J. Brady Crouch
ConocoPhillips Company
Risk Management & Remediation
Program Manager

600 N. Dairy Ashford
EC3-06-W056
Houston, TX 77079
Phone: 832-486-3016

ConocoPhillips

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

March 21, 2017

Re: NMOCD Case No. 3R-1027, 2016 Annual Groundwater Monitoring Report

Dear Mr. Bayliss:

Enclosed is the 2016 Annual Groundwater Monitoring Report for the San Juan 28-6 No.79 site. This report, prepared by GHD Services, Inc., contains the results of groundwater monitoring activities in 2016.

Please let me know if you have any questions.

Sincerely,

Joseph B. Crouch

J. Brady Crouch

Enc

2016 Groundwater Monitoring Report

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

ConocoPhillips Company

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

11119427| Report No 1 | March 21, 2017

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1. Introduction

This report presents the results of groundwater sampling events conducted during 2016 by GHD Services, Inc. (GHD) on behalf of ConocoPhillips Company (ConocoPhillips) at the San Juan 28-6 No.79 remediation site (hereafter referred to as the "Site"). The Site is located 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 found in a flowline connecting the San Juan 28-6 No.79 gas well to the meter run on the south side of the Carrizo Wash. ConocoPhillips removed approximately 285c/yds of impacted soils from the wash in February 2015. Impacted soils from the approximately 30 foot (ft) by 32 ft by 8 ft deep excavation were 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 in the Carrizo Wash, a designated wetland area. Excavation confirmation samples were collected and results were submitted to the New Mexico Oil Conservation Division (NMOCD). The NMOCD approved the soil remedial effort and results and granted a no further action status for the Site with regard to soil impacts on the condition that groundwater impacts would be investigated. In March and May 2015 Animas Environmental Services, LLC (AES) collected groundwater samples at the Carrizo Wash release Site. Samples were laboratory analyzed for 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 but had generally decreased significantly by the subsequent event in May 2015. Groundwater at the site was found to be 3 to 4 ft below ground surface (bgs). GHD was contracted in 2016 to continue groundwater monitoring.

2. Groundwater Monitoring

2.1 Groundwater Monitoring Methodology

GHD collected groundwater samples from the Carrizo Wash Site in May and October 2016. Prior to collection of groundwater samples, depth to groundwater in each Site monitoring well was measured using an oil/water interface probe (Table 1).

A hand-driven Geoprobe sampling unit was used to insert a screen to water table and collect a sample via a 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 each point were collected into laboratory provided glass containers, preserved on ice and shipped to Pace Laboratory under chain of custody protocol. Samples 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, conductivity, dissolved oxygen and oxidation-reduction

potential, were recorded for the May and October 2016 monitoring events and are summarized in Table 2.

2.2 Groundwater Monitoring Results

Groundwater flow at the Site cannot be accurately measured because of the lack of permanent reference points, such as top of casing elevations that would be available at a site with permanent monitor wells. Flow of shallow groundwater just beneath the surface of the Carrizo Wash is generally consistent with the direction of surface water flow when the wash has flow which, in the release area of the Site, is to the east.

Groundwater samples collected from GP-1, GP-2, GP-3, GP-4 and GP-5 during the May and October 2016 quarterly sampling events contained concentrations of BTEX constituents below the NMWQCC regulatory limits for those compounds.

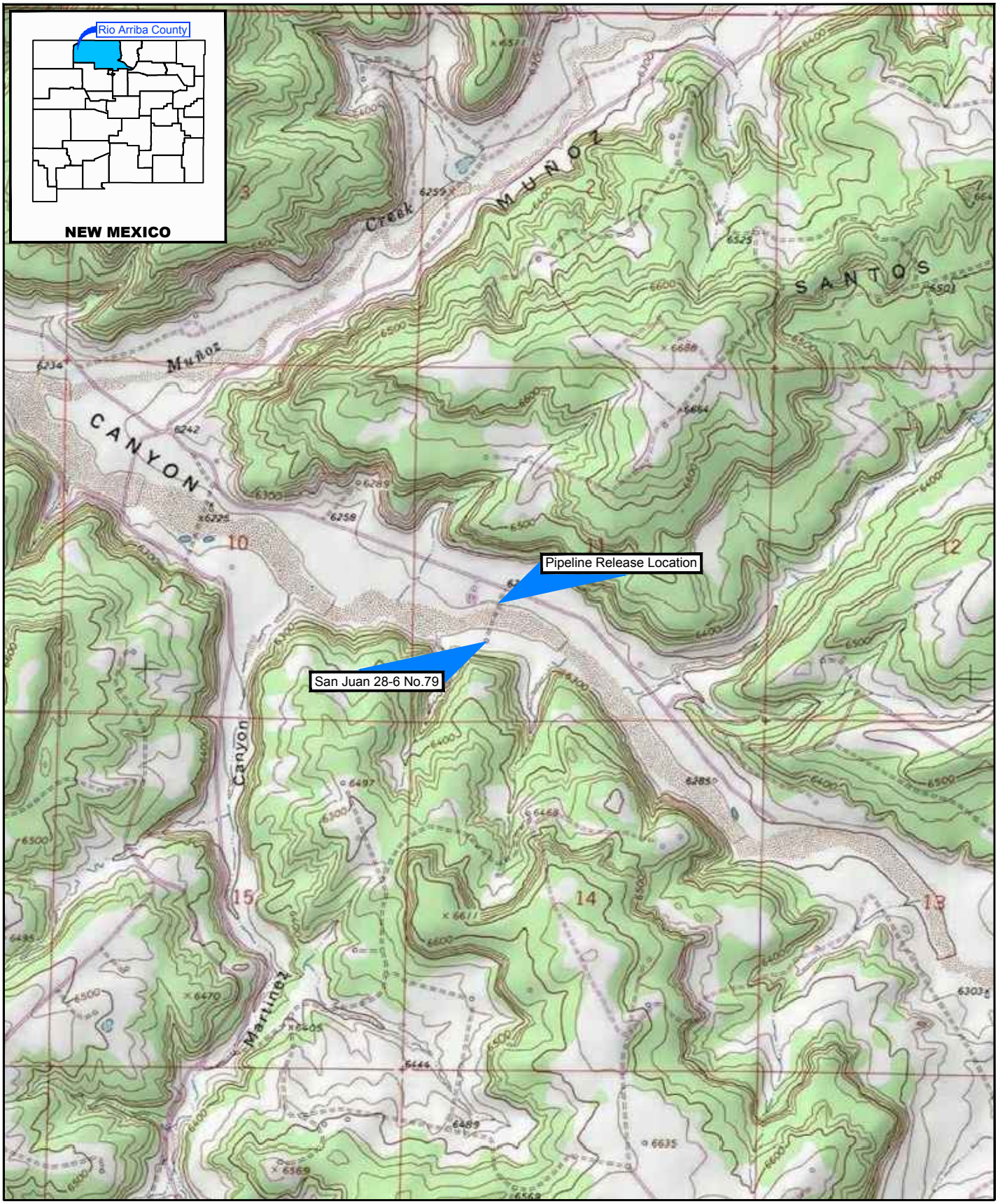
An historical laboratory analytical summary is available as Table 1. Copies of laboratory analytical reports for the 2016 quarterly groundwater sampling events are included in Appendix A. A Site map showing the concentration of benzene present in groundwater during each quarterly sampling event is included as Figure 2.

3. Conclusions and Recommendations

Groundwater samples collected from the Geo-probe sample locations have not exceeded NMQCC drinking water quality standards for tested constituents for the last two quarterly sampling events. It is apparent that both advection and natural degradation of hydrocarbons in the highly oxygenated, shallow groundwater beneath the release site are factors resulting in below standard concentrations at the Site.

Continuation of quarterly groundwater sampling is recommended until groundwater concentrations are below NMQCC drinking water quality standards for eight consecutive quarters at which time Site closure will be requested.

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)

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

11119427-00

Feb 9, 2017

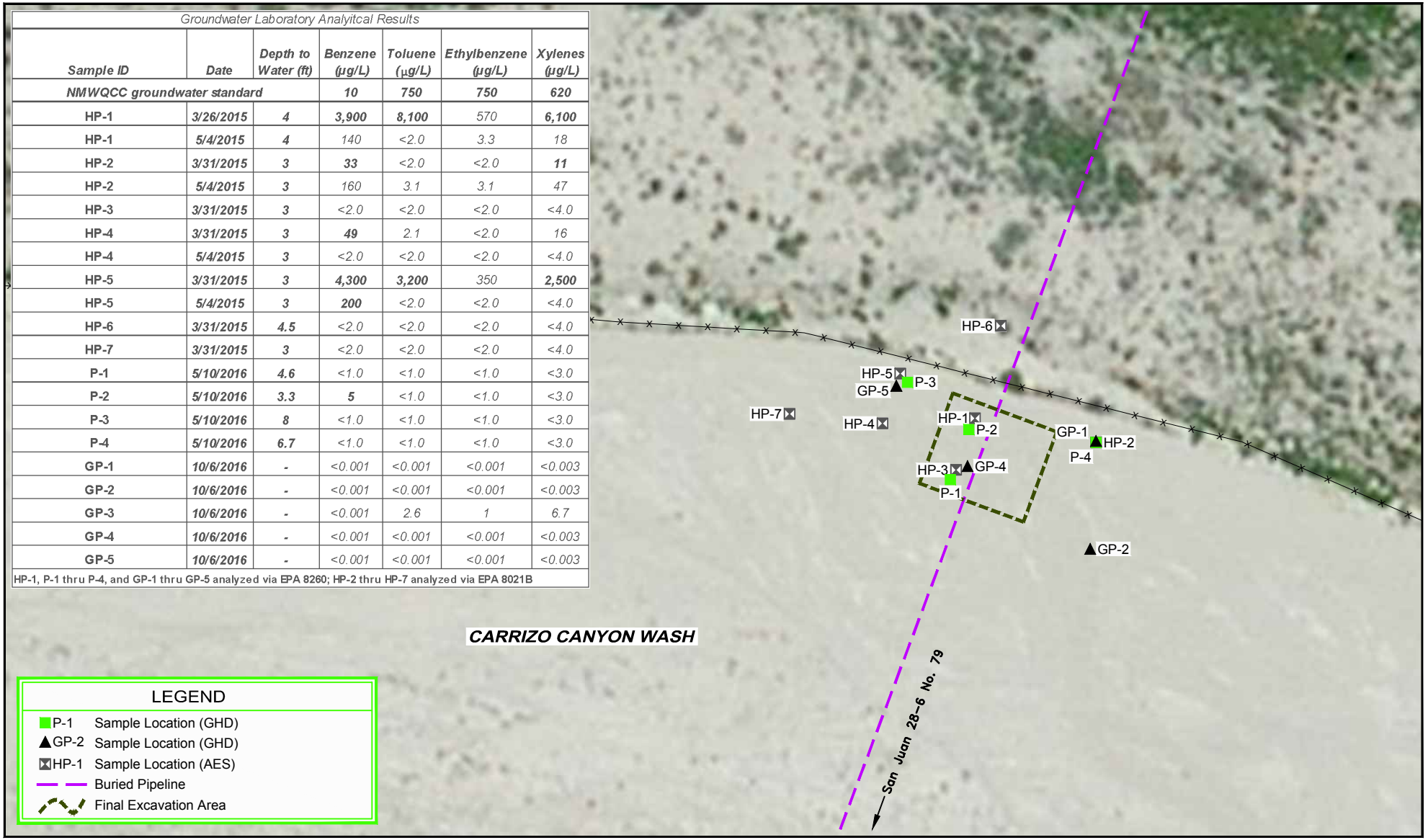
SITE LOCATION MAP

FIGURE 1

CAD File: I:\CAD\Files\Eight Digit Job Numbers\1111----\11119427-CoP-San Juan 28-6 No. 79\11119427-00(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	-	<0.001	<0.001	<0.001	<0.003
GP-2	10/6/2016	-	<0.001	<0.001	<0.001	<0.003
GP-3	10/6/2016	-	<0.001	2.6	1	6.7
GP-4	10/6/2016	-	<0.001	<0.001	<0.001	<0.003
GP-5	10/6/2016	-	<0.001	<0.001	<0.001	<0.003

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

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

11119427-00

Feb 9, 2017

GROUNDWATER SAMPLE LOCATIONS AND RESULTS MAP

FIGURE 2

CAD File: I:\CAD\Files\Eight Digit Job Numbers\1111----\11119427-CoP-San Juan 28-6 No. 79\11119427-00(000)GN-DL001.dwg

Tables

Table 1

Groundwater Analytical Results Detection Summary
San Juan 28-6 No. 79
ConocoPhillips Company

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*
GP-2	***10/6/2016***	*4.85*	*<0.001*	*<0.001*	*<0.001*	*<0.003*
GP-3	***10/6/2016***	*--*	*<0.001*	*2.6*	*1*	*6.7*
GP-4	***10/6/2016***	*7.15*	*<0.001*	*<0.001*	*<0.001*	*<0.003*
GP-5	***10/6/2016***	*7.38*	*<0.001*	*<0.001*	*<0.001*	*<0.003*
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:
mg/L = milligrams per liter
NMWQCC = New Mexico Water Quality Control Commission
< x = analyte concentration below laboratory detection limit of x
Bold = exceeds NMWQCC groundwater standard

Table 2

Field Parameters
ConocoPhillips 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	5/10/2016	15.56	7.88	0.018	28	10.25	2.5	0.25
P-2	5/10/2016	12.57	8.31	0.273	421	17.43	-71	0.75
P-3	5/10/2016	22.12	8.22	0.469	722	7.7	-44.3	0.25
P-4	5/10/2016	19.49	7.75	0.432	671	12.58	-33.7	0.5
GP-1	10/26/2016	17.37	8.29	0.391	602	6.6	-533.4	0.25
GP-2	10/26/2016	17.33	7.97	0.425	653	6.98	132.7	0.25
GP-3	10/26/2016	16.94	8.03	0.415	638	8.18	-580.2	0.25
GP-5	10/26/2016	17.81	8.1	0.421	647	6.79	-176.4	0.25

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

Appendices

Appendix A
Groundwater Laboratory Analytical Reports

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

May 23, 2016

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

RE: Project: 11119427 SAN JUAN 28-6#79 COP
Pace Project No.: 60219012

Dear Jeffrey Walker:
Enclosed are the analytical results for sample(s) received by the laboratory on May 12, 2016. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

Alice Flanagan
alice.flanagan@pacelabs.com
Project Manager

Enclosures

cc: Angela Bown, GHD Services, Inc,
Cassie Brown, GHD Services, Inc,

REPORT OF LABORATORY ANALYSIS

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

CERTIFICATIONS

Project: 11119427 SAN JUAN 28-6#79 COP
Pace Project No.: 60219012

Kansas Certification IDs

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

REPORT OF LABORATORY ANALYSIS

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

SAMPLE SUMMARY

Project: 11119427 SAN JUAN 28-6#79 COP
Pace Project No.: 60219012

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60219012001	**GW-11119427-051016-BB-P-1**	Water	05/10/16 12:00	05/12/16 08:50
60219012002	**GW-11119427-051016-BB-P-2**	Water	05/10/16 12:45	05/12/16 08:50
60219012003	**GW-11119427-051016-BB-P-3**	Water	05/10/16 13:40	05/12/16 08:50
60219012004	**GW-11119427-051016-BB-P-4**	Water	05/10/16 15:25	05/12/16 08:50
60219012005	**GW-11119427-051016-BB-DUP**	Water	05/10/16 08:00	05/12/16 08:50
60219012006	**TRIP BLANK**	Water	05/10/16 08:00	05/12/16 08:50

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

SAMPLE ANALYTE COUNT

Project: 11119427 SAN JUAN 28-6#79 COP
Pace Project No.: 60219012

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60219012001	**GW-11119427-051016-BB-P-1**	EPA 8260	JTK	8
60219012002	**GW-11119427-051016-BB-P-2**	EPA 8260	JTK	8
60219012003	**GW-11119427-051016-BB-P-3**	EPA 8260	JTK	8
60219012004	**GW-11119427-051016-BB-P-4**	EPA 8260	JTK	8
60219012005	**GW-11119427-051016-BB-DUP**	EPA 8260	JTK	8
60219012006	**TRIP BLANK**	EPA 8260	JTK	8

REPORT OF LABORATORY ANALYSIS

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

PROJECT NARRATIVE

Project: 11119427 SAN JUAN 28-6#79 COP
Pace Project No.: 60219012

Method: **EPA 8260**
Description: 8260 MSV GRO and Oxygenates
Client: GHD Services_COP NM
Date: May 23, 2016

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

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

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

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

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

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

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

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

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

QC Batch: MSV/75863

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

QC Batch: MSV/75910

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

QC Batch: MSV/75927

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.

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

ANALYTICAL RESULTS

Project: 11119427 SAN JUAN 28-6#79 COP
Pace Project No.: 60219012

Sample: GW-11119427-051016-BB-P-1 **Lab ID: 60219012001** Collected: 05/10/16 12:00 Received: 05/12/16 08:50 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV GRO and Oxygenates	Analytical Method: EPA 8260							
Benzene	ND	ug/L	1.0	1		05/17/16 17:50	71-43-2	
Ethylbenzene	ND	ug/L	1.0	1		05/17/16 17:50	100-41-4	
Toluene	ND	ug/L	1.0	1		05/17/16 17:50	108-88-3	
Xylene (Total)	ND	ug/L	3.0	1		05/17/16 17:50	1330-20-7	
Surrogates								
Toluene-d8 (S)	96	%	80-120	1		05/17/16 17:50	2037-26-5	
4-Bromofluorobenzene (S)	97	%	77-130	1		05/17/16 17:50	460-00-4	
1,2-Dichloroethane-d4 (S)	109	%	81-127	1		05/17/16 17:50	17060-07-0	
Preservation pH	**1.0**		0.10	1		05/17/16 17:50		

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: 11119427 SAN JUAN 28-6#79 COP
Pace Project No.: 60219012

Sample: GW-11119427-051016-BB-P-2 **Lab ID: 60219012002** Collected: 05/10/16 12:45 Received: 05/12/16 08:50 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV GRO and Oxygenates	Analytical Method: EPA 8260							
Benzene	**5.0**	ug/L	1.0	1		05/19/16 02:08	71-43-2	
Ethylbenzene	ND	ug/L	1.0	1		05/19/16 02:08	100-41-4	
Toluene	ND	ug/L	1.0	1		05/19/16 02:08	108-88-3	
Xylene (Total)	ND	ug/L	3.0	1		05/19/16 02:08	1330-20-7	
Surrogates								
Toluene-d8 (S)	101	%	80-120	1		05/19/16 02:08	2037-26-5	
4-Bromofluorobenzene (S)	99	%	77-130	1		05/19/16 02:08	460-00-4	
1,2-Dichloroethane-d4 (S)	106	%	81-127	1		05/19/16 02:08	17060-07-0	
Preservation pH	**1.0**		0.10	1		05/19/16 02:08		

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: 11119427 SAN JUAN 28-6#79 COP
Pace Project No.: 60219012

Sample: GW-11119427-051016-BB-P-3 **Lab ID: 60219012003** Collected: 05/10/16 13:40 Received: 05/12/16 08:50 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV GRO and Oxygenates	Analytical Method: EPA 8260							
Benzene	ND	ug/L	1.0	1		05/19/16 02:23	71-43-2	
Ethylbenzene	ND	ug/L	1.0	1		05/19/16 02:23	100-41-4	
Toluene	ND	ug/L	1.0	1		05/19/16 02:23	108-88-3	
Xylene (Total)	ND	ug/L	3.0	1		05/19/16 02:23	1330-20-7	
Surrogates								
Toluene-d8 (S)	104	%	80-120	1		05/19/16 02:23	2037-26-5	
4-Bromofluorobenzene (S)	97	%	77-130	1		05/19/16 02:23	460-00-4	
1,2-Dichloroethane-d4 (S)	102	%	81-127	1		05/19/16 02:23	17060-07-0	
Preservation pH	**1.0**		0.10	1		05/19/16 02:23		

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: 11119427 SAN JUAN 28-6#79 COP
Pace Project No.: 60219012

Sample: GW-11119427-051016-BB-P-4 **Lab ID: 60219012004** Collected: 05/10/16 15:25 Received: 05/12/16 08:50 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV GRO and Oxygenates	Analytical Method: EPA 8260							
Benzene	ND	ug/L	1.0	1		05/19/16 02:37	71-43-2	
Ethylbenzene	ND	ug/L	1.0	1		05/19/16 02:37	100-41-4	
Toluene	ND	ug/L	1.0	1		05/19/16 02:37	108-88-3	
Xylene (Total)	ND	ug/L	3.0	1		05/19/16 02:37	1330-20-7	
Surrogates								
Toluene-d8 (S)	101	%	80-120	1		05/19/16 02:37	2037-26-5	
4-Bromofluorobenzene (S)	98	%	77-130	1		05/19/16 02:37	460-00-4	
1,2-Dichloroethane-d4 (S)	102	%	81-127	1		05/19/16 02:37	17060-07-0	
Preservation pH	**1.0**		0.10	1		05/19/16 02:37		

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: 11119427 SAN JUAN 28-6#79 COP
Pace Project No.: 60219012

Sample: GW-11119427-051016-BB-DUP **Lab ID: 60219012005** Collected: 05/10/16 08:00 Received: 05/12/16 08:50 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV GRO and Oxygenates	Analytical Method: EPA 8260							
Benzene	ND	ug/L	1.0	1		05/19/16 02:52	71-43-2	
Ethylbenzene	ND	ug/L	1.0	1		05/19/16 02:52	100-41-4	
Toluene	ND	ug/L	1.0	1		05/19/16 02:52	108-88-3	
Xylene (Total)	ND	ug/L	3.0	1		05/19/16 02:52	1330-20-7	
Surrogates								
Toluene-d8 (S)	100	%	80-120	1		05/19/16 02:52	2037-26-5	
4-Bromofluorobenzene (S)	99	%	77-130	1		05/19/16 02:52	460-00-4	
1,2-Dichloroethane-d4 (S)	106	%	81-127	1		05/19/16 02:52	17060-07-0	
Preservation pH	**1.0**		0.10	1		05/19/16 02:52		

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: 11119427 SAN JUAN 28-6#79 COP
Pace Project No.: 60219012

Sample: TRIP BLANK **Lab ID: 60219012006** Collected: 05/10/16 08:00 Received: 05/12/16 08:50 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV GRO and Oxygenates	Analytical Method: EPA 8260							
Benzene	ND	ug/L	1.0	1		05/19/16 17:45	71-43-2	
Ethylbenzene	ND	ug/L	1.0	1		05/19/16 17:45	100-41-4	
Toluene	ND	ug/L	1.0	1		05/19/16 17:45	108-88-3	
Xylene (Total)	ND	ug/L	3.0	1		05/19/16 17:45	1330-20-7	
Surrogates								
Toluene-d8 (S)	103	%	80-120	1		05/19/16 17:45	2037-26-5	
4-Bromofluorobenzene (S)	98	%	77-130	1		05/19/16 17:45	460-00-4	
1,2-Dichloroethane-d4 (S)	105	%	81-127	1		05/19/16 17:45	17060-07-0	
Preservation pH	**1.0**		0.10	1		05/19/16 17:45		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 11119427 SAN JUAN 28-6#79 COP
Pace Project No.: 60219012

QC Batch: MSV/75863 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV MO GRO Oxygenates
Associated Lab Samples: 60219012001

METHOD BLANK: 1760137 Matrix: Water
Associated Lab Samples: 60219012001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ug/L	ND	1.0	05/17/16 12:55	
Ethylbenzene	ug/L	ND	1.0	05/17/16 12:55	
Toluene	ug/L	ND	1.0	05/17/16 12:55	
Xylene (Total)	ug/L	ND	3.0	05/17/16 12:55	
1,2-Dichloroethane-d4 (S)	%	107	81-127	05/17/16 12:55	
4-Bromofluorobenzene (S)	%	96	77-130	05/17/16 12:55	
Toluene-d8 (S)	%	95	80-120	05/17/16 12:55	

LABORATORY CONTROL SAMPLE: 1760138

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	20	20.9	104	79-116	
Ethylbenzene	ug/L	20	20.4	102	81-110	
Toluene	ug/L	20	20.4	102	82-111	
Xylene (Total)	ug/L	60	63.4	106	80-111	
1,2-Dichloroethane-d4 (S)	%			107	81-127	
4-Bromofluorobenzene (S)	%			98	77-130	
Toluene-d8 (S)	%			98	80-120	

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

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 11119427 SAN JUAN 28-6#79 COP
Pace Project No.: 60219012

QC Batch: MSV/75910 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV MO GRO Oxygenates
Associated Lab Samples: 60219012002, 60219012003, 60219012004, 60219012005

METHOD BLANK: 1761182 Matrix: Water
Associated Lab Samples: 60219012002, 60219012003, 60219012004, 60219012005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ug/L	ND	1.0	05/19/16 01:54	
Ethylbenzene	ug/L	ND	1.0	05/19/16 01:54	
Toluene	ug/L	ND	1.0	05/19/16 01:54	
Xylene (Total)	ug/L	ND	3.0	05/19/16 01:54	
1,2-Dichloroethane-d4 (S)	%	103	81-127	05/19/16 01:54	
4-Bromofluorobenzene (S)	%	98	77-130	05/19/16 01:54	
Toluene-d8 (S)	%	100	80-120	05/19/16 01:54	

LABORATORY CONTROL SAMPLE: 1761183

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	20	20.6	103	79-116	
Ethylbenzene	ug/L	20	22.1	110	81-110	
Toluene	ug/L	20	21.4	107	82-111	
Xylene (Total)	ug/L	60	67.7	113	80-111	LS
1,2-Dichloroethane-d4 (S)	%			104	81-127	
4-Bromofluorobenzene (S)	%			99	77-130	
Toluene-d8 (S)	%			101	80-120	

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

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 11119427 SAN JUAN 28-6#79 COP
Pace Project No.: 60219012

QC Batch: MSV/75927
QC Batch Method: EPA 8260
Analysis Method: EPA 8260
Analysis Description: 8260 MSV MO GRO Oxygenates
Associated Lab Samples: 60219012006

METHOD BLANK: 1761827
Matrix: Water
Associated Lab Samples: 60219012006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ug/L	ND	1.0	05/19/16 12:48	
Ethylbenzene	ug/L	ND	1.0	05/19/16 12:48	
Toluene	ug/L	ND	1.0	05/19/16 12:48	
Xylene (Total)	ug/L	ND	3.0	05/19/16 12:48	
1,2-Dichloroethane-d4 (S)	%	99	81-127	05/19/16 12:48	
4-Bromofluorobenzene (S)	%	96	77-130	05/19/16 12:48	
Toluene-d8 (S)	%	104	80-120	05/19/16 12:48	

LABORATORY CONTROL SAMPLE: 1761828

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	20	20.3	101	79-116	
Ethylbenzene	ug/L	20	21.2	106	81-110	
Toluene	ug/L	20	22.0	110	82-111	
Xylene (Total)	ug/L	60	66.5	111	80-111	
1,2-Dichloroethane-d4 (S)	%			103	81-127	
4-Bromofluorobenzene (S)	%			99	77-130	
Toluene-d8 (S)	%			105	80-120	

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

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: 11119427 SAN JUAN 28-6#79 COP
Pace Project No.: 60219012

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

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

TNI - The NELAC Institute.

BATCH QUALIFIERS

Batch: MSV/75863

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

Batch: MSV/75910

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

Batch: MSV/75927

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

ANALYTE QUALIFIERS

LS Analyte recovery in the laboratory control sample (LCS) was outside QC limits for one or more of the constituent analytes used in the calculated result.

Pace Analytical Services, Inc.
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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 11119427 SAN JUAN 28-6#79 COP
Pace Project No.: 60219012

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60219012001	**GW-11119427-051016-BB-P-1**	EPA 8260	MSV/75863		
60219012002	**GW-11119427-051016-BB-P-2**	EPA 8260	MSV/75910		
60219012003	**GW-11119427-051016-BB-P-3**	EPA 8260	MSV/75910		
60219012004	**GW-11119427-051016-BB-P-4**	EPA 8260	MSV/75910		
60219012005	**GW-11119427-051016-BB-DUP**	EPA 8260	MSV/75910		
60219012006	**TRIP BLANK**	EPA 8260	MSV/75927		

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Sample Condition Upon Receipt

WO# : 60219012

60219012

Client Name: GHD - COP_NM

Optional
Proj Due Date:
Proj Name:

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

Tracking #: 8603 4127 0735 Pace Shipping Label Used? Yes ☐ No ☒

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

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

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

Cooler Temperature: 2.7

Date and initials of person examining contents: JJD 5/12/16 1105

Temperature should be above freezing to 6°C

Chain of Custody present:	☑Yes ☐No ☐N/A	1.
Chain of Custody filled out:	☑Yes ☐No ☐N/A	2.
Chain of Custody relinquished:	☑Yes ☐No ☐N/A	3.
Sampler name & signature on COC:	☑Yes ☐No ☐N/A	4.
Samples arrived within holding time:	☑Yes ☐No ☐N/A	5.
Short Hold Time analyses (<72hr):	☐Yes ☑No ☐N/A	6.
Rush Turn Around Time requested:	☐Yes ☑No ☐N/A	7.
Sufficient volume:	☑Yes ☐No ☐N/A	8.
Correct containers used:	☑Yes ☐No ☐N/A	
Pace containers used:	☑Yes ☐No ☐N/A	9.
Containers intact:	☑Yes ☐No ☐N/A	10.
Unpreserved 5035A soils frozen w/in 48hrs?	☐Yes ☐No ☑N/A	11.
Filtered volume received for dissolved tests?	☐Yes ☐No ☑N/A	12.
Sample labels match COC:	☑Yes ☐No ☐N/A	
Includes date/time/ID/analyses Matrix: water		13.
All containers needing preservation have been checked.	☐Yes ☐No ☑N/A	
All containers needing preservation are found to be in compliance with EPA recommendation.	☐Yes ☐No ☑N/A	14.
Exceptions: VOA, Coliform, O&G, WI-DRO (water)	☑Yes ☐No	Initial when completed JJD / Lot # of added preservative
Trip Blank present:	☑Yes ☐No ☐N/A	
Pace Trip Blank lot # (if purchased): n/a		15.
Headspace in VOA vials (>6mm):	☐Yes ☑No ☐N/A	16.
Project sampled in USDA Regulated Area:	☐Yes ☐No ☑N/A	17. List State:
Additional labels attached to 5035A vials in the field?	☐Yes ☐No ☑N/A	18.

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

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: NAF Date: 5/12/16

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:	6121 Indian School Rd
	Albuquerque, NM 87110
Email:	cale.kanack@ghd.com
Phone:	(505)274-8982 Fax
Requested Due Date:	

Section B – Required Project Information:

Report To:	Cale Kanack
Copy To:	Jeff Walker
	Angela Bown
Purchase Order #:	
Project Name:	11119427 San Juan 28-6#79 COP
Project #:	

Section C – Invoice Information:

Attention:	Same as A
Company Name:	
Address:	
Pace Quote:	
Pace Project Manager:	alice.flanagan@pacelabs.com,
Pace Profile #:	8644, 31

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)

Pace Project No./Lab I.D.: 60219012

ITEM #	SAMPLE ID	MATRIX CODE	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	START TIME	END DATE	END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	8260 BTEX	Residual Chlorine (Y/N)	
1	GW-11119427-051016-BB-P-1	WT	G			5-10-16	1200		3			X							X		3(DG9H) 01
2	GW-11119427-051016-BB-P-2	↓	↓			↓	1245		↓			↓							X		02
3	GW-11119427-051016-BB-P-3	↓	↓			↓	1340		↓			↓							X		03
4	GW-11119427-051016-BB-P-4	↓	↓			↓	1525		↓			↓							X		04
5	GW-11119427-051016-BB-DUP	↓	↓			↓	—		↓			↓							X		05
6																					
7																					
8																					
9																					
10																					
11																					
12																					

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
	[signature] / GHD	5-11-16	1630	[signature] / Pace	5/12/16	850	1.7	Y	Y	Y

SAMPLE CONDITIONS

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: CALE KANACK

SIGNATURE of SAMPLER: [signature] DATE Signed: 5-11-16

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

October 19, 2016

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

RE: Project: 11119427SAN JUAN 228-6 NO 79
Pace Project No.: 60229574

Dear Christine Mathews:
Enclosed are the analytical results for sample(s) received by the laboratory on October 08, 2016. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

Alice Spiller

Alice Spiller
alice.spiller@pacelabs.com
Project Manager

Enclosures

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

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

CERTIFICATIONS

Project: 11119427SAN JUAN 228-6 NO 79
Pace Project No.: 60229574

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: 11119427SAN JUAN 228-6 NO 79
Pace Project No.: 60229574

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60229574001	**GW-11119427-100616-JW-GP1**	Water	10/06/16 13:25	10/08/16 08:20
60229574002	**GW-11119427-100616-JW-GP2**	Water	10/06/16 11:55	10/08/16 08:20
60229574003	**GW-11119427-100616-JW-GP3**	Water	10/06/16 12:35	10/08/16 08:20
60229574004	**GW-11119427-100616-JW-GP4**	Water	10/06/16 14:30	10/08/16 08:20
60229574005	**GW-11119427-100616-JW-GP5**	Water	10/06/16 14:00	10/08/16 08:20

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: 11119427SAN JUAN 228-6 NO 79
Pace Project No.: 60229574

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60229574001	**GW-11119427-100616-JW-GP1**	EPA 8260	PGH	8
60229574002	**GW-11119427-100616-JW-GP2**	EPA 8260	PGH	8
60229574003	**GW-11119427-100616-JW-GP3**	EPA 8260	PGH	8
60229574004	**GW-11119427-100616-JW-GP4**	EPA 8260	PGH	8
60229574005	**GW-11119427-100616-JW-GP5**	EPA 8260	PGH	8

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PROJECT NARRATIVE

Project: 11119427SAN JUAN 228-6 NO 79
Pace Project No.: 60229574

Method: **EPA 8260**
Description: 8260 MSV GRO and Oxygenates
Client: GHD Services_COP NM
Date: October 19, 2016

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

pH: Post-analysis pH measurement indicates insufficient VOA sample preservation.
- GW-11119427-100616-JW-GP3 (Lab ID: 60229574003)

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.

Additional Comments:

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

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ANALYTICAL RESULTS

Project: 11119427SAN JUAN 228-6 NO 79
Pace Project No.: 60229574

Sample: GW-11119427-100616-JW-GP1 **Lab ID: 60229574001** Collected: 10/06/16 13:25 Received: 10/08/16 08:20 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV GRO and Oxygenates	Analytical Method: EPA 8260							
Benzene	ND	ug/L	1.0	1		10/18/16 18:37	71-43-2	
Ethylbenzene	ND	ug/L	1.0	1		10/18/16 18:37	100-41-4	
Toluene	ND	ug/L	1.0	1		10/18/16 18:37	108-88-3	
Xylene (Total)	ND	ug/L	3.0	1		10/18/16 18:37	1330-20-7	
Surrogates								
Toluene-d8 (S)	104	%	80-120	1		10/18/16 18:37	2037-26-5	
4-Bromofluorobenzene (S)	101	%	77-130	1		10/18/16 18:37	460-00-4	
1,2-Dichloroethane-d4 (S)	100	%	81-127	1		10/18/16 18:37	17060-07-0	
Preservation pH	**1.0**		0.10	1		10/18/16 18:37		

REPORT OF LABORATORY ANALYSIS

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(913)599-5665

ANALYTICAL RESULTS

Project: 11119427SAN JUAN 228-6 NO 79
Pace Project No.: 60229574

Sample: GW-11119427-100616-JW-GP2 **Lab ID: 60229574002** Collected: 10/06/16 11:55 Received: 10/08/16 08:20 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV GRO and Oxygenates	Analytical Method: EPA 8260							
Benzene	ND	ug/L	1.0	1		10/18/16 18:51	71-43-2	
Ethylbenzene	ND	ug/L	1.0	1		10/18/16 18:51	100-41-4	
Toluene	ND	ug/L	1.0	1		10/18/16 18:51	108-88-3	
Xylene (Total)	ND	ug/L	3.0	1		10/18/16 18:51	1330-20-7	
Surrogates								
Toluene-d8 (S)	102	%	80-120	1		10/18/16 18:51	2037-26-5	
4-Bromofluorobenzene (S)	99	%	77-130	1		10/18/16 18:51	460-00-4	
1,2-Dichloroethane-d4 (S)	101	%	81-127	1		10/18/16 18:51	17060-07-0	
Preservation pH	**1.0**		0.10	1		10/18/16 18:51		

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: 11119427SAN JUAN 228-6 NO 79
Pace Project No.: 60229574

Sample: GW-11119427-100616-JW-GP3 **Lab ID: 60229574003** Collected: 10/06/16 12:35 Received: 10/08/16 08:20 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV GRO and Oxygenates	Analytical Method: EPA 8260							
Benzene	ND	ug/L	1.0	1		10/18/16 19:06	71-43-2	
Ethylbenzene	**1.0**	ug/L	1.0	1		10/18/16 19:06	100-41-4	
Toluene	**2.6**	ug/L	1.0	1		10/18/16 19:06	108-88-3	
Xylene (Total)	**6.7**	ug/L	3.0	1		10/18/16 19:06	1330-20-7	
Surrogates								
Toluene-d8 (S)	103	%	80-120	1		10/18/16 19:06	2037-26-5	
4-Bromofluorobenzene (S)	103	%	77-130	1		10/18/16 19:06	460-00-4	
1,2-Dichloroethane-d4 (S)	104	%	81-127	1		10/18/16 19:06	17060-07-0	
Preservation pH	**4.0**		0.10	1		10/18/16 19:06		pH

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: 11119427SAN JUAN 228-6 NO 79
Pace Project No.: 60229574

Sample: GW-11119427-100616-JW-GP4 **Lab ID: 60229574004** Collected: 10/06/16 14:30 Received: 10/08/16 08:20 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV GRO and Oxygenates	Analytical Method: EPA 8260							
Benzene	ND	ug/L	1.0	1		10/18/16 19:20	71-43-2	
Ethylbenzene	ND	ug/L	1.0	1		10/18/16 19:20	100-41-4	
Toluene	ND	ug/L	1.0	1		10/18/16 19:20	108-88-3	
Xylene (Total)	ND	ug/L	3.0	1		10/18/16 19:20	1330-20-7	
Surrogates								
Toluene-d8 (S)	103	%	80-120	1		10/18/16 19:20	2037-26-5	
4-Bromofluorobenzene (S)	96	%	77-130	1		10/18/16 19:20	460-00-4	
1,2-Dichloroethane-d4 (S)	102	%	81-127	1		10/18/16 19:20	17060-07-0	
Preservation pH	**2.0**		0.10	1		10/18/16 19:20		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 11119427SAN JUAN 228-6 NO 79
Pace Project No.: 60229574

Sample: GW-11119427-100616-JW-GP5 **Lab ID: 60229574005** Collected: 10/06/16 14:00 Received: 10/08/16 08:20 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV GRO and Oxygenates	Analytical Method: EPA 8260							
Benzene	ND	ug/L	1.0	1		10/18/16 19:35	71-43-2	
Ethylbenzene	ND	ug/L	1.0	1		10/18/16 19:35	100-41-4	
Toluene	ND	ug/L	1.0	1		10/18/16 19:35	108-88-3	
Xylene (Total)	ND	ug/L	3.0	1		10/18/16 19:35	1330-20-7	
Surrogates								
Toluene-d8 (S)	103	%	80-120	1		10/18/16 19:35	2037-26-5	
4-Bromofluorobenzene (S)	102	%	77-130	1		10/18/16 19:35	460-00-4	
1,2-Dichloroethane-d4 (S)	101	%	81-127	1		10/18/16 19:35	17060-07-0	
Preservation pH	**1.0**		0.10	1		10/18/16 19:35		

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: 11119427SAN JUAN 228-6 NO 79
Pace Project No.: 60229574

QC Batch: 450982 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV MO GRO Oxygenates
Associated Lab Samples: 60229574001, 60229574002, 60229574003, 60229574004, 60229574005

METHOD BLANK: 1845449 Matrix: Water
Associated Lab Samples: 60229574001, 60229574002, 60229574003, 60229574004, 60229574005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ug/L	ND	1.0	10/18/16 15:42	
Ethylbenzene	ug/L	ND	1.0	10/18/16 15:42	
Toluene	ug/L	ND	1.0	10/18/16 15:42	
Xylene (Total)	ug/L	ND	3.0	10/18/16 15:42	
1,2-Dichloroethane-d4 (S)	%	101	81-127	10/18/16 15:42	
4-Bromofluorobenzene (S)	%	100	77-130	10/18/16 15:42	
Toluene-d8 (S)	%	106	80-120	10/18/16 15:42	

LABORATORY CONTROL SAMPLE: 1845450

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	20	19.0	95	79-116	
Ethylbenzene	ug/L	20	19.8	99	81-110	
Toluene	ug/L	20	20.8	104	82-111	
Xylene (Total)	ug/L	60	61.0	102	80-111	
1,2-Dichloroethane-d4 (S)	%			99	81-127	
4-Bromofluorobenzene (S)	%			98	77-130	
Toluene-d8 (S)	%			101	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1845451 1845452

Parameter	Units	60229176009 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Benzene	ug/L	ND	20	20	19.2	19.1	96	95	37-151	1	40	
Ethylbenzene	ug/L	ND	20	20	19.3	19.0	96	95	29-151	1	45	
Toluene	ug/L	ND	20	20	19.9	19.6	99	98	37-147	2	43	
Xylene (Total)	ug/L	ND	60	60	58.8	58.2	98	97	27-156	1	46	
1,2-Dichloroethane-d4 (S)	%						102	104	81-127			
4-Bromofluorobenzene (S)	%						97	102	77-130			
Toluene-d8 (S)	%						103	101	80-120			
Preservation pH		11.0			11.0	11.0				0		

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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QUALIFIERS

Project: 11119427SAN JUAN 228-6 NO 79
Pace Project No.: 60229574

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

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

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

pH Post-analysis pH measurement indicates insufficient VOA sample preservation.

Pace Analytical Services, LLC
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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 11119427SAN JUAN 228-6 NO 79
Pace Project No.: 60229574

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60229574001	**GW-11119427-100616-JW-GP1**	EPA 8260	450982		
60229574002	**GW-11119427-100616-JW-GP2**	EPA 8260	450982		
60229574003	**GW-11119427-100616-JW-GP3**	EPA 8260	450982		
60229574004	**GW-11119427-100616-JW-GP4**	EPA 8260	450982		
60229574005	**GW-11119427-100616-JW-GP5**	EPA 8260	450982		

Pace Analytical
www.pacelabs.com

Sample Condition Upon Receipt
ESI Tech Spec Client

WO# : 60229574

60229574

Client Name: GHD COP

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

Tracking #: 6508 8164 3863 Pace Shipping Label Used? Yes ☐ No ☐

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

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

Thermometer Used: CF +1.1 T-266 / CF +0.7 T-239 **Type of Ice:** Wet Blue None

Cooler Temperature (°C): **As-read** 3.0 **Corr. Factor** CF +1.1 CF +0.7 **Corrected** 4.1

Date and initials of person examining contents: AF 10/18

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 10/10/16	
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: 10/10/16

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

Start: 0420	Start:
End: 0430	End:
Temp:	Temp:

Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Document

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

Page : 1 Of 1

Section A
Required Client Information:

Company:	GHD Services_COP NM
Address:	6121 Indian School Rd NE
	Albuquerque, NM 87110
Email:	jeff.walker@ghd.com
Phone:	505-377-3920
Fax	
Requested Due Date:	

Section B
Required Project Information:

Report To:	Jeffrey Walker
Copy To:	~~Gale Kanask~~ Charles.Neligh@ghd.com
	Angela Bown
Purchase Order #:	
Project Name:	~~[illegible]~~ 1119427
Project #:	San Juan 28-6 No. 79

Section C
Invoice Information:

Attention:	
Company Name:	
Address:	
Pace Quote:	
Pace Project Manager:	alice.flanagan@pacelabs.com,
Pace Profile #:	8644, 32

Regulatory Agency
State / Location
NM

MATRIX / CODE: Drinking Water DW; Water WT; Waste Water WW; Product P; Soil/Solid SL; Oil OL; Wipe WP; Air AR; Other OT; Tissue TS

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

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	START TIME	END DATE	END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	Chloride	8015 DRO	8260 GRO	8260 BTEX	Residual Chlorine (Y/N)	60229574
1	GW-1119427-100616-SW-GP1			10/6	1325	—	—		3				X									X		(3) DG94 001
2	GW-1119427-100616-SW-GP2				1155	—	—		3				X									X		002
3	GW-1119427-100616-SW-GP3				1235	—	—		3				X									X		003
4	GW-1119427-100616-SW-GP4				1430				3				X									X		004
5	GW-1119427-1006116-SW-GP5				1400				3				X									X		005
6																								
7																								
8																								
9																								
10																								
11																								
12																								

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
				[signature] Pace	10/8	0820	4.1	Y	Y	Y
							TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER:

SIGNATURE of SAMPLER: DATE Signed: