-6#79
Pace Project No.: 60246788

Method: **EPA 8260/OA1**
Description: 8260/OA1 UST, Water
Client: GHD Services_COP NM
Date: July 12, 2017

Analyte Comments:

QC Batch: 483052

1e: Sample was diluted due to the presence of high levels of sediment in the vials.

- GW-11119427-061617-CN-GP-4 (Lab ID: 60246788004)
  - Toluene-d8 (S)

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

Pace Analytical Services, LLC
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Lenexa, KS 66219
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ANALYTICAL RESULTS

Project: 11119427 COP SAN JUAN 28-6#79
Pace Project No.: 60246788

Sample: GW-11119427-061617-CN-GP-1 **Lab ID: 60246788001** Collected: 06/16/17 11:20 Received: 06/17/17 08:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260/OA1 UST, Water	Analytical Method: EPA 8260/OA1							
Benzene	ND	ug/L	5.0	5		06/29/17 02:03	71-43-2	
Toluene	**8.8**	ug/L	5.0	5		06/29/17 02:03	108-88-3	
Ethylbenzene	ND	ug/L	5.0	5		06/29/17 02:03	100-41-4	
Xylene (Total)	ND	ug/L	15.0	5		06/29/17 02:03	1330-20-7	
Surrogates								
Toluene-d8 (S)	103	%	80-120	5		06/29/17 02:03	2037-26-5	1e
4-Bromofluorobenzene (S)	98	%	80-120	5		06/29/17 02:03	460-00-4	
1,2-Dichloroethane-d4 (S)	97	%	80-120	5		06/29/17 02:03	17060-07-0	
Preservation pH	**1.0**		0.10	5		06/29/17 02:03		

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: 11119427 COP SAN JUAN 28-6#79
Pace Project No.: 60246788

Sample: GW-11119427-061617-CN-GP-2 **Lab ID: 60246788002** Collected: 06/16/17 11:58 Received: 06/17/17 08:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260/OA1 UST, Water	Analytical Method: EPA 8260/OA1							
Benzene	ND	ug/L	5.0	5		06/29/17 02:17	71-43-2	
Toluene	ND	ug/L	5.0	5		06/29/17 02:17	108-88-3	
Ethylbenzene	ND	ug/L	5.0	5		06/29/17 02:17	100-41-4	
Xylene (Total)	ND	ug/L	15.0	5		06/29/17 02:17	1330-20-7	
Surrogates								
Toluene-d8 (S)	106	%	80-120	5		06/29/17 02:17	2037-26-5	1e
4-Bromofluorobenzene (S)	100	%	80-120	5		06/29/17 02:17	460-00-4	
1,2-Dichloroethane-d4 (S)	96	%	80-120	5		06/29/17 02:17	17060-07-0	
Preservation pH	**1.0**		0.10	5		06/29/17 02:17		

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9608 Loiret Blvd.
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ANALYTICAL RESULTS

Project: 11119427 COP SAN JUAN 28-6#79
Pace Project No.: 60246788

Sample: GW-11119427-061617-CN-GP-3 **Lab ID: 60246788003** Collected: 06/16/17 12:26 Received: 06/17/17 08:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260/OA1 UST, Water	Analytical Method: EPA 8260/OA1							
Benzene	ND	ug/L	5.0	5		06/29/17 02:31	71-43-2	
Toluene	ND	ug/L	5.0	5		06/29/17 02:31	108-88-3	
Ethylbenzene	**6.2**	ug/L	5.0	5		06/29/17 02:31	100-41-4	
Xylene (Total)	**38.2**	ug/L	15.0	5		06/29/17 02:31	1330-20-7	
Surrogates								
Toluene-d8 (S)	105	%	80-120	5		06/29/17 02:31	2037-26-5	1e
4-Bromofluorobenzene (S)	98	%	80-120	5		06/29/17 02:31	460-00-4	
1,2-Dichloroethane-d4 (S)	96	%	80-120	5		06/29/17 02:31	17060-07-0	
Preservation pH	**1.0**		0.10	5		06/29/17 02:31		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 11119427 COP SAN JUAN 28-6#79
Pace Project No.: 60246788

Sample: GW-11119427-061617-CN-GP-4 **Lab ID: 60246788004** Collected: 06/16/17 13:00 Received: 06/17/17 08:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260/OA1 UST, Water	Analytical Method: EPA 8260/OA1							
Benzene	ND	ug/L	5.0	5		06/29/17 02:46	71-43-2	
Toluene	ND	ug/L	5.0	5		06/29/17 02:46	108-88-3	
Ethylbenzene	ND	ug/L	5.0	5		06/29/17 02:46	100-41-4	
Xylene (Total)	ND	ug/L	15.0	5		06/29/17 02:46	1330-20-7	
Surrogates								
Toluene-d8 (S)	104	%	80-120	5		06/29/17 02:46	2037-26-5	1e
4-Bromofluorobenzene (S)	97	%	80-120	5		06/29/17 02:46	460-00-4	
1,2-Dichloroethane-d4 (S)	99	%	80-120	5		06/29/17 02:46	17060-07-0	
Preservation pH	**4.0**		0.10	5		06/29/17 02:46		pH

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 11119427 COP SAN JUAN 28-6#79
Pace Project No.: 60246788

Sample: GW-11119427-061617-CN-GP-5 **Lab ID: 60246788005** Collected: 06/16/17 13:28 Received: 06/17/17 08:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260/OA1 UST, Water	Analytical Method: EPA 8260/OA1							
Benzene	ND	ug/L	5.0	5		06/29/17 03:00	71-43-2	
Toluene	ND	ug/L	5.0	5		06/29/17 03:00	108-88-3	
Ethylbenzene	ND	ug/L	5.0	5		06/29/17 03:00	100-41-4	
Xylene (Total)	ND	ug/L	15.0	5		06/29/17 03:00	1330-20-7	
Surrogates								
Toluene-d8 (S)	104	%	80-120	5		06/29/17 03:00	2037-26-5	
4-Bromofluorobenzene (S)	99	%	80-120	5		06/29/17 03:00	460-00-4	
1,2-Dichloroethane-d4 (S)	98	%	80-120	5		06/29/17 03:00	17060-07-0	
Preservation pH	**1.0**		0.10	5		06/29/17 03:00		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 11119427 COP SAN JUAN 28-6#79
Pace Project No.: 60246788

QC Batch: 483052 Analysis Method: EPA 8260/OA1
QC Batch Method: EPA 8260/OA1 Analysis Description: 8260/OA1 UST-WATER
Associated Lab Samples: 60246788001, 60246788002, 60246788003, 60246788004, 60246788005

METHOD BLANK: 1978757 Matrix: Water
Associated Lab Samples: 60246788001, 60246788002, 60246788003, 60246788004, 60246788005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ug/L	ND	1.0	06/28/17 23:13	
Ethylbenzene	ug/L	ND	1.0	06/28/17 23:13	
Toluene	ug/L	ND	1.0	06/28/17 23:13	
Xylene (Total)	ug/L	ND	3.0	06/28/17 23:13	
1,2-Dichloroethane-d4 (S)	%	95	80-120	06/28/17 23:13	
4-Bromofluorobenzene (S)	%	98	80-120	06/28/17 23:13	
Toluene-d8 (S)	%	104	80-120	06/28/17 23:13	

LABORATORY CONTROL SAMPLE: 1978758

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	20	18.7	94	82-115	
Ethylbenzene	ug/L	20	19.3	97	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)	%			95	80-120	
4-Bromofluorobenzene (S)	%			95	80-120	
Toluene-d8 (S)	%			103	80-120	

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

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: 11119427 COP SAN JUAN 28-6#79
Pace Project No.: 60246788

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: 483052

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

ANALYTE QUALIFIERS

1e	Sample was diluted due to the presence of high levels of sediment in the vials.
pH	Post-analysis pH measurement indicates insufficient VOA sample preservation.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 11119427 COP SAN JUAN 28-6#79
Pace Project No.: 60246788

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60246788001	**GW-11119427-061617-CN-GP-1**	EPA 8260/OA1	483052		
60246788002	**GW-11119427-061617-CN-GP-2**	EPA 8260/OA1	483052		
60246788003	**GW-11119427-061617-CN-GP-3**	EPA 8260/OA1	483052		
60246788004	**GW-11119427-061617-CN-GP-4**	EPA 8260/OA1	483052		
60246788005	**GW-11119427-061617-CN-GP-5**	EPA 8260/OA1	483052		

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Sample Condition Upon Receipt

WO# : 60246788

60246788

Client Name: GHD

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

Cooler Temperature (°C): **As-read** 2.9 **Corr. Factor** CF +2.9 CF +0.2 **Corrected** 3.0

Date and initials of person examining contents: 6/17/17

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)	☐Yes ☐No	
Potassium iodide test strip turns blue/purple? (Preserve)	☐Yes ☐No	
Trip Blank present:	☐Yes ☑No ☐N/A	
Headspace in VOA vials (>6mm):	☐Yes ☑No ☐N/A	6/17/17
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: 06/19/17

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:	11119427 COP San Juan 28-6#70	Pace Project Manager:	alice.spiller@pacelabs.com,
Requested Due Date:		Project #:		Pace Profile #:	8644, line 29

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	Residual Chlorine (Y/N)	60246788
1	GW-11119427-061617-CN-GP-1	WT	G	6-16-17	1120				3									X	X		01
2	GW-11119427-061617-CN-GP-2				1158																02
3	GW-11119427-061617-CN-GP-3				1226																03
4	GW-11119427-061617-CN-GP-4				1300																04
5	GW-11119427-061617-CN-GP-5				1328																05
6																					
7																					
8																					
9																					
10																					
11																					
12																					

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
		6/16/17	1600		6/17/17	0830	3.0	Y	Y	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Charles Nelig

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

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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December 27, 2017

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

RE: Project: 11146007 SAN JAUN 28-6 #79
Pace Project No.: 60260989

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

Enclosures

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

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CERTIFICATIONS

Project: 11146007 SAN JAUN 28-6 #79
Pace Project No.: 60260989

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: 11146007 SAN JAUN 28-6 #79
Pace Project No.: 60260989

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60260989001	**GW-11146007-121817-JP-GP-1**	Water	12/18/17 16:50	12/22/17 10:10
60260989002	**GW-11146007-121817-JP-GP-2**	Water	12/18/17 10:02	12/22/17 10:10
60260989003	**GW-11146007-121817-JP-GP-3**	Water	12/18/17 11:00	12/22/17 10:10
60260989004	**GW-11146007-121817-JP-GP-4**	Water	12/18/17 11:29	12/22/17 10:10
60260989005	**GW-11146007-121817-JP-GP-5**	Water	12/18/17 11:59	12/22/17 10:10

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SAMPLE ANALYTE COUNT

Project: 11146007 SAN JAUN 28-6 #79
Pace Project No.: 60260989

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60260989001	**GW-11146007-121817-JP-GP-1**	EPA 8260	EAG	8	PASI-K
60260989002	**GW-11146007-121817-JP-GP-2**	EPA 8260	EAG	8	PASI-K
60260989003	**GW-11146007-121817-JP-GP-3**	EPA 8260	EAG	8	PASI-K
60260989004	**GW-11146007-121817-JP-GP-4**	EPA 8260	EAG	8	PASI-K
60260989005	**GW-11146007-121817-JP-GP-5**	EPA 8260	EAG	8	PASI-K

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ANALYTICAL RESULTS

Project: 11146007 SAN JAUN 28-6 #79
Pace Project No.: 60260989

Sample: GW-11146007-121817-JP-GP-1 **Lab ID: 60260989001** Collected: 12/18/17 16:50 Received: 12/22/17 10:10 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV UST, Water	Analytical Method: EPA 8260							
Benzene	ND	ug/L	100	100		12/27/17 02:41	71-43-2	
Ethylbenzene	ND	ug/L	100	100		12/27/17 02:41	100-41-4	
Toluene	ND	ug/L	100	100		12/27/17 02:41	108-88-3	
Xylene (Total)	ND	ug/L	300	100		12/27/17 02:41	1330-20-7	
Surrogates								
Toluene-d8 (S)	101	%	80-115	100		12/27/17 02:41	2037-26-5	1e
4-Bromofluorobenzene (S)	93	%	80-119	100		12/27/17 02:41	460-00-4	
1,2-Dichloroethane-d4 (S)	95	%	87-117	100		12/27/17 02:41	17060-07-0	
Preservation pH	**6.0**		1.0	100		12/27/17 02:41		pH

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 11146007 SAN JAUN 28-6 #79
Pace Project No.: 60260989

Sample: GW-11146007-121817-JP-GP-2 **Lab ID: 60260989002** Collected: 12/18/17 10:02 Received: 12/22/17 10:10 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV UST, Water	Analytical Method: EPA 8260							
Benzene	ND	ug/L	1.0	1		12/27/17 02:55	71-43-2	
Ethylbenzene	ND	ug/L	1.0	1		12/27/17 02:55	100-41-4	
Toluene	ND	ug/L	1.0	1		12/27/17 02:55	108-88-3	
Xylene (Total)	ND	ug/L	3.0	1		12/27/17 02:55	1330-20-7	
Surrogates								
Toluene-d8 (S)	103	%	80-115	1		12/27/17 02:55	2037-26-5	
4-Bromofluorobenzene (S)	94	%	80-119	1		12/27/17 02:55	460-00-4	
1,2-Dichloroethane-d4 (S)	92	%	87-117	1		12/27/17 02:55	17060-07-0	
Preservation pH	**1.0**		1.0	1		12/27/17 02:55		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 11146007 SAN JAUN 28-6 #79
Pace Project No.: 60260989

Sample: GW-11146007-121817-JP-GP-3 **Lab ID: 60260989003** Collected: 12/18/17 11:00 Received: 12/22/17 10:10 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV UST, Water	Analytical Method: EPA 8260							
Benzene	ND	ug/L	5.0	5		12/27/17 03:09	71-43-2	
Ethylbenzene	ND	ug/L	5.0	5		12/27/17 03:09	100-41-4	
Toluene	ND	ug/L	5.0	5		12/27/17 03:09	108-88-3	
Xylene (Total)	ND	ug/L	15.0	5		12/27/17 03:09	1330-20-7	
Surrogates								
Toluene-d8 (S)	102	%	80-115	5		12/27/17 03:09	2037-26-5	1e
4-Bromofluorobenzene (S)	93	%	80-119	5		12/27/17 03:09	460-00-4	
1,2-Dichloroethane-d4 (S)	90	%	87-117	5		12/27/17 03:09	17060-07-0	
Preservation pH	**1.0**		1.0	5		12/27/17 03:09		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 11146007 SAN JAUN 28-6 #79
Pace Project No.: 60260989

Sample: GW-11146007-121817-JP-GP-4 **Lab ID: 60260989004** Collected: 12/18/17 11:29 Received: 12/22/17 10:10 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV UST, Water	Analytical Method: EPA 8260							
Benzene	ND	ug/L	1.0	1		12/27/17 03:23	71-43-2	
Ethylbenzene	ND	ug/L	1.0	1		12/27/17 03:23	100-41-4	
Toluene	ND	ug/L	1.0	1		12/27/17 03:23	108-88-3	
Xylene (Total)	ND	ug/L	3.0	1		12/27/17 03:23	1330-20-7	
Surrogates								
Toluene-d8 (S)	103	%	80-115	1		12/27/17 03:23	2037-26-5	
4-Bromofluorobenzene (S)	93	%	80-119	1		12/27/17 03:23	460-00-4	
1,2-Dichloroethane-d4 (S)	95	%	87-117	1		12/27/17 03:23	17060-07-0	
Preservation pH	**1.0**		1.0	1		12/27/17 03:23		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 11146007 SAN JAUN 28-6 #79
Pace Project No.: 60260989

Sample: GW-11146007-121817-JP-GP-5 **Lab ID: 60260989005** Collected: 12/18/17 11:59 Received: 12/22/17 10:10 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV UST, Water	Analytical Method: EPA 8260							
Benzene	ND	ug/L	5.0	5		12/27/17 03:37	71-43-2	
Ethylbenzene	ND	ug/L	5.0	5		12/27/17 03:37	100-41-4	
Toluene	ND	ug/L	5.0	5		12/27/17 03:37	108-88-3	
Xylene (Total)	ND	ug/L	15.0	5		12/27/17 03:37	1330-20-7	
Surrogates								
Toluene-d8 (S)	103	%	80-115	5		12/27/17 03:37	2037-26-5	1e,HS
4-Bromofluorobenzene (S)	93	%	80-119	5		12/27/17 03:37	460-00-4	
1,2-Dichloroethane-d4 (S)	91	%	87-117	5		12/27/17 03:37	17060-07-0	
Preservation pH	**1.0**		1.0	5		12/27/17 03:37		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 11146007 SAN JAUN 28-6 #79
Pace Project No.: 60260989

QC Batch: 508686 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV UST-WATER
Associated Lab Samples: 60260989001, 60260989002, 60260989003, 60260989004, 60260989005

METHOD BLANK: 2084355 Matrix: Water
Associated Lab Samples: 60260989001, 60260989002, 60260989003, 60260989004, 60260989005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ug/L	ND	1.0	12/27/17 00:51	
Ethylbenzene	ug/L	ND	1.0	12/27/17 00:51	
Toluene	ug/L	ND	1.0	12/27/17 00:51	
Xylene (Total)	ug/L	ND	3.0	12/27/17 00:51	
1,2-Dichloroethane-d4 (S)	%	93	87-117	12/27/17 00:51	
4-Bromofluorobenzene (S)	%	95	80-119	12/27/17 00:51	
Toluene-d8 (S)	%	102	80-115	12/27/17 00:51	

LABORATORY CONTROL SAMPLE: 2084356

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	20	18.5	92	81-118	
Ethylbenzene	ug/L	20	20.5	102	80-118	
Toluene	ug/L	20	19.4	97	82-118	
Xylene (Total)	ug/L	60	59.3	99	81-120	
1,2-Dichloroethane-d4 (S)	%			93	87-117	
4-Bromofluorobenzene (S)	%			93	80-119	
Toluene-d8 (S)	%			102	80-115	

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
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

QUALIFIERS

Project: 11146007 SAN JAUN 28-6 #79
Pace Project No.: 60260989

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: 508686

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

ANALYTE QUALIFIERS

1e	Sample was diluted due to the presence of sediment in the vials.
HS	Results are from sample aliquot taken from VOA vial with headspace (air bubble greater than 6 mm diameter).
pH	Post-analysis pH measurement indicates insufficient VOA sample preservation.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 11146007 SAN JAUN 28-6 #79
Pace Project No.: 60260989

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60260989001	**GW-11146007-121817-JP-GP-1**	EPA 8260	508686		
60260989002	**GW-11146007-121817-JP-GP-2**	EPA 8260	508686		
60260989003	**GW-11146007-121817-JP-GP-3**	EPA 8260	508686		
60260989004	**GW-11146007-121817-JP-GP-4**	EPA 8260	508686		
60260989005	**GW-11146007-121817-JP-GP-5**	EPA 8260	508686		

Pace Analytical
www.pacelabs.com

Sample Condition Upon Receipt
ESI Tech Spec Client

WO# : 60260989

60260989

Client Name: GHD Services, New Mexico

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

Tracking #: 771069231639 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

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

Cooler Temperature (°C): **As-read** 3.4 **Corr. Factor** (CF 0.0) CF +0.2 **Corrected** 3.4

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	2CDG9,17)
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: _____

Project Manager Review: REVIEWED By hwilson at 10:29 am, 12/26/17 Date: _____

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

Start: 1409	Start:
End: 1411	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:		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:	11146007 San Juan 28-6 #79	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	Residual Chlorine (Y/N)	60260989
1	GW-11146007-122017-JP-GP-1			12/18	1650								✓						✓		3(DG9HT)
2	GW-11146007-122017-JP-GP-2			12/20	1002								✓						✓		
3	GW-11146007-122017-JP-GP-3			12/20	1108								✓						✓		
4	GW-11146007-122017-JP-GP-4			12/20	1129								✓						✓		
5	GW-11146007-122017-JP-GP-5			12/20	1159								✓						✓		
6																					TB=2(DG9HT)
7																					
8																					
9																					
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			
	Charles Nelligh	12-20-17	1600	Jeff Walker	12/21/17	1425				
					12/22	1010	3.4	Y	N	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Joshua Riggs / Charles Nelligh

SIGNATURE of SAMPLER: Charles Nelligh Joshua Riggs DATE Signed: 12/20/17

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