3R-1047

COPC
San Juan 27-5 Unit #1
Delineation Report

3-10-2017

93

District I
1625 N. French Dr., Hobbs, NM 88240
District II
811 S. First St., Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-141
Revised August 8, 2011

Submit 1 Copy to appropriate District Office in accordance with 19.15.29 NMAC.

Release Notification and Corrective Action

OPERATOR

☒ Initial Report ☐ Final Report

Name of Company **Burlington Resources, a Wholly Owned Subsidiary of ConocoPhillips Company**	Contact **Brady Crouch**
Address **3401 East 30th St, Farmington, NM**	Telephone No. **832-486-3016**
Facility Name **San Juan 27-5 Unit 1**	Facility Type **Gas**

Surface Owner **Federal**	Mineral Owner **SF-079393**	API No. **30-039-07154**

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
P	**4**	**27N**	**5W**	**660**	**South**	**660**	**East**	**Rio Arriba**

Latitude 36.59725 **Longitude** 107.35659

NATURE OF RELEASE

Type of Release **Hydrocarbon**	Volume of Release **Unknown**	Volume Recovered None
Source of Release **Unknown**	Date and Hour of Occurrence **Unknown**	Date and Hour of Discovery **November 30, 2015**
Was Immediate Notice Given? ☐ Yes ☒ No ☐ Not Required	If YES, To Whom?	
By Whom?	Date and Hour	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse.	

OIL CONS. DIV DIST. 3
MAR 1 0 2017

If a Watercourse was Impacted, Describe Fully.*

Describe Cause of Problem and Remedial Action Taken.* Historic contamination discovered while trenching for plunger lift automation upgrade. Cause of problem/release unknown. A site assessment was conducted in April 2016 to characterize the horizontal and vertical extent of impacts. Nine geoprobe borings were drilled to depths of 22 meeting refusal in shale. Preliminary site assessment data suggests an impacted area of approximately 6000 sq feet to a depth of 24 feet below existing site grade (see attached data). Collection of supplemental soils data is proposed for September 2016 in order to derive the most cost effective remedial action plan.

Describe Area Affected and Cleanup Action Taken.* Seven soil borings were drilled in September 2016 and sampled via continuous core sampler to further delineate horiz/vert impacts to subsurface. An area of elevated hydrocarbons of approx. 170 ft x 90 feet was delineated from soil sample laboratory analyses of TPH with highest vertical concentrations in the 14 ft to 23 ft deep range. To further characterize site for potential human health and environmental impacts, additional soil samples will be collected and analyzed for TX1005/TX1006 and PAH constituents. Results will be used in a human health risk and ecological risk assessment to aid in selection of the most appropriate remedial action. The stock tank groundwater well adjacent to the site will also be sampled and analyzed for petroleum hydrocarbon constituents. See attached data from assessment report.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the NMOCD marked as "Final Report" does not relieve the operator of liability **should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.**

Signature: Joseph B. Crouch	OIL CONSERVATION DIVISION
Printed Name: Joseph B. Crouch	Approved by Environmental Specialist:
Title: Program Manager - RM&R	Approval Date: 3/29/17 Expiration Date:
E-mail Address: j.brady.crouch@cop.com	Conditions of Approval: → Attached ☒
Date: 3/9/10 Phone: 832-486-3016	

* Attach Additional Sheets If Necessary Assigned 3RP-1047
#NCS 1624337437

Smith, Cory, EMNRD

From: Smith, Cory, EMNRD
Sent: Wednesday, March 29, 2017 3:23 PM
To: 'Crouch, J. Brady'
Cc: Walker, Jeffrey; Powell, Brandon, EMNRD; Fields, Vanessa, EMNRD; Griswold, Jim, EMNRD; Bayliss, Randolph, EMNRD
Subject: FW: San Juan 27-5 #1 (API# 30-039-07154 Supplemental Site Assessment Report

Good Afternoon Brady,

Upon review of the delineation report for the San Juan 27-5 #1 (API# 30-039-07154) the OCD has approved the subsequent C-141 with the following conditions of approval.

1. COPC request to use sampling method TX1005/1006 is denied as the overall method TX1005/1006 is not a New Mexico approved method. If you would like to breakout your specific sampling plan using this method as a guideline but using laboratory methods 8015M GRO/DRO/MRO which includes C6-36 and 8260 for BTEX, we can review your specific sampling plan.
2. COPC's request to further characterize the site to aid in the selection of the most appropriate remedial action is the operators option. Please note it appears the site is not fully delineated to the west as SB-7 is still above standards and additional delineation will be required in this direction. If COPC elects to use this option, the additional delineation plan must be submitted within 30 days and implemented within 90days. This option will not relieve COPC of the requirements of approval conditions #3 and #4.
3. Because the release was discovered approximately 1 year and 4 months ago and no remediation has taken place, we are requiring remediation to begin within the next 90 days on the highly impacted shallow zones.
4. COPC must submit a remediation plan for the highly impacted shallow zones within 30 days to the District Aztec Office. The plan is required to include the selected remediation techniques and start of proposed remediation.

The release site has been assigned as 3RP-1047 please reference the 3RP number on any further submitted documents. COPC may find the signed documents through the OCD website searching with that number(Instructions below). The approved C-141 and delineation report will be scanned to this location. If you have any additional questions please give me a call.

To find the 3RP

1. Navigate to http://ocdimage.emnrd.state.nm.us/imaging/AEOrderCriteria.aspx
2. In the Order Type drop down Box select "3R – Remediation Permit – Aztec- (3RP)
3. In the Order Number/Amendment Type in your given number
4. Click search

If you have any additional questions please give me a call.

Cory Smith
Environmental Specialist
Oil Conservation Division
Energy, Minerals, & Natural Resources

1000 Rio Brazos, Aztec, NM 87410
(505)334-6178 ext 115
cory.smith@state.nm.us

From: Smith, Cory, EMNRD
Sent: Tuesday, February 28, 2017 11:21 AM
To: 'Crouch, J. Brady' <J.Brady.Crouch@conocophillips.com>
Cc: Griswold, Jim, EMNRD <Jim.Griswold@state.nm.us>; Powell, Brandon, EMNRD <Brandon.Powell@state.nm.us>; Fields, Vanessa, EMNRD <Vanessa.Fields@state.nm.us>; Walker, Jeffrey <Jeff.Walker@ghd.com>
Subject: RE: Supplemental Site Assessment and Remediation Plans

Mr. Crouch

I apologize for the delay in getting back to you. I did received and reviewed the letter received on Jan 23, 2017. Before proceeding to submitting the Human Health Risk Assessment(HHRA) and Ecological Risk Assessments (ERA). Please submit in hardcopy an "updated" initial c-141 including the delineation report for each site. I have the Delineation report for the San Juan 27-5 31 but, there is no signed C-141 with it.

Thank you,

Cory Smith
Environmental Specialist
Oil Conservation Division
Energy, Minerals, & Natural Resources
1000 Rio Brazos, Aztec, NM 87410
(505)334-6178 ext 115
cory.smith@state.nm.us

From: Crouch, J. Brady [mailto:J.Brady.Crouch@conocophillips.com]
Sent: Thursday, January 19, 2017 1:56 PM
To: Smith, Cory, EMNRD <Cory.Smith@state.nm.us>
Cc: Griswold, Jim, EMNRD <Jim.Griswold@state.nm.us>; Powell, Brandon, EMNRD <Brandon.Powell@state.nm.us>; Fields, Vanessa, EMNRD <Vanessa.Fields@state.nm.us>; Walker, Jeffrey <Jeff.Walker@ghd.com>
Subject: Supplemental Site Assessment and Remediation Plans

Cory,

It was a pleasure to meet you last week out in the Farmington area. As we discussed at that time, attached is a letter to help establish a proposed path forward on three sites (San Juan 27-5 #1, San Juan 27-5 #69, Krause WN Federal #2) within the San Juan Basin. I am sending this letter to you electronically here so that you may begin your evaluation on our proposed path forward to closure; the original signed copy will mailed out to you tomorrow for your records. Thank you for your time, as well as Vanessa's and Brandon's, in the field last week. I look forward to working with you on these sites and others into the future. All the best!

Regards,

J. Brady Crouch
Program Manager
Risk Management & Remediation

Office: (832) 486-3016

November 18, 2016

Reference No. 111124687

Mr. Brady Crouch
ConocoPhillips Company
600 N. Dairy Ashford
Houston, Texas 77079

Dear Mr. Crouch:

Re: Site Assessment Report
San Juan 27-5 No. 1
San Juan County, New Mexico

GHD Services Inc. (GHD) is providing this Site Assessment Report for the above -referenced site. The San Juan 27 -5 No. 1 site (hereafter referred to as the "Site") is located on land owned by the United States Department of the Interior, Bureau of Land Management (BLM). The site is located within Section 4, Township 27 North, and Range 5 West, in Rio Arriba County, New Mexico (Figure 1). Geographical coordinates for the Site are 36.59725° North, 107.35659° West (Figure 1). The Site consists of an active gas well and associated production equipment (Figure 2). A water well and a small man -made earthen stock tank are also located on the Site. The tank was dry at the time of the GHD Site assessment in September 2016.

1. Introduction

A Site assessment was performed by GHD on September 15 and 16, 2016 to provide additional subsurface soils data in response to an historical release of an unknown quantity of hydrocarbons. A previous Site assessment was conducted in April 2016 by Rule Engineering, LLC (Rule). A Site assessment work plan to further delineate the horizontal and vertical extent of hydrocarbon impacted soils was submitted by GHD to the New Mexico Oil Conservation Division (NMOCD) and the BLM Farmington Field Office for approval on August 26, 2016. The GHD work plan was approved by BLM and by NMOCD prior to initiation of assessment activities.

1.1 Site History

Hydrocarbon impacted soil was discovered while trenching for an equipment upgrade on November 30, 2015. A sample of the impacted soil was collected by a ConocoPhillips environmental specialist and submitted for laboratory analysis. The sample was submitted for confirmatory laboratory analyses of volatile organic compounds (VOCs), including benzene, toluene, ethylbenzene, and xylenes (BTEX) by EPA Method 8021B and total petroleum hydrocarbons (gasoline and diesel range organics [GRO/DRO], TPH) by EPA Method 8015D (see ConocoPhillips lab report in Appendix).

Results indicated the TPH concentration was 5,820 milligrams per kilogram (mg/kg, parts per million, ppm), above the NMOCD Recommended Remediation Action Level (RRAL) assigned to the Site (see

GHD
6121 Indian School Road NE Suite 200 Albuquerque New Mexico 87110 USA
T 505 884 0672 **F** 505 884 4932 **W** www.ghd.com

Rule Site Assessment reporting in Appendix). RRALs established for the Site were based on a Site ranking using the NMOCD 1993 Guidelines for Remediation of Leaks, Spills and Releases. The action levels thus derived are 100 ppm for TPH; 50 ppm for BTEX and 10 ppm for benzene. The VOC concentrations were below the laboratory reporting limits (non-detect).

On April 20, 2016, Rule advanced nine borings to characterize the extent of soil impacts. Borings were advanced with a direct -push technology (DPT) drill rig to depths ranging from 17.5 to 23.75 feet bgs. The DPT method met refusal at each of the nine locations in a hard shale layer. Samples of the shale were collected from four of the borings, SB -1, SB -3, SB -4 and SB -7 and were submitted for laboratory analyses. Samples were analyzed for BTEX constituents by EPA Method 8021 and for TPH (GRO/DRO) by EPA Method 8015. The samples were analyzed by Hall Environmental Analyses Laboratory in Albuquerque, NM. Figure 2 includes the location of the initial Site assessment borings performed by Rule and GHD boring locations as described below.

Benzene concentrations from the April 2016 Site assessment were below the laboratory detection limits on all samples analyzed. Total BTEX results ranged from 0.55 ppm to 3.6 ppm. Total TPH ranged from 210 ppm (SB -3 @ 22 to 23 ft bgs) to 2290 ppm (SB -7 @ 22 to 23 ft bgs). A complete summary of the Rule Site assessment soil sampling results is included on Table 1, attached to this report. Lithologic descriptions/boring logs of the subsurface soils encountered were not recorded by Rule during their Site assessment.

2. GHD Subsurface Soil Assessment

GHD mobilized to the site to conduct the Site assessment on September 15 and 16, 2016. A total of seven soil borings, B -10 through B -16, were advanced using hollow stem auger (HSA) drilling methods to depths ranging from 24 to 50 feet bgs. Figure 2 depicts the boring locations relative to current Site equipment layout.

A 5 foot long, 3 inch diameter continuous core sampling system was used to collect samples. Soils were logged according to the Unified Soil Classification System by a field geologist. Borings generally encountered relatively fine grained silts, clays and sands overlying weathered shale and sandstone. The shale layer was encountered at a depth of approximately 25 to 30 feet bgs. Logs of soil borings are presented in the Appendix. Geologic cross -sections showing lithology and inferred limits of soil concentrations that exceed the RRALS are depicted on Figures 3 and 4.

Each sample interval was field screened using a calibrated photo -ionization detector (PID) and at discrete intervals using a PetroFlag hydrocarbon test kit. Once field screening results indicated that the boring had reached a depth such that soils were below the RRALs established for the Site, laboratory confirmation samples were collected and submitted to Pace Analytical in Lenexa, Kansas, for analyses of TPH (DRO/ ORO [oil -range organics]) by EPA Method 8015 and for TPH (GRO) and BTEX constituents by EPA Method 8260. Soil concentrations below the NMOCD action levels were observed at a depth of 39 feet bgs in the second boring advanced during the GHD assessment (B -11). The on -Site NMOCD regulator

requested that all subsequent borings be advanced to at least this depth. Up to two soil samples per boring were selected for laboratory submittal; the sample with the highest PID reading (in impacted borings), and the bottom sample from each boring.

Benzene and BTEX constituents were detected in all samples at concentrations below RRALs. TPH impacts above RRALS ranged from 247.4 ppm at 30 feet bgs in boring B -14 to 1473 ppm in boring B -11 at 14 feet bgs. Boring B -11 is located in the approximate center of the presumed release location where historical aerial photos indicate an above ground tank was located. Soil boring laboratory analytical reports are included as an Appendix and summarized on Table 2.

The inferred line of impacted soils depicted in Figure 2 suggests the condensate release migrated east from the release point, following the original topography of the Site, moving generally downhill in this direction.

Soil boring cuttings were field screened with the PID and those soils greater than 100 ppm were placed in 55 gallon drums for disposal at a licensed off -Site disposal facility. Manifests of the transportation and disposal of the investigation derived waste are presented in the Appendix.

3. Summary and Recommendations

A summary of the events and findings from the assessment activities performed at the Site are as follows:

- An initial Site assessment vertically delineated soil impacts to a maximum depth of about 23 ft bgs, in a shale layer where the DPT drilling method met refusal.
- A second Site assessment was conducted using HSA during which soil samples were collected via continuous core barrel. Samples were field screened at five -foot intervals from seven soil borings advanced to depths of 24 to 50 feet bgs to further characterize extent of hydrocarbons.
- Soil boring sample data suggest contaminant migration followed the natural topography that dips to the north and east of the release point, believed to be near boring B -11.
- TPH concentrations in the soil that are above the RRALs do not appear to extend off site.
- Based on this, GHD recommends the following:
- Completion of an integrated Human Health Risk Assessment and Ecological Risk Assessment to determine the potential for adverse effects on various receptors as a guide for subsequent remedial efforts that will be protective of human health and the environment.
- The on -Site well be sample should be analyzed for BTEX and naphthalenes.
- A remedial action at the Site should be considered that may include a limited soil excavation for off -Site disposal or excavation followed by treatment on site, such as soil shredding.

If you have any questions or comments with regards to this report, please do not hesitate to contact GHD's Albuquerque office at (505) 884-0672.

Sincerely,

GHD

Jeff Walker, CPG, PMP
Senior Project Manager

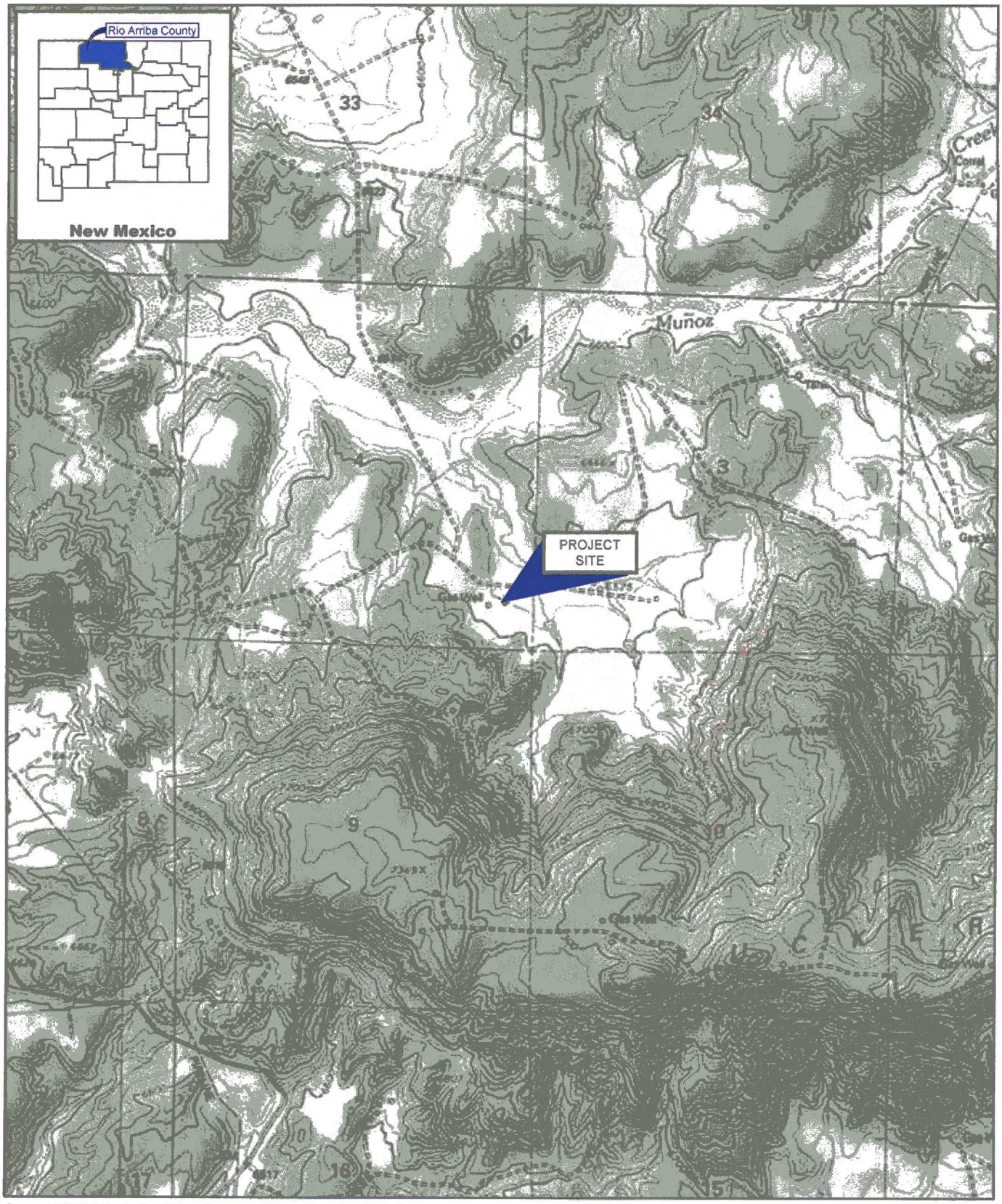
Bernard Bockisch, PMP
Senior Project Manager

JW/mc/1

Enclosures:

- Figure 1 – Site Location Map
- Figure 2 – Site Boring Assessment Map
- Figure 3 – Geologic Cross-Section A-A'
- Figure 4 – Geologic Cross-Section B-B'
- Table 1 – Rule Site Assessment Soil Analytical Results Summary
- Table 2 – GHD Soil Analytical Results Summary
- Appendix A - ConocoPhillips Initial Site Assessment Laboratory Report
- Appendix B - Rule Site Assessment Reporting
- Appendix C - Boring Logs
- Appendix D –GHD Soil Boring Assessment Laboratory Reports
- Appendix E - Waste Manifests/NMOCD Form C-138

Figures



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

Lat/Long: 36.597344° North, -107.356730° West

0 1000 2000ft

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

CONOCOPHILLIPS COMPANY
RIO ARRIBA COUNTY, NEW MEXICO
SAN JUAN 27-5 No. 1

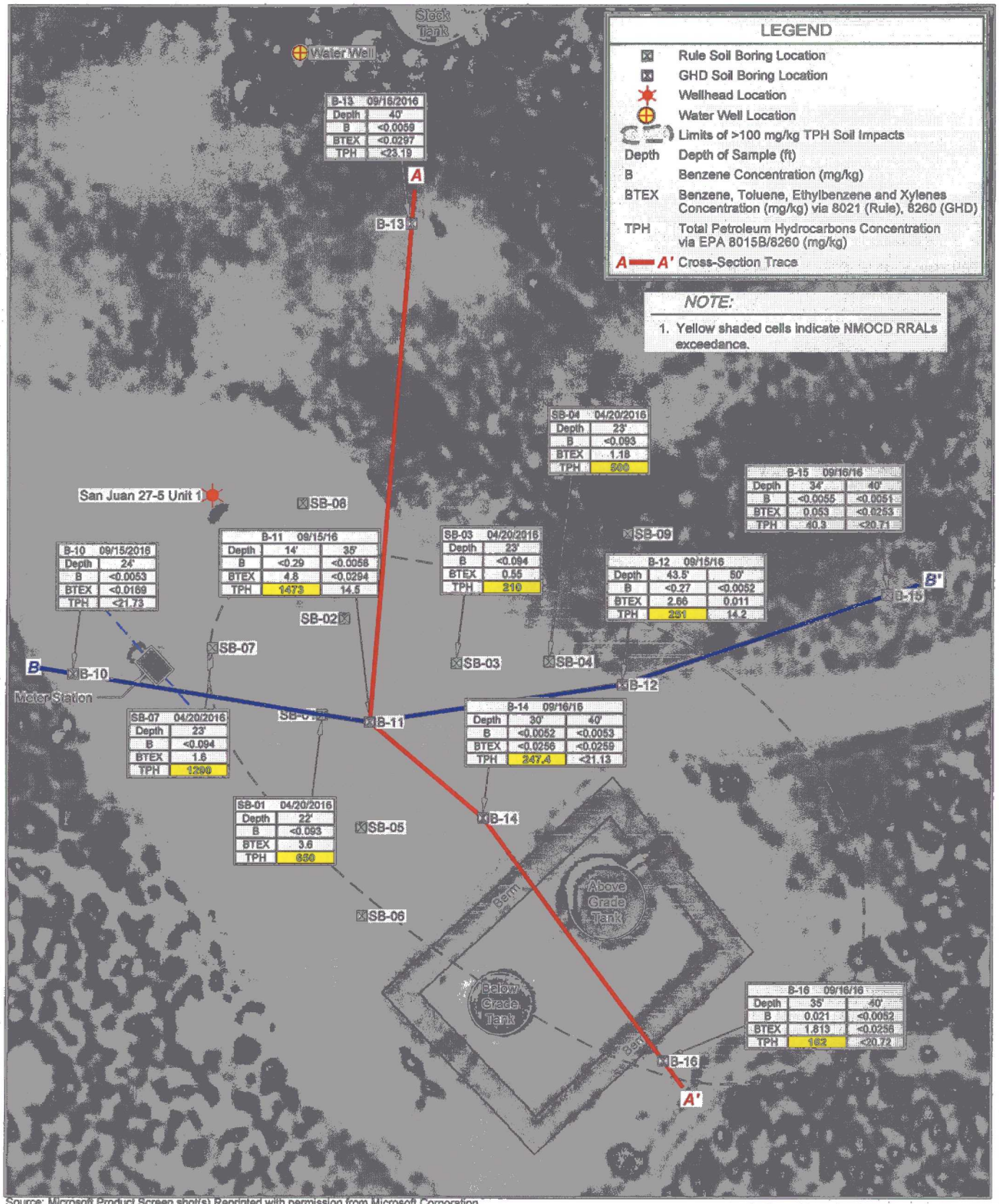
11124687-AS00

Nov 1, 2016

SITE LOCATION MAP

FIGURE 1

CAD File: I:\CAD\Files\Eight Digit Job Numbers\1112---\11124687-CoP-San Juan 27-5 No. 1\11124687-AS00\11124687-AS00(000)GN-DL001.dwg



Source: Microsoft Product Screen shot(s) Reprinted with permission from Microsoft Corporation, Acquisition Date June 2010, Accessed August 12, 2016.

Lat/Long: 36.597344° North, -107.356730° West

0 10 30ft

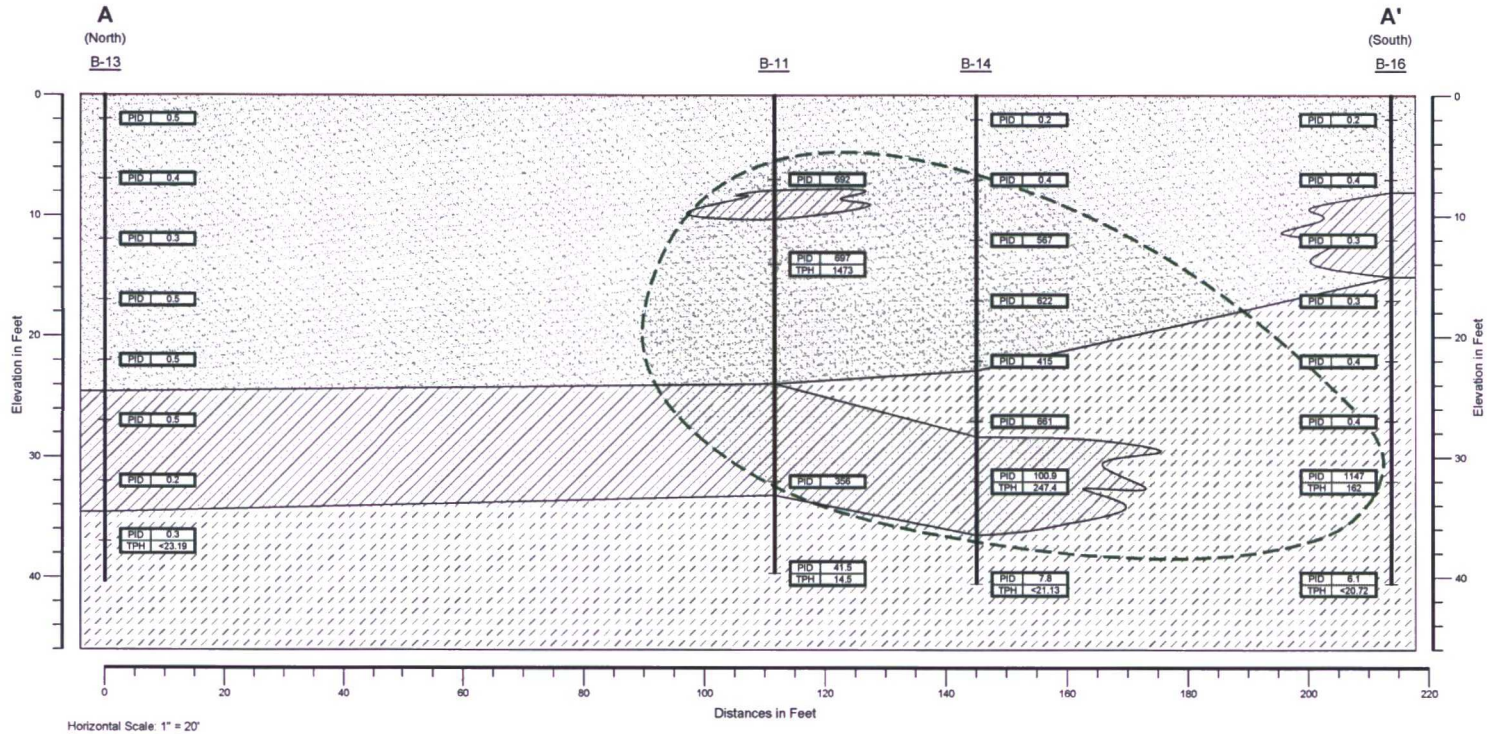
Coordinate System: NAD 1983 (2011) StatePlane- New Mexico Central (US Feet)

CONOCOPHILLIPS COMPANY
RIO ARRIBA COUNTY, NEW MEXICO
SAN JUAN 27-5 No. 1

11124687-AS00
Nov 18, 2016

SOIL BORING ASSESSMENT FIGURE 2

CAD File: I:\CAD\Files\Eight Digit Job Numbers\1112—\11124687-CoP-San Juan 27-5 No. 1\11124687-AS00\11124687-AS00(000)GN-DL001.dwg



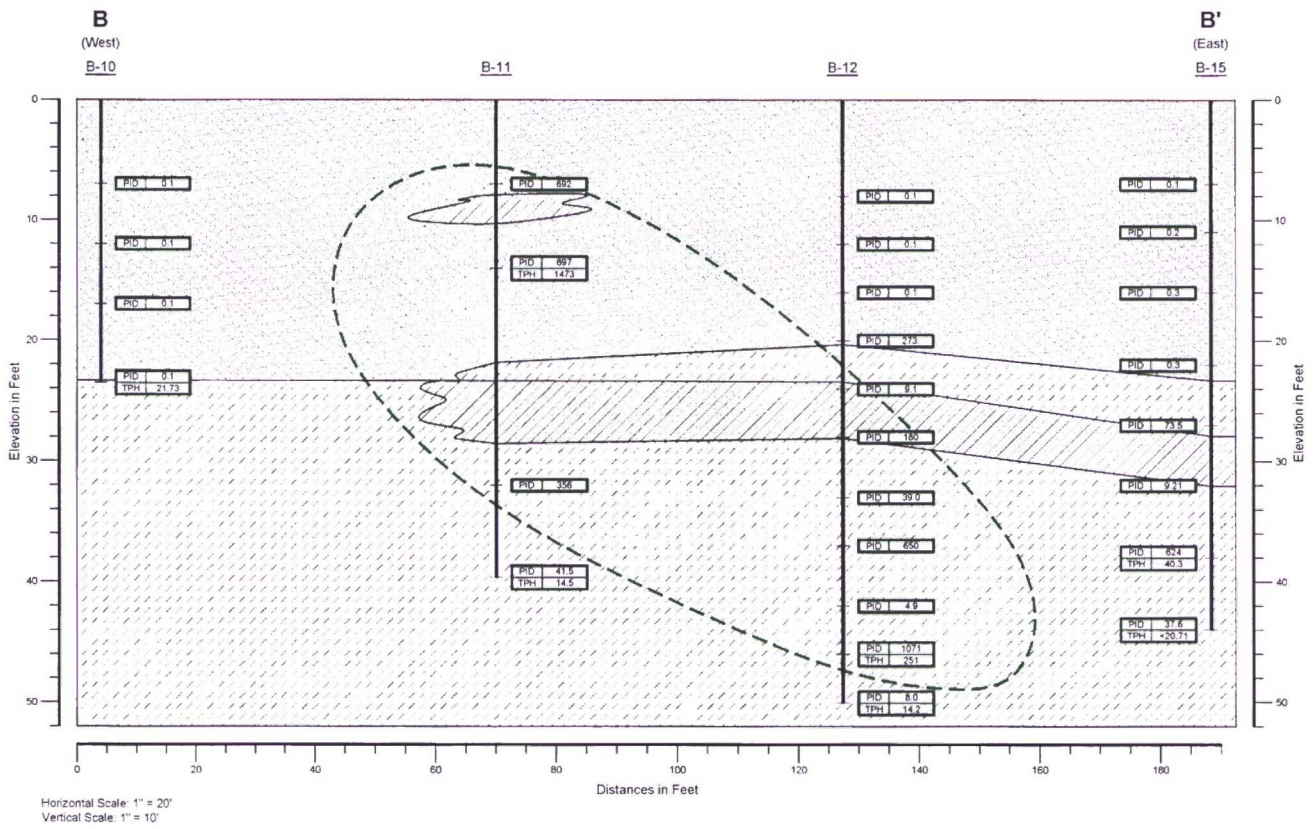
CONOCOPHILLIPS COMPANY
RIO ARRIBA COUNTY, NEW MEXICO
SAN JUAN 27-5 No. 1

11124687-AS00
Nov 18, 2016

CROSS SECTION A-A'

FIGURE 3

CAD File: I:\CAD\Files\Eight Digit Job Numbers\11124---\11124687-CoP-San Juan 27-5 No. 1\11124687-AS00\11124687-AS00(000)GN-DL001.dwg



Horizontal Scale: 1" = 20'
Vertical Scale: 1" = 10'

SOIL LEGEND

- Silts and Clay (ML/CL)
- Sand/Sandstone
- Shale (Sh)
- Limits of >100 ppm TPH Soil Impacts
- PID Photoionization Detector Concentration (ppm)
- TPH Total Petroleum Hydrocarbons Concentration via EPA 8015B/8260 (mg/kg)

CONOCOPHILLIPS COMPANY
RIO ARRIBA COUNTY, NEW MEXICO
SAN JUAN 27-5 No. 1

11124687-AS00
Nov 18, 2016

CROSS SECTION B-B'

FIGURE 4

CAD File: I:\CAD\Files\Eight Digit Job Numbers\11124---\11124687-ConP-San Juan 27-5 No. 1\11124687-AS00\11124687-AS00100(GIN-DL001.dwg

Tables

Rule Site Assessment Soil Analytical Results Summary
ConocoPhillips San Juan 27-5 No. 1

Sample ID	Date	Sample Type	Benzene (mg/kg)	Toluene (mg/kg)	Ethyl-benzene (mg/kg)	Xylenes (mg/kg)	Total BTEX (mg/kg)	TPH-GRO (mg/kg)	TPH-DRO (mg/kg)	Total TPH (mg/kg)
NMOCD RRALs (Ranking Score = 50)			10	NE	NE	NE	50	NE	NE	100
SB-1@21-22'	20/04/2016	Grab	<0.093	<0.019	0.47	3.1	3.60	170	480	**650**
SB-3@ 22-23	20/04/2016	Grab	< 0.094	<0.019	0.55	<0.37	0.55	110	100	**210**
SB-4@ 22.5-23'	20/04/2016	Grab	< 0.093	<0.019	0.37	0.81	1.18	160	340	**500**
SB-7@22-23'	20/04/2016	Grab	< 0.094	<0.019	<0.019	1.6	1.60	190	1100	**1290**

Notes:

mg/kg = milligrams per kilogram
BTEX = benzene, toluene, ethylbenzene, and xylene by EPA 8021B-Hall Environmental
TPH = total petroleum hydrocarbons
GRO/DRO = gasoline/diesel/-range organics by EPA 8015M/D-Hall Environmental
NMOCD = New Mexico Oil Conservation Division
RRALs = Recommended Remediation Action Levels
NE = not established
< x = below laboratory detection limit of x

GHD Soil Analytical Results Summary
ConocoPhillips San Juan 27-5 No. 1
GHD Supplemental Soil Boring Assessment

Sample ID	Date	Sample Type	Benzene (mg/kg)	Toluene (mg/kg)	Ethyl-benzene (mg/kg)	Xylenes (mg/kg)	Total BTEX (mg/kg)	TPH-GRO (mg/kg)	TPH-DRO (mg/kg)	TPH-ORO (mg/kg)	Total TPH (mg/kg)
NMOCD RRALs (Ranking Score = 50)			10	NE	NE	NE	50	NE	NE	NE	100
B10-24'	15/09/2016	Grab	<0.0053	<0.0053	<0.0053	<0.011	<0.0269	< 0.53	< 10.6	< 10.6	< 21.73
B11-14'	15/09/2016	Grab	< 0.29	< 0.29	< 0.29	4.8	4.8	293	1180	< 116	**1473**
B11-35'	15/09/2016	Grab	<0.0058	<0.0058	<0.0058	<0.012	<0.0294	1	13.5	<11.6	14.5
B12-43.5'	15/09/2016	Grab	< 0.27	0.36	< 0.27	2.30	2.66	145	106	<10.7	**251**
B-12-50'	15/09/2016	Grab	<0.0052	<0.0052	<0.0052	0.011	0.011	<0.52	14.2	<10.5	14.2
B-13-40'	16/09/2016	Grab	<0.0059	<0.0059	<0.0059	0.012	<0.0297	<0.59	<11.3	<11.3	<23.19
B-14-30'	16/09/2016	Grab	<0.0052	<0.0052	<0.0052	<0.010	<0.0256	1.4	246	<31.2	**247.4**
B-14-40'	16/09/2016	Grab	<0.0053	<0.0053	<0.0053	<0.011	<0.0259	<0.53	<10.3	<10.3	<21.13
B-15-34'	16/09/2016	Grab	<0.0055	<0.0055	<0.0055	0.053	0.053	3.1	37.2	<10.9	40.3
B-15-40'	16/09/2016	Grab	<0.0051	<0.0051	<0.0051	<0.010	<0.0253	<0.51	<10.1	<10.1	<20.71
B-16-35'	16/09/2016	Grab	0.021	0.14	<0.0052	1.600	1.813	8	154	<10.8	**162**
B-16-40'	16/09/2016	Grab	<0.0052	<0.0052	<0.0052	<0.010	<0.0256	<0.52	<10.1	<10.1	<20.72

Notes:

mg/kg = milligrams per kilogram
BTEX = benzene, toluene, ethylbenzene, and xylene by EPA 8260 (Pace Analytical)
TPH = total petroleum hydrocarbons by EPA 8015B (DRO/ORO)
GRO/DRO/ORO = gasoline/diesel/oil-range organics (GRO by EPA 8260-Pace Analytical)
NMOCD = New Mexico Oil Conservation Division
RRALs = Recommended Remediation Action Levels
NE = not established
< x = below laboratory detection limit of x

Appendix A
ConocoPhillips Initial Site Assessment Laboratory Report

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

December 04, 2015

Lisa Hunter

Conoco Phillips
5525 Hwy 64 (3401 E. 30th St)
Farmington, NM 87402
TEL: (505) 258-1607
FAX

RE: San Juan 27-5 #1 OrderNo.: 1512058

Dear Lisa Hunter:

Hall Environmental Analysis Laboratory received 1 sample(s) on 12/2/2015 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **1512058**
Date Reported: **12/4/2015**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Conoco Phillips
Project: San Juan 27-5 #1
Lab ID: 1512058-001 **Matrix:** SOIL

Client Sample ID: San Juan 27-5 #1
Collection Date: 11/30/2015 3:00:00 PM
Received Date: 12/2/2015 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **KJH**	
Diesel Range Organics (DRO)	5500	99		mg/Kg	10	12/3/2015 3:28:43 PM	22591
Surr: DNOP	0	70-130	S	%REC	10	12/3/2015 3:28:43 PM	22591
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	320	48		mg/Kg	10	12/3/2015 9:44:09 AM	22592
Surr: BFB	270	66.2-112	S	%REC	10	12/3/2015 9:44:09 AM	22592
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.24		mg/Kg	10	12/3/2015 9:44:09 AM	22592
Toluene	ND	0.48		mg/Kg	10	12/3/2015 9:44:09 AM	22592
Ethylbenzene	1.4	0.48		mg/Kg	10	12/3/2015 9:44:09 AM	22592
Xylenes, Total	7.2	0.96		mg/Kg	10	12/3/2015 9:44:09 AM	22592
Surr: 4-Bromofluorobenzene	149	80-120	S	%REC	10	12/3/2015 9:44:09 AM	22592

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix		

QC SUMMARY REPORT

WO#: **1512058**

Hall Environmental Analysis Laboratory, Inc.

04-Dec-15

Client: Conoco Phillips
Project: San Juan 27-5 #1

Sample ID **MB-22591**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **22591**	RunNo: **30596**
Prep Date: **12/2/2015**	Analysis Date: **12/3/2015**	SeqNo: **934530** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Surr: DNOP	11		10.00		108	70	130			

Sample ID **LCS-22591**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **22591**	RunNo: **30596**
Prep Date: **12/2/2015**	Analysis Date: **12/3/2015**	SeqNo: **934531** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	55	10	50.00	0	109	57.4	139			
Surr: DNOP	5.8		5.000		116	70	130			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1512058**

04-Dec-15

Client: Conoco Phillips
Project: San Juan 27-5 #1

Sample ID **MB-22592**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **22592**	RunNo: **30614**
Prep Date: **12/2/2015**	Analysis Date: **12/3/2015**	SeqNo: **935076** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	780		1000		78.0	66.2	112			

Sample ID **LCS-22592**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **22592**	RunNo: **30614**
Prep Date: **12/2/2015**	Analysis Date: **12/3/2015**	SeqNo: **935077** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	24	5.0	25.00	0	94.2	79.6	122			
Surr: BFB	1000		1000		101	66.2	112			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit

QC SUMMARY REPORT

WO#: **1512058**

Hall Environmental Analysis Laboratory, Inc.

04-Dec-15

Client: Conoco Phillips
Project: San Juan 27-5 #1

Sample ID **MB-22592**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **22592**	RunNo: **30614**
Prep Date: **12/2/2015**	Analysis Date: **12/3/2015**	SeqNo: **935085** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.050								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	0.98		1.000		97.7	80	120			

Sample ID **LCS-22592**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **22592**	RunNo: **30614**
Prep Date: **12/2/2015**	Analysis Date: **12/3/2015**	SeqNo: **935086** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.93	0.050	1.000	0	92.8	80	120			
Toluene	0.89	0.050	1.000	0	88.8	80	120			
Ethylbenzene	0.90	0.050	1.000	0	90.4	80	120			
Xylenes, Total	2.6	0.10	3.000	0	86.8	80	120			
Surr: 4-Bromofluorobenzene	1.1		1.000		110	80	120			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: **Conoco Phillips Farm HW** Work Order Number: **1512058** RcptNo: **1**

Received by/date: LM 12/02/15

Logged By: **Celina Sessa** **12/2/2015 8:45:00 AM** Celina Sessa

Completed By: **Celina Sessa** **12/2/2015 8:56:59 AM** Celina Sessa

Reviewed By: MS 12/2/15

Chain of Custody

1. Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
2. Is Chain of Custody complete?	Yes ☑	No ☐	Not Present ☐
3. How was the sample delivered?	Courier		

Log In

4. Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
5. Were all samples received at a temperature of >0° C to 6.0°C	Yes ☑	No ☐	NA ☐
6. Sample(s) in proper container(s)?	Yes ☑	No ☐	
7. Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
8. Are samples (except VOA and ONG) properly preserved?	Yes ☑	No ☐	
9. Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
10. VOA vials have zero headspace?	Yes ☐	No ☐	No VOA Vials ☑
11. Were any sample containers received broken?	Yes ☐	No ☑	
12. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ☑	No ☐	
13. Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	
14. Is it clear what analyses were requested?	Yes ☑	No ☐	
15. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes ☑	No ☐	

# of preserved bottles checked for pH: _____ (<2 or >12 unless noted)

Adjusted? _____

Checked by: _____

Special Handling (if applicable)

16. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified: _____ Date _____

By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: _____

Client Instructions: _____

17. Additional remarks:

18. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.2	Good	Yes			

Chain-of-Custody Record

Client: ConocoPhillips

Mailing Address: PO Box 4289

Phone #: 505 [redacted] 258-1607

email or Fax#: Lisa.Hunter@cop.com

QA/QC Package:
☒ Standard ☐ Level 4 (Full Validation)

Accreditation
☐ NELAP ☐ Other _____
☐ EDD (Type) _____

Turn-Around Time:
☒ Standard ☐ Rush _____

Project Name: San Juan 27-5 #1

Project #:

Project Manager: Lisa Hunter

Sampler: LH

On Ice: ☒ Yes ☐ No

Sample Temperature: 1.2

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1512058	BTEX + ~~MTBE~~ + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	8310 (PNA or PAH)	RCRA 8 Metals	Anions ($F, Cl, NO_3, NO_2, PO_4, SO_4$)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)					Air Bubbles (Y or N)
					~~Cool~~ Ice		~~X~~		~~X~~													
11/30/15	3:00	Soil	San Juan 27-5 #1	1402 Jar	Cold	-001	X		X													

Date:	Time:	Relinquished by:	Received by:	Date	Time
12/1/15	1552			12/1/15	1552
12/1/15	1900	Christine Walker		12/02/15	0845

Remarks: AB65250
MKSPENC
Clayton Hamilton

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

Appendix B
Rule Site Assessment Reporting

Table 1. NMOCD Site Ranking Determination
ConocoPhillips
San Juan 27-5 #1
Rio Arriba County, New Mexico

Ranking Criteria	Ranking Score	Site-Based Ranking Score	Basis for Determination	Data Sources
Depth to Groundwater				
<50 feet	20	10	Depth to groundwater reported at 70 to 80 feet below grade surface on cathodic protection report for the San Juan 27-5 #1.	NMOCD Online database, Vigas Canyon Quadrangle, Google Earth, and Visual Inspection
50-99 feet	10			
>100 feet	0			
Wellhead Protection Area				
<1,000 feet from a water source, or <200 feet from private domestic water source	20 (Yes)	20	Water well SJ 00046, is located within 200 feet of the apparent release location.	NMOSE NMWRRS, Vigas Canyon Quadrangle, Google Earth, and Visual Inspection
	0 (No)			
Distance to Surface Water Body				
<200 horizontal feet	20	20	A stockpond is located within 200 feet of the release location to the north. Several unnamed, ephemeral washes traverse the area within 1,000 feet of release location which drain to the wash in Munoz Canyon.	Vigas Canyon Quadrangle, Google Earth, and Visual Inspection
200 to 1,000 horizontal feet	10			
>1,000 horizontal feet	0			
Site Based Total Ranking Score		**50**		

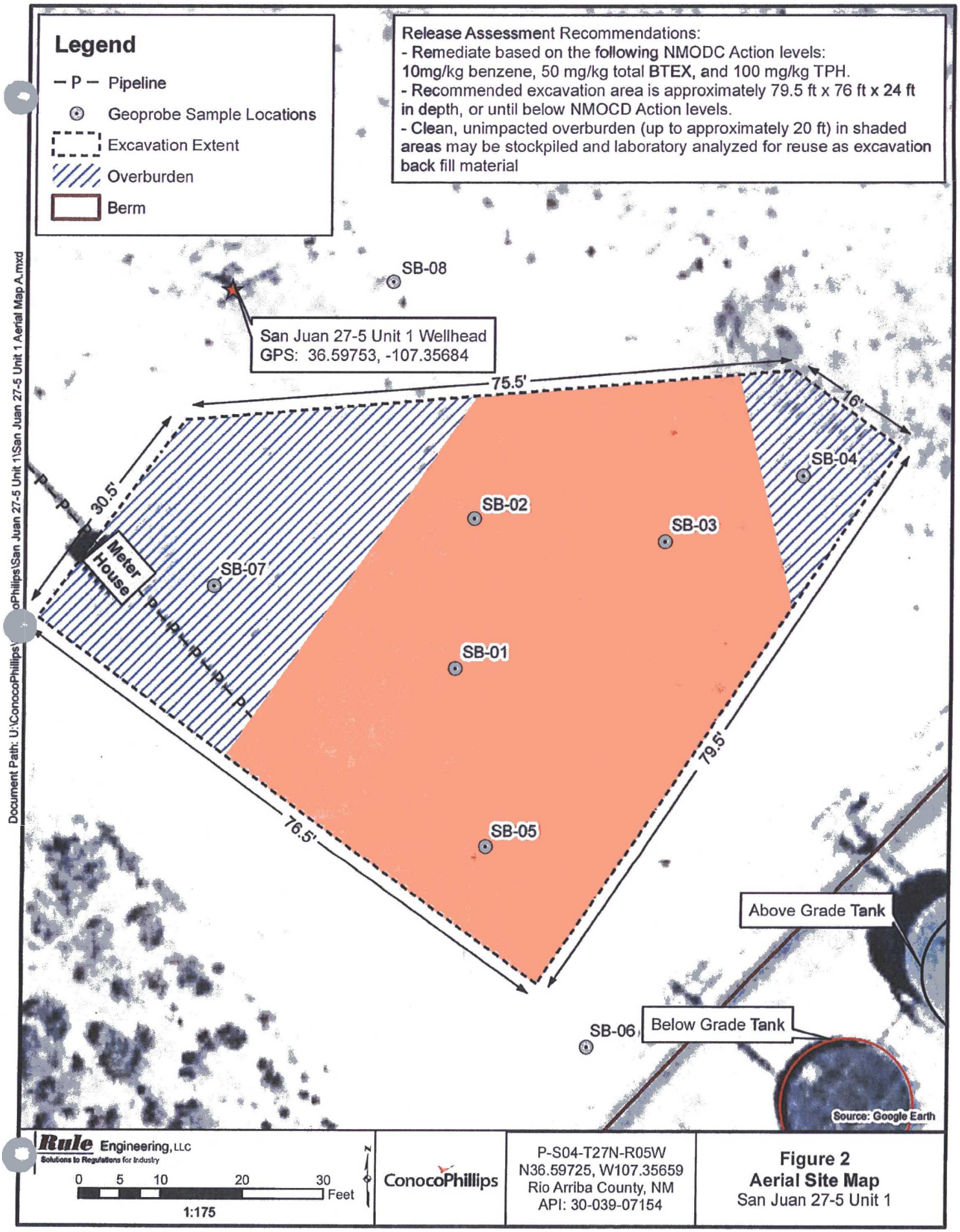

Legend
P Pipeline
Geoprobe Sample Locations
Excavation Extent
Overburden
Berm
Release Assessment Recommendations:
- Remediate based on the following NMODC Action levels: 10mg/kg benzene, 50 mg/kg total BTEX, and 100 mg/kg TPH.
- Recommended excavation area is approximately 79.5 ft x 76 ft x 24 ft in depth, or until below NMOCD Action levels.
- Clean, unimpacted overburden (up to approximately 20 ft) in shaded areas may be stockpiled and laboratory analyzed for reuse as excavation back fill material
SB-08
San Juan 27-5 Unit 1 Wellhead
GPS: 36.59753, -107.35684
75.5'
16'
30.5'
SB-04
SB-02
SB-03
Meter House
SB-07
SB-01
79.5'
76.5'
SB-05
Above Grade Tank
SB-06
Below Grade Tank
Source: Google Earth
Document Path: U:\ConocoPhillips\San Juan 27-5 Unit 1\San Juan 27-5 Unit 1 Aerial Map A.mxd
Rule Engineering, LLC
Solutions to Regulations for Industry
0 5 10 20 30 Feet
1:175
ConocoPhillips
P-S04-T27N-R05W
N36.59725, W107.35659
Rio Arriba County, NM
API: 30-039-07154
Figure 2
Aerial Site Map
San Juan 27-5 Unit 1

Table A. Soil Sampling Results - VOCs, Benzene, Total BTEX, and TPH
ConocoPhillips
San Juan 27-5 #1
Rio Arriba County, New Mexico

Sample Name	Date	Approximate Sample Depth (ft bgs)	Field VOCs by PID (ppm)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylben-zene (mg/kg)	Total Xylenes (mg/kg)	Total BTEX (mg/kg)	TPH as GRO (mg/kg)	TPH as DRO (mg/kg)
NMOCD Action Level*			100	10	NE	NE	NE	50	100	
SB-1	4/20/2016	2 to 3	**1336**	--	--	--	--	--	--	--
		3 to 4	**1536**	--	--	--	--	--	--	--
		5 to 6	**1737**	--	--	--	--	--	--	--
		6 to 7	**1879**	--	--	--	--	--	--	--
		7 to 8	**1215**	--	--	--	--	--	--	--
		9 to 10	**1628**	--	--	--	--	--	--	--
		10 to 11	**1340**	--	--	--	--	--	--	--
		11 to 12	**1492**	--	--	--	--	--	--	--
		13 to 14	**1634**	--	--	--	--	--	--	--
		14 to 15	**1357**	--	--	--	--	--	--	--
		15 to 16	**1509**	--	--	--	--	--	--	--
		16 to 17	**2424**	--	--	--	--	--	--	--
		17 to 18	**1838**	--	--	--	--	--	--	--
		18 to 19	**2038**	--	--	--	--	--	--	--
		19 to 20	**364**	--	--	--	--	--	--	--
		20 to 21	**2050**	--	--	--	--	--	--	--
		21 to 22	**1568**	<0.093	<0.19	0.47	3.1	3.6	**170**	**480**
SB-2	4/20/2016	1 to 2	**590**	--	--	--	--	--	--	--
		4 to 5	**512**	--	--	--	--	--	--	--
		5.5 to 6.5	**2,009**	--	--	--	--	--	--	--
		6.5 to 7.5	**1,998**	--	--	--	--	--	--	--
		7.5 to 8	**702**	--	--	--	--	--	--	--
		8 to 9	**1,593**	--	--	--	--	--	--	--
		9 to 10	**1,988**	--	--	--	--	--	--	--
		10 to 11	**1,484**	--	--	--	--	--	--	--
		11 to 12	**1,669**	--	--	--	--	--	--	--
		12 to 13	**664**	--	--	--	--	--	--	--
		13 to 14	**1,451**	--	--	--	--	--	--	--
		14 to 15	**1,479**	--	--	--	--	--	--	--
		15 to 16	**2,324**	--	--	--	--	--	--	--
		16 to 17	**2,433**	--	--	--	--	--	--	--
		17 to 18	**2,750**	--	--	--	--	--	--	--
		18 to 19	**2,570**	--	--	--	--	--	--	--
		19 to 20	**2,650**	--	--	--	--	--	--	--
		20 to 21.25	**1,900**	--	--	--	--	--	--	--
		21.25 to 22.5	**1,300**	--	--	--	--	--	--	--

Table A. Soil Sampling Results - VOCs, Benzene, Total BTEX, and TPH
ConocoPhillips
San Juan 27-5 #1
Rio Arriba County, New Mexico

Sample Name	Date	Approximate Sample Depth (ft bgs)	Field VOCs by PID (ppm)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylben-zene (mg/kg)	Total Xylenes (mg/kg)	Total BTEX (mg/kg)	TPH as GRO (mg/kg)	TPH as DRO (mg/kg)
NMOCD Action Level*			100	10	NE	NE	NE	50	100	
SB-3	4/20/2016	2 to 4	**44**	--	--	--	--	--	--	--
		10 to 11	**395**	--	--	--	--	--	--	--
		11 to 12	**525**	--	--	--	--	--	--	--
		14 to 15	**760**	--	--	--	--	--	--	--
		15 to 16	**874**	--	--	--	--	--	--	--
		16 to 17	**1,106**	--	--	--	--	--	--	--
		17 to 18.5	**1,080**	--	--	--	--	--	--	--
		18.5 to 20	**1,054**	--	--	--	--	--	--	--
		20 to 21	**531**	--	--	--	--	--	--	--
		21 to 22	**651**	--	--	--	--	--	--	--
		22 to 23	**517**	<0.094	<0.19	0.55	<0.37	0.55	**110**	**100**
SB-4	4/20/2016	0 to 2	2.9	--	--	--	--	--	--	--
		2 to 4	1.6	--	--	--	--	--	--	--
		4 to 8	3.5	--	--	--	--	--	--	--
		12 to 16	2.9	--	--	--	--	--	--	--
		17.5 to 18	4.6	--	--	--	--	--	--	--
		18 to 19.5	6.8	--	--	--	--	--	--	--
		19.5 to 20	21.2	--	--	--	--	--	--	--
		20 to 21.5	**600**	--	--	--	--	--	--	--
		21.5 to 22.5	**1,530**	--	--	--	--	--	--	--
		22.5 to 23	**942**	<0.093	<0.19	0.37	0.81	1.18	**160**	**340**
SB-5	4/20/2016	0 to 2.5	91	--	--	--	--	--	--	--
		2.5 to 4	**1,260**	--	--	--	--	--	--	--
		5 to 6	**1,867**	--	--	--	--	--	--	--
		6 to 8	**1,202**	--	--	--	--	--	--	--
		10 to 11	**1,450**	--	--	--	--	--	--	--
		11 to 12	**1,932**	--	--	--	--	--	--	--
		13 to 15	**1,143**	--	--	--	--	--	--	--
		15 to 16	**1,438**	--	--	--	--	--	--	--
		16 to 17	**1,286**	--	--	--	--	--	--	--
		17 to 18	**970**	--	--	--	--	--	--	--
		18 to 19	**1,826**	--	--	--	--	--	--	--
		19 to 20	**1,417**	--	--	--	--	--	--	--
		20 to 21	**1,289**	--	--	--	--	--	--	--
		21 to 22	**1,239**	--	--	--	--	--	--	--
		22 to 23.25	**1,515**	--	--	--	--	--	--	--
		23.25 to 23.75	**975**	--	--	--	--	--	--	--

Table A. Soil Sampling Results - VOCs, Benzene, Total BTEX, and TPH
ConocoPhillips
San Juan 27-5 #1
Rio Arriba County, New Mexico

Sample Name	Date	Approximate Sample Depth (ft bgs)	Field VOCs by PID (ppm)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylben-zene (mg/kg)	Total Xylenes (mg/kg)	Total BTEX (mg/kg)	TPH as GRO (mg/kg)	TPH as DRO (mg/kg)
NMOCD Action Level*			100	10	NE	NE	NE	50	100	
SB-6	4/20/2016	1 to 3	1.4	--	--	--	--	--	--	--
		3 to 4	2.3	--	--	--	--	--	--	--
		5 to 7	2.2	--	--	--	--	--	--	--
		7 to 8	4.2	--	--	--	--	--	--	--
		8 to 10	6.6	--	--	--	--	--	--	--
		11 to 12	3.8	--	--	--	--	--	--	--
		14 to 15.5	5.0	--	--	--	--	--	--	--
		15.5 to 16	5.2	--	--	--	--	--	--	--
		16 to 17	2.7	--	--	--	--	--	--	--
		17 to 17.5	6.2	--	--	--	--	--	--	--
SB-7	4/20/2016	1 to 3	2.5	--	--	--	--	--	--	--
		3 to 4	2.6	--	--	--	--	--	--	--
		5 to 8	2.2	--	--	--	--	--	--	--
		9 to 12	0.9	--	--	--	--	--	--	--
		13 to 15	2.3	--	--	--	--	--	--	--
		15 to 16	1.3	--	--	--	--	--	--	--
		17 to 19	1.0	--	--	--	--	--	--	--
		19 to 20	2.4	--	--	--	--	--	--	--
		20 to 21	2.7	--	--	--	--	--	--	--
		21 to 22	1.6	--	--	--	--	--	--	--
		22 to 23	**364**	<0.094	<0.19	<0.19	1.6	1.6	**190**	**1,100**
SB-8	4/20/2016	0 to 4	2.5	--	--	--	--	--	--	--
		4 to 8	2.2	--	--	--	--	--	--	--
		8 to 12	2.8	--	--	--	--	--	--	--
		12 to 16	2.6	--	--	--	--	--	--	--
		20 to 21	2.2	--	--	--	--	--	--	--
		21 to 22	2.1	--	--	--	--	--	--	--
SB-9	4/20/2016	0 to 4	34	--	--	--	--	--	--	--
		4 to 8	2.2	--	--	--	--	--	--	--
		8 to 12	3.0	--	--	--	--	--	--	--
		12 to 16	2.5	--	--	--	--	--	--	--
		18 to 19	1.0	--	--	--	--	--	--	--
		19 to 20	1.2	--	--	--	--	--	--	--
		20 to 21	0.5	--	--	--	--	--	--	--
		21 to 22	1.0	--	--	--	--	--	--	--

Notes: All borings were terminated at auger refusal on shale.
VOCs - volatile organic compounds
PID - photoionization detector
ft bgs - feet below grade surface
ppm - parts per million
mg/kg - milligrams per kilogram
NE - not-established
*Based on the NMOCD *Guidelines for Remediation of Leaks, Spills and Releases (August 1993)*
**Based on a site ranking of 20.

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

May 02, 2016

Heather Woods
Rule Engineering LLC
501 Airport Dr., Ste 205
Farmington, NM 87401
TEL: (505) 325-1055
FAX

RE: CoP San Juan 27-5 #1 OrderNo.: 1604A95

Dear Heather Woods:

Hall Environmental Analysis Laboratory received 4 sample(s) on 4/23/2016 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **1604A95**
Date Reported: **5/2/2016**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Rule Engineering LLC
Project: CoP San Juan 27-5 #1
Lab ID: 1604A95-001 **Matrix:** SOIL

Client Sample ID: SB-01@21-22
Collection Date: 4/20/2016 12:30:00 PM
Received Date: 4/23/2016 8:45:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **KJH**	
Diesel Range Organics (DRO)	480	9.9		mg/Kg	1	4/28/2016 9:18:48 PM	25002
Surr: DNOP	91.8	70-130		%Rec	1	4/28/2016 9:18:48 PM	25002
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	170	19		mg/Kg	4	4/28/2016 3:06:00 PM	25013
Surr: BFB	349	80-120	S	%Rec	4	4/28/2016 3:06:00 PM	25013
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.093		mg/Kg	4	4/28/2016 3:06:00 PM	25013
Toluene	ND	0.19		mg/Kg	4	4/28/2016 3:06:00 PM	25013
Ethylbenzene	0.47	0.19		mg/Kg	4	4/28/2016 3:06:00 PM	25013
Xylenes, Total	3.1	0.37		mg/Kg	4	4/28/2016 3:06:00 PM	25013
Surr: 4-Bromofluorobenzene	113	80-120		%Rec	4	4/28/2016 3:06:00 PM	25013

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Rule Engineering LLC
Project: CoP San Juan 27-5 #1
Lab ID: 1604A95-002 **Matrix:** SOIL

Client Sample ID: SB-03@22-23
Collection Date: 4/20/2016 1:40:00 PM
Received Date: 4/23/2016 8:45:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **KJH**	
Diesel Range Organics (DRO)	100	9.4		mg/Kg	1	4/28/2016 9:40:44 PM	25002
Surr: DNOP	95.4	70-130		%Rec	1	4/28/2016 9:40:44 PM	25002
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	110	19		mg/Kg	4	4/28/2016 3:29:34 PM	25013
Surr: BFB	466	80-120	S	%Rec	4	4/28/2016 3:29:34 PM	25013
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.094		mg/Kg	4	4/28/2016 3:29:34 PM	25013
Toluene	ND	0.19		mg/Kg	4	4/28/2016 3:29:34 PM	25013
Ethylbenzene	0.55	0.19		mg/Kg	4	4/28/2016 3:29:34 PM	25013
Xylenes, Total	ND	0.37		mg/Kg	4	4/28/2016 3:29:34 PM	25013
Surr: 4-Bromofluorobenzene	111	80-120		%Rec	4	4/28/2016 3:29:34 PM	25013

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Rule Engineering LLC
Project: CoP San Juan 27-5 #1
Lab ID: 1604A95-003 **Matrix:** SOIL

Client Sample ID: SB-04@22.5-23
Collection Date: 4/20/2016 2:15:00 PM
Received Date: 4/23/2016 8:45:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **KJH**	
Diesel Range Organics (DRO)	340	9.8		mg/Kg	1	4/28/2016 10:02:37 PM	25002
Surr: DNOP	90.4	70-130		%Rec	1	4/28/2016 10:02:37 PM	25002
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	160	19		mg/Kg	4	4/28/2016 3:53:09 PM	25013
Surr: BFB	193	80-120	S	%Rec	4	4/28/2016 3:53:09 PM	25013
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.093		mg/Kg	4	4/28/2016 3:53:09 PM	25013
Toluene	ND	0.19		mg/Kg	4	4/28/2016 3:53:09 PM	25013
Ethylbenzene	0.37	0.19		mg/Kg	4	4/28/2016 3:53:09 PM	25013
Xylenes, Total	0.81	0.37		mg/Kg	4	4/28/2016 3:53:09 PM	25013
Surr: 4-Bromofluorobenzene	117	80-120		%Rec	4	4/28/2016 3:53:09 PM	25013

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Rule Engineering LLC
Project: CoP San Juan 27-5 #1
Lab ID: 1604A95-004 **Matrix:** SOIL

Client Sample ID: SB-07@22-23
Collection Date: 4/20/2016 3:20:00 PM
Received Date: 4/23/2016 8:45:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **JME**	
Diesel Range Organics (DRO)	1100	97		mg/Kg	10	4/29/2016 9:27:58 AM	25002
Surr: DNOP	0	70-130	S	%Rec	10	4/29/2016 9:27:58 AM	25002
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	190	19		mg/Kg	4	4/28/2016 4:16:34 PM	25013
Surr: BFB	696	80-120	S	%Rec	4	4/28/2016 4:16:34 PM	25013
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.094		mg/Kg	4	4/28/2016 4:16:34 PM	25013
Toluene	ND	0.19		mg/Kg	4	4/28/2016 4:16:34 PM	25013
Ethylbenzene	ND	0.19		mg/Kg	4	4/28/2016 4:16:34 PM	25013
Xylenes, Total	1.6	0.38		mg/Kg	4	4/28/2016 4:16:34 PM	25013
Surr: 4-Bromofluorobenzene	126	80-120	S	%Rec	4	4/28/2016 4:16:34 PM	25013

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

WO#: **1604A95**

Hall Environmental Analysis Laboratory, Inc.

02-May-16

Client: Rule Engineering LLC
Project: CoP San Juan 27-5 #1

Sample ID	LCS-25002	SampType:	LCS		TestCode:	EPA Method 8015M/D: Diesel Range Organics				
Client ID:	LCSS	Batch ID:	25002		RunNo:	33843				
Prep Date:	4/26/2016	Analysis Date:	4/28/2016		SeqNo:	1042563	Units:	mg/Kg		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	46	10	50.00	0	91.2	65.8	136			
Surr: DNOP	4.7		5.000		94.5	70	130			

Sample ID	MB-25002	SampType:	MBLK		TestCode:	EPA Method 8015M/D: Diesel Range Organics				
Client ID:	PBS	Batch ID:	25002		RunNo:	33843				
Prep Date:	4/26/2016	Analysis Date:	4/28/2016		SeqNo:	1042566	Units:	mg/Kg		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Surr: DNOP	12		10.00		124	70	130			

Sample ID	MB-25085	SampType:	MBLK		TestCode:	EPA Method 8015M/D: Diesel Range Organics				
Client ID:	PBS	Batch ID:	25085		RunNo:	33883				
Prep Date:	4/30/2016	Analysis Date:	4/30/2016		SeqNo:	1044127	Units:	%Rec		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	9.0		10.00		90.1	70	130			

Sample ID	LCS-25085	SampType:	LCS		TestCode:	EPA Method 8015M/D: Diesel Range Organics				
Client ID:	LCSS	Batch ID:	25085		RunNo:	33883				
Prep Date:	4/30/2016	Analysis Date:	4/30/2016		SeqNo:	1044133	Units:	%Rec		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	4.4		5.000		87.8	70	130			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1604A95**

02-May-16

Client: Rule Engineering LLC
Project: CoP San Juan 27-5 #1

Sample ID	**MB-25015**	SampType: **MBLK**			TestCode: **EPA Method 8015D: Gasoline Range**					
Client ID:	**PBS**	Batch ID: **25015**			RunNo: **33826**					
Prep Date:	**4/26/2016**	Analysis Date: **4/27/2016**			SeqNo: **1042318**		Units: **%Rec**			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB		950		1000		95.3	80	120			

Sample ID	**LCS-25015**	SampType: **LCS**			TestCode: **EPA Method 8015D: Gasoline Range**					
Client ID:	**LCSS**	Batch ID: **25015**			RunNo: **33826**					
Prep Date:	**4/26/2016**	Analysis Date: **4/27/2016**			SeqNo: **1042319**		Units: **%Rec**			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB		1000		1000		102	80	120			

Sample ID	**MB-25013**	SampType: **MBLK**			TestCode: **EPA Method 8015D: Gasoline Range**					
Client ID:	**PBS**	Batch ID: **25013**			RunNo: **33826**					
Prep Date:	**4/26/2016**	Analysis Date: **4/27/2016**			SeqNo: **1042396**		Units: **mg/Kg**			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)		ND	5.0								
Surr: BFB		970		1000		96.7	80	120			

Sample ID	**LCS-25013**	SampType: **LCS**			TestCode: **EPA Method 8015D: Gasoline Range**					
Client ID:	**LCSS**	Batch ID: **25013**			RunNo: **33826**					
Prep Date:	**4/26/2016**	Analysis Date: **4/27/2016**			SeqNo: **1042397**		Units: **mg/Kg**			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)		25	5.0	25.00	0	102	80	120			
Surr: BFB		1100		1000		108	80	120			

Qualifiers:

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D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
R	RPD outside accepted recovery limits
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Detection Limit
W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

WO#: **1604A95**

All Environmental Analysis Laboratory, Inc.

02-May-16

Client: Rule Engineering LLC
Project: CoP San Juan 27-5 #1

Sample ID **MB-25015**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **25015**	RunNo: **33826**
Prep Date: **4/26/2016**	Analysis Date: **4/27/2016**	SeqNo: **1042402** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	0.99		1.000		99.1	80	120			

Sample ID **LCS-25015**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **25015**	RunNo: **33826**
Prep Date: **4/26/2016**	Analysis Date: **4/27/2016**	SeqNo: **1042403** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	1.0		1.000		105	80	120			

Sample ID **MB-25013**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **25013**	RunNo: **33826**
Prep Date: **4/26/2016**	Analysis Date: **4/27/2016**	SeqNo: **1042404** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	1.0		1.000		101	80	120			

Sample ID **LCS-25013**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **25013**	RunNo: **33826**
Prep Date: **4/26/2016**	Analysis Date: **4/27/2016**	SeqNo: **1042405** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.97	0.025	1.000	0	97.0	75.3	123			
Toluene	0.92	0.050	1.000	0	91.7	80	124			
Ethylbenzene	0.89	0.050	1.000	0	89.1	82.8	121			
Xylenes, Total	2.7	0.10	3.000	0	88.5	83.9	122			
Surr: 4-Bromofluorobenzene	1.0		1.000		105	80	120			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: **RULE ENGINEERING LL** Work Order Number: **1604A95** RcptNo: **1**

Received by/date: AG 04/23/16

Logged By: **Lindsay Mangin** **4/23/2016 8:45:00 AM**

Completed By: **Lindsay Mangin** **4/26/2016 8:22:00 AM**

Reviewed By: 04/26/16

Chain of Custody

1. Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
2. Is Chain of Custody complete?	Yes ☑	No ☐	Not Present ☐
3. How was the sample delivered?	Courier		

Log In

4. Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
5. Were all samples received at a temperature of >0° C to 6.0°C	Yes ☑	No ☐	NA ☐
6. Sample(s) in proper container(s)?	Yes ☑	No ☐	
7. Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
8. Are samples (except VOA and ONG) properly preserved?	Yes ☑	No ☐	
9. Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
10. VOA vials have zero headspace?	Yes ☐	No ☐	No VOA Vials ☑
11. Were any sample containers received broken?	Yes ☐	No ☑	# of preserved bottles checked for pH:
12. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ☑	No ☐	(<2 or >12 unless noted)
13. Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	Adjusted?
14. Is it clear what analyses were requested?	Yes ☑	No ☐	
15. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes ☑	No ☐	Checked by:

Special Handling (if applicable)

16. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified: _____ Date: _____

By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: _____

Client Instructions: _____

17. Additional remarks:

18. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.0	Good	Yes			

Chain of-Custody Record

ent: Rule Engineering, LLC

illing Address: 501 Airport Dr, Suite 205

one #: (505) 716-2787

ail or Fax#: hwoods@ruleengineering.com

/QC Package: Standard ☐ Level 4 (Full Validation)

creditation NELAP ☐ Other

EDD (Type)

Turn-Around Time: ☒ Standard ☐ Rush

Project Name: CoP San Juan 27-5 #1

Project #:

Project Manager: H Woods

Sampler: H Woods / J. Valdez

On Ice: ☒ Yes ☐ No

Sample Temperature: 1.0

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

ate	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1604A95	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)					Air Bubbles (Y or N)
/16	1230	Soil	SB-01@21-22	(1) 4oz Glass	Cold	-001	X		X													
/16	1340	Soil	SB-03@22-23	(1) 4oz Glass	Cold	-002	X		X													
/16	1415	Soil	SB-04@22.5-23	(1) 4oz Glass	Cold	-003	X		X													
/16	1520	Soil	SB-07@22-23	(1) 4oz Glass	Cold	-004	X		X													

NFS MW

e:	Time:	Relinquished by:	Received by:	Date	Time
/16	1408	Heather M. Woods	Kristen Walter	4/22/16	1408
e:	Time:	Relinquished by:	Received by:	Date	Time
/16	1840	Kristen Walter		04/23/16	0845

Remarks: Direct Bill to ConocoPhillips
WO: 21200824
Supervisor: Clayton Hamilton
User: MKSPENC
Area - 8 ordered by: Lisa Hunter

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

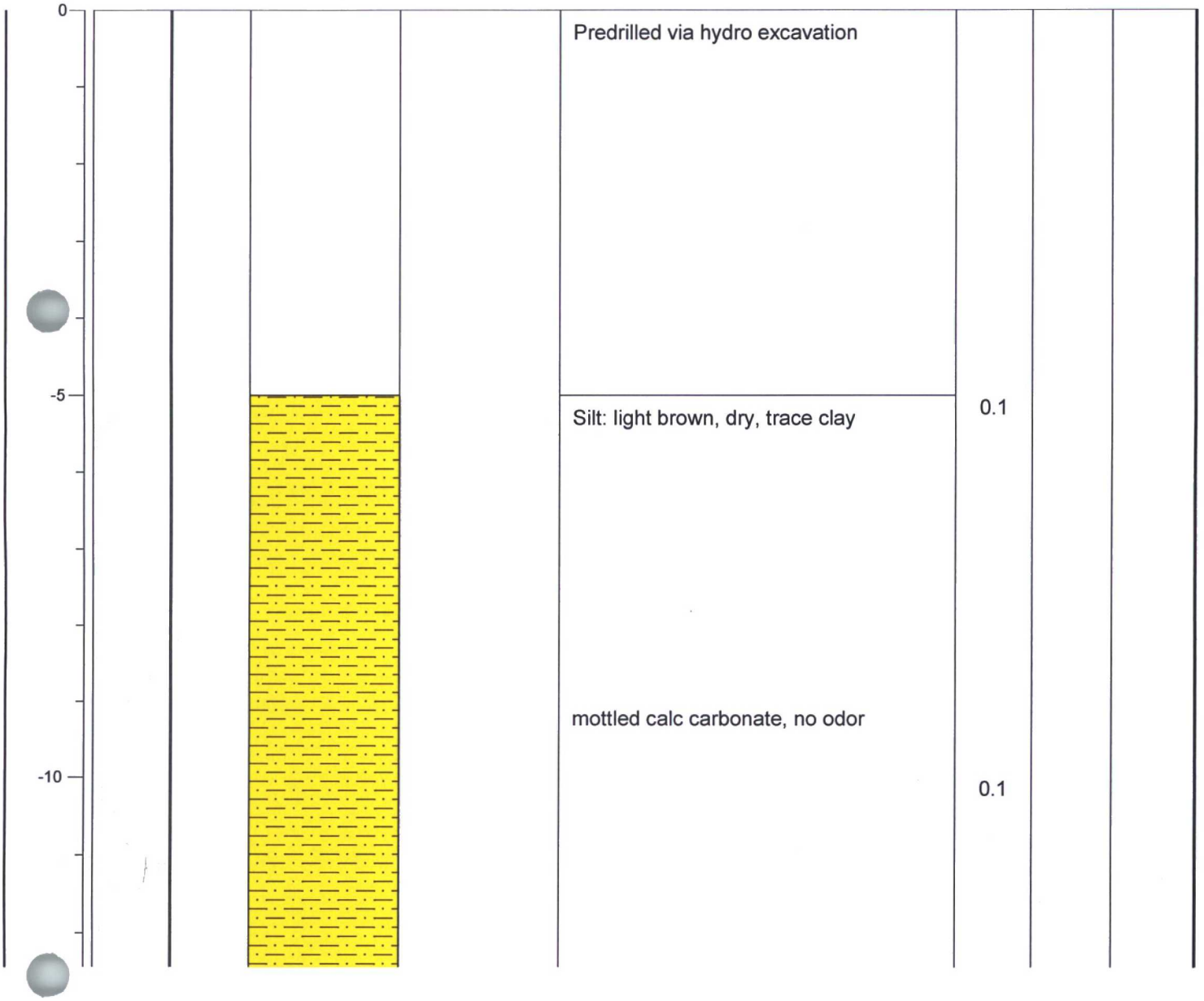
Appendix C
Boring Logs

PROJECT NAME: San Juan 27-5 No. 1
LOCATION: Rio Arriba County, New Mexico
FIELD LOGGED BY: Jeff Walker
SURFACE ELEVATION (msl): No Survey Data Available
GROUNDWATER ELEVATION (msl): Not Encountered
REMARKS: Sampled via continuous core barrel

COORDINATES: 36.59745, 107.35668

SOIL BORING NO: B-10
DRILL TYPE: Hollow Stem Auger
CME-85
BORE HOLE DIAMETER: 7 7/8"
DRILLED BY: National EWP
DATE/TIME HOLE STARTED: 9/15/2016 @1030
DATE/TIME HOLE COMPLETED: 9/15/2016 @1115

DEPTH (bgs) - ft	SAMPLE TO LAB	SAMPLE ID	STRATAGRAPHIC SEQUENCE	COMPLETION INFORMATION	CLASSIFICATION AND DESCRIPTION	PID (ppm)	Total BTEX (mg/kg)	Total TPH (mg/kg)
0					Predrilled via hydro excavation			
-5					Silt: light brown, dry, trace clay	0.1		
-10					mottled calc carbonate, no odor	0.1		



TD = 24 feet bgs

GHD Services Inc.

BORING LOG AND WELL COMPLETION FORM

PROJECT NAME: San Juan 27-5 No. 1
LOCATION: Rio Arriba County, New Mexico
FIELD LOGGED BY: Jeff Walker
SURFACE ELEVATION (msl): No Survey Data Available
GROUNDWATER ELEVATION (msl): Not Encountered
REMARKS: Sampled via continuous core barrel

COORDINATES: 36.59745, 107.35668

SOIL BORING NO: B-10
DRILL TYPE: Hollow Stem Auger
CME-85
BORE HOLE DIAMETER: 7 7/8"
DRILLED BY: National EWP
DATE/TIME HOLE STARTED: 9/15/2016 @1030
DATE/TIME HOLE COMPLETED: 9/15/2016 @1115

DEPTH (bgs) - ft	SAMPLE TO LAB	SAMPLE ID	STRATAGRAPHIC SEQUENCE	COMPLETION INFORMATION	CLASSIFICATION AND DESCRIPTION	PID (ppm)	Total BTEX (mg/kg)	Total TPH (mg/kg)
-15					more clay, cohesive, no odor	0.1		
-20					Silty Sand: very fine grained, light brown, no odor	0.1		
					Silt: mod cohesive, brown, dry, no odor			
					Silty Sand: medium to very fine grained, trace course sand, brown, dry to slightly moist, no odor			
	X	B10			Clay/Shale: hard, greenish gray, no odor		<0.01	<21.73

PROJECT NAME: San Juan 27-5 No. 1
LOCATION: Rio Arriba County, New Mexico
FIELD LOGGED BY: Jeff Walker
SURFACE ELEVATION (msl): No Survey Data Available
GROUNDWATER ELEVATION (msl): Not Encountered
REMARKS: Sampled via continuous core barrel
COORDINATES: 36.59745, 107.35668

SOIL BORING NO: B-11
DRILL TYPE: Hollow Stem Auger
CME-85
BORE HOLE DIAMETER: 7 7/8"
DRILLED BY: National EWP
DATE/TIME HOLE STARTED: 9/15/2016 @1205
DATE/TIME HOLE COMPLETED: 9/15/2016 @1305

DEPTH (bgs) - ft	SAMPLE TO LAB	SAMPLE ID	STRATAGRAPHIC SEQUENCE	COMPLETION INFORMATION	CLASSIFICATION AND DESCRIPTION	PID (ppm)	Total BTEX (mg/kg)	Total TPH (mg/kg)
0					Predrilled via hydro excavation			
-5					Sandy Clayey Silt: soft, moist, brown to dark brown			
					Silty Clay: dark chocolate brown, soft, moist, odor, staining			
-10					Silty Sand: very fine, gray to brown, moist, odor	692		
					Sandy Clay: chocolate brown, hard, moist, cohesive, staining 13.5 - 14 ft			
-15	X	B11 @ 14'			Sand/Clay: grades from loose and soft to hard and cohesive	697	4.8	1473
-20					Clay: soft, very moist, dark brown, petrol odor, staining			

TD = 39 feet bgs

GHD Services Inc.

BORING LOG AND WELL COMPLETION FORM

PROJECT NAME: San Juan 27-5 No. 1
LOCATION: Rio Arriba County, New Mexico
FIELD LOGGED BY: Jeff Walker
SURFACE ELEVATION (msl): No Survey Data Available
GROUNDWATER ELEVATION (msl): Not Encountered
REMARKS: Sampled via continuous core barrel
COORDINATES: 36.59745, 107.35668

SOIL BORING NO: B-11
DRILL TYPE: Hollow Stem Auger
CME-85
BORE HOLE DIAMETER: 7 7/8"
DRILLED BY: National EWP
DATE/TIME HOLE STARTED: 9/15/2016 @1205
DATE/TIME HOLE COMPLETED: 9/15/2016 @1305

DEPTH (bgs) - ft	SAMPLE TO LAB	SAMPLE ID	STRATAGRAPHIC SEQUENCE	COMPLETION INFORMATION	CLASSIFICATION AND DESCRIPTION	PID (ppm)	Total BTEX (mg/kg)	Total TPH (mg/kg)
-25					Shale: fractured, greenish gray to brown, slight odor			
					Sandstone: fine grained, hard drilling, greenish black, medium grained sand at the last 6"			
-30					Shale: staining, light brown to greenish, very fractured, very faint odor	356		
-35	X	B11 @ 35'			same as above	41.5	<0.02	14.5

PROJECT NAME: San Juan 27-5 No. 1
LOCATION: Rio Arriba County, New Mexico
FIELD LOGGED BY: Jeff Walker
SURFACE ELEVATION (msl): No Survey Data Available
GROUNDWATER ELEVATION (msl): Not Encountered
REMARKS: Sampled via continuous core barrel
COORDINATES: 36.59745, 107.35668

SOIL BORING NO: B-12
DRILL TYPE: Hollow Stem Auger
CME-85
BORE HOLE DIAMETER: 7 7/8"
DRILLED BY: National EWP
DATE/TIME HOLE STARTED: 9/15/2016 @1440
DATE/TIME HOLE COMPLETED: 9/15/2016 @

DEPTH (bgs) - ft	SAMPLE TO LAB	SAMPLE ID	STRATAGRAPHIC SEQUENCE	COMPLETION INFORMATION	CLASSIFICATION AND DESCRIPTION	PID (ppm)	Total BTEX (mg/kg)	Total TPH (mg/kg)
0					Predrilled via hand auger			
-5					Sandy Silt: soft, brown, dry	0.1		
-10					Clay: dry, dark brown, moist, stiff, no odor			
-15					Silt: trace sand, dry, light brown, no odor some clay at 11ft to 12ft, sandy at 14ft to 15ft, no odor	0.1		
-20					Clay: dark brown, stiff, mod plasticity, moist	0.1 273		
-25					Shale/Clay: light cohesion, dark green, moist, petrol odor	9.1		
					Sand: light cementation, fine grained, brownish yellow, slightly moist, mod odor	180		

PROJECT NAME: San Juan 27-5 No. 1
LOCATION: Rio Arriba County, New Mexico
FIELD LOGGED BY: Jeff Walker
SURFACE ELEVATION (msl): No Survey Data Available
GROUNDWATER ELEVATION (msl): Not Encountered
REMARKS: Sampled via continuous core barrel
COORDINATES: 36.59745, 107.35668

SOIL BORING NO: B-12
DRILL TYPE: Hollow Stem Auger
CME-85
BORE HOLE DIAMETER: 7 7/8"
DRILLED BY: National EWP
DATE/TIME HOLE STARTED: 9/15/2016 @1440
DATE/TIME HOLE COMPLETED: 9/15/2016 @

DEPTH (bgs) - ft	SAMPLE TO LAB	SAMPLE ID	STRATAGRAPHIC SEQUENCE	COMPLETION INFORMATION	CLASSIFICATION AND DESCRIPTION	PID (ppm)	Total BTEX (mg/kg)	Total TPH (mg/kg)
-30					Shale: very fissil, thin parting but strongly cemented, greenish gray, no odor			
					very weathered-more like clay, light gray, slightly moist, hard	39.0		
-35					fissial, thin parting, light gray, dry, slight odor			
						650		
-40					very hard and fissil, light gray to gray, petrol odor			
						4.9		
	X	B12-43.5			same as above	1071	2.66	251
-45								
					less well cemented, very hard and fissial, light gray to gray, slight petrol odor			
						8.0	0.01	14.2
-50	X	B12-50						

TD = 50 feet bgs

GHD Services Inc.

BORING LOG AND WELL COMPLETION FORM

PROJECT NAME: San Juan 27-5 No. 1
LOCATION: Rio Arriba County, New Mexico
FIELD LOGGED BY: Jeff Walker
SURFACE ELEVATION (msl): No Survey Data Available
GROUNDWATER ELEVATION (msl): Not Encountered
REMARKS: Sampled via continuous core barrel
COORDINATES: 36.5977, 107.35685

SOIL BORING NO: B-13
DRILL TYPE: Hollow Stem Auger
CME-85
BORE HOLE DIAMETER: 7 7/8"
DRILLED BY: National EWP
DATE/TIME HOLE STARTED: 9/16/2016 @930
DATE/TIME HOLE COMPLETED: 9/16/2016 @1030

DEPTH (bgs) - ft	SAMPLE TO LAB	SAMPLE ID	STRATAGRAPHIC SEQUENCE	COMPLETION INFORMATION	CLASSIFICATION AND DESCRIPTION	PID (ppm)	Total BTEX (mg/kg)	Total TPH (mg/kg)
0								
					Silt with Clay: lightly cohesive, brown, dry, no odor	0.5		
-5								
-10					Clay: hard, brown, dry, calcareous mottling, no odor light brown, stiff	0.4		
-15					Silt: soft, brown, dry, no odor light brown, medium cohesive	0.3 0.5		
-20						0.5		

TD = 40 feet bgs

GHD Services Inc.

BORING LOG AND WELL COMPLETION FORM

PROJECT NAME: San Juan 27-5 No. 1
LOCATION: Rio Arriba County, New Mexico
FIELD LOGGED BY: Jeff Walker
SURFACE ELEVATION (msl): No Survey Data Available
GROUNDWATER ELEVATION (msl): Not Encountered
REMARKS: Sampled via continuous core barrel
COORDINATES: 36.5977, 107.35685

SOIL BORING NO: B-13
DRILL TYPE: Hollow Stem Auger
CME-85
BORE HOLE DIAMETER: 7 7/8"
DRILLED BY: National EWP
DATE/TIME HOLE STARTED: 9/16/2016 @930
DATE/TIME HOLE COMPLETED: 9/16/2016 @1030

DEPTH (bgs) - ft	SAMPLE TO LAB	SAMPLE ID	STRATAGRAPHIC SEQUENCE / COMPLETION INFORMATION	CLASSIFICATION AND DESCRIPTION	PID (ppm)	Total BTEX (mg/kg)	Total TPH (mg/kg)
-25				Silty Sand: fine grained, brown with white and black specs, slightly to medium dry, no odor	0.5		
				slightly dense, no odor			
-30							
				Sandstone: very fine grained, light brown to yellowish, fissile, dry	0.2		
-35				Shale: weathered, clayey, light gray			
				some fissility, crumbly			
-40	X	B13-40			0.3	<0.02	<23.19

PROJECT NAME: San Juan 27-5 No. 1
LOCATION: Rio Arriba County, New Mexico
FIELD LOGGED BY: Jeff Walker
SURFACE ELEVATION (msl): No Survey Data Available
GROUNDWATER ELEVATION (msl): Not Encountered
REMARKS: Sampled via continuous core barrel

COORDINATES: 36.59732, 107.35661

SOIL BORING NO: B-14
DRILL TYPE: Hollow Stem Auger
CME-85
BORE HOLE DIAMETER: 7 7/8"
DRILLED BY: National EWP
DATE/TIME HOLE STARTED: 9/16/2016 @1110
DATE/TIME HOLE COMPLETED: 9/16/2016 @1300

DEPTH (bgs) - ft	SAMPLE TO LAB	SAMPLE ID	STRATAGRAPHIC SEQUENCE	COMPLETION INFORMATION	CLASSIFICATION AND DESCRIPTION	PID (ppm)	Total BTEX (mg/kg)	Total TPH (mg/kg)
0					predrilled via hand auger			
					Silty Sand: very fine, brown, moist, trace to some clay, no odor, moderately stiff	0.2		
-5					fine to very fine grain, loose, brown, dry to slightly moist			
					Silt: soft, brown, moist, increasing clay towards 10ft, light cohesiveness	0.4		
-10					Silty Sand: fine grained, slightly moist to moist, brown to yellow, no odor			
					Sandy Clay: dark brown, medium stiff, moist, petrol odor	567		
-15					dark gray to brown, soft, moist, petrol odor	622		
-20					Shale: weathered (clay) dark gray,			

PROJECT NAME: San Juan 27-5 No. 1
LOCATION: Rio Arriba County, New Mexico
FIELD LOGGED BY: Jeff Walker
SURFACE ELEVATION (msl): No Survey Data Available
GROUNDWATER ELEVATION (msl): Not Encountered
REMARKS: Sampled via continuous core barrel
COORDINATES: 36.59732, 107.35661

SOIL BORING NO: B-14
DRILL TYPE: Hollow Stem Auger
CME-85
BORE HOLE DIAMETER: 7 7/8"
DRILLED BY: National EWP
DATE/TIME HOLE STARTED: 9/16/2016 @1110
DATE/TIME HOLE COMPLETED: 9/16/2016 @1300

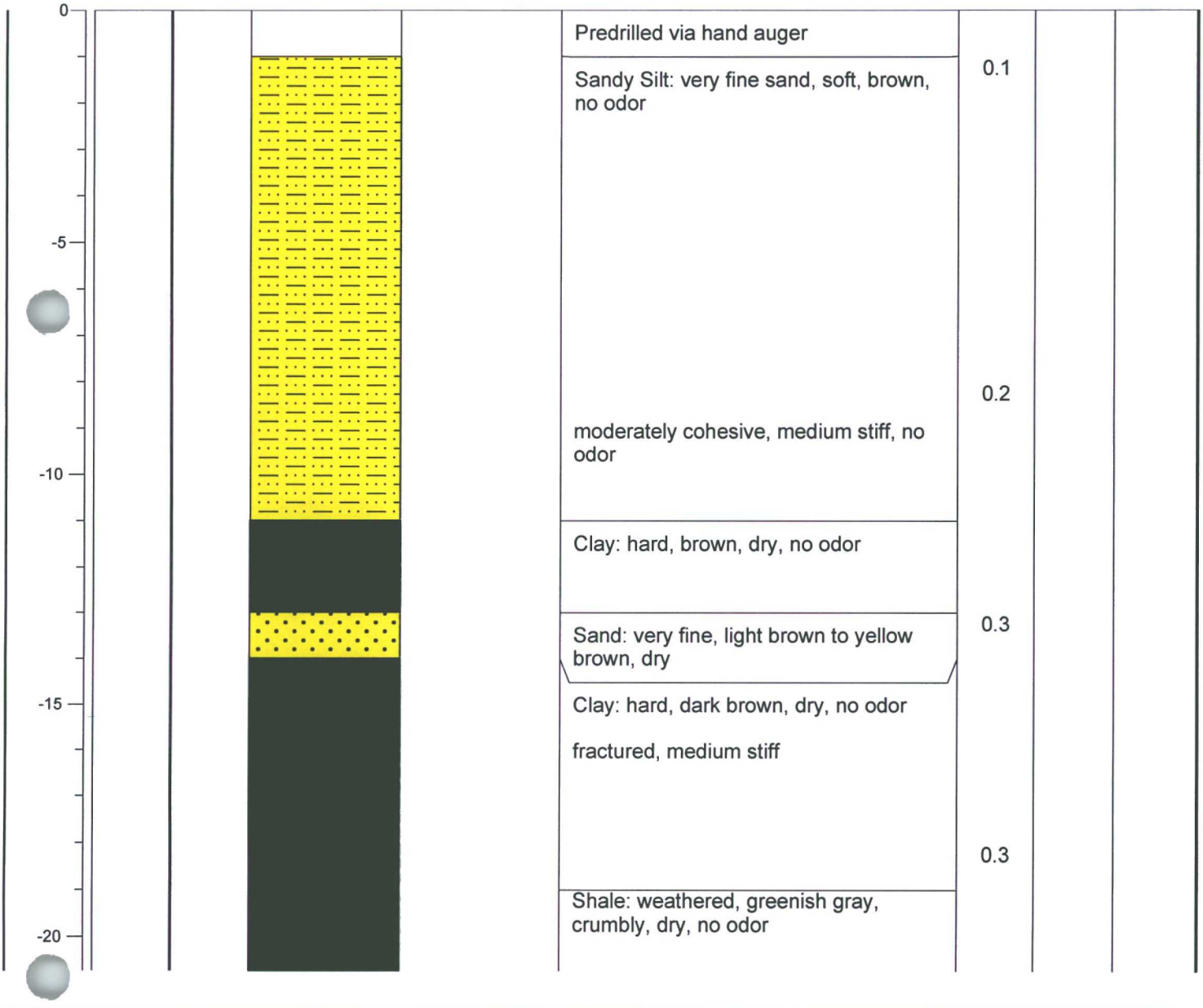
DEPTH (bgs) - ft	SAMPLE TO LAB	SAMPLE ID	STRATAGRAPHIC SEQUENCE	COMPLETION INFORMATION	CLASSIFICATION AND DESCRIPTION	PID (ppm)	Total BTEX (mg/kg)	Total TPH (mg/kg)
					minimal shale texture, moderate petrol odor, slightly moist	415		
-25					more fissile			
					Sandstone: fine grained, heavily stained green-aqua-black, strong petrol odor	661		
-30	X	B14 @ 30			very weathered, medium grained, more cemented at 33ft, slight odor	100.9	<0.02	247.4
-35					Shale: weakly cohesive, crumbly, light gray, dry, slight odor	7.8	<0.02	<21.13
-40	X	B14 @			very hard at last 6", faint odor			

PROJECT NAME: San Juan 27-5 No. 1
LOCATION: Rio Arriba County, New Mexico
FIELD LOGGED BY: Jeff Walker
SURFACE ELEVATION (msl): No Survey Data Available
GROUNDWATER ELEVATION (msl): Not Encountered
REMARKS: Sampled via continuous core barrel

COORDINATES: 36.59747, 107.35636

SOIL BORING NO: B-15
DRILL TYPE: Hollow Stem Auger
CME-85
BORE HOLE DIAMETER: 7 7/8"
DRILLED BY: National EWP
DATE/TIME HOLE STARTED: 9/16/2016 @1410
DATE/TIME HOLE COMPLETED: 9/16/2016 @1500

DEPTH (bgs) - ft	SAMPLE TO LAB	SAMPLE ID	STRATAGRAPHIC SEQUENCE	COMPLETION INFORMATION	CLASSIFICATION AND DESCRIPTION	PID (ppm)	Total BTEX (mg/kg)	Total TPH (mg/kg)
0					Predrilled via hand auger			
					Sandy Silt: very fine sand, soft, brown, no odor	0.1		
-5								
					moderately cohesive, medium stiff, no odor	0.2		
-10					Clay: hard, brown, dry, no odor			
					Sand: very fine, light brown to yellow brown, dry	0.3		
-15					Clay: hard, dark brown, dry, no odor fractured, medium stiff			
					Shale: weathered, greenish gray, crumbly, dry, no odor	0.3		
-20								



TD = 40 feet bgs

GHD Services Inc.

BORING LOG AND WELL COMPLETION FORM

PROJECT NAME: San Juan 27-5 No. 1
LOCATION: Rio Arriba County, New Mexico
FIELD LOGGED BY: Jeff Walker
SURFACE ELEVATION (msl): No Survey Data Available
GROUNDWATER ELEVATION (msl): Not Encountered
REMARKS: Sampled via continuous core barrel
COORDINATES: 36.59747, 107.35636

SOIL BORING NO: B-15
DRILL TYPE: Hollow Stem Auger
CME-85
BORE HOLE DIAMETER: 7 7/8"
DRILLED BY: National EWP
DATE/TIME HOLE STARTED: 9/16/2016 @1410
DATE/TIME HOLE COMPLETED: 9/16/2016 @1500

DEPTH (bgs) - ft	SAMPLE TO LAB	SAMPLE ID	STRATAGRAPHIC SEQUENCE	COMPLETION INFORMATION	CLASSIFICATION AND DESCRIPTION	PID (ppm)	Total BTEX (mg/kg)	Total TPH (mg/kg)
					mostly weathered with bands of more fissile but competent, dry, no odor	73.5		
-25					Sandstone: very fine, fractured but also very hard, brown-yellow-tan and black mottling, slight odor gray with yellow mottled patches, moist, no odor	9.21		
-30					Shale: very hard but fissile, greenish gray, no odor light gray, more weathered-clay like, petrol odor	624	0.05	40.3
-35	X	B15-34			very hard, gray, dry, no odor fissile-very fractured, gray to dark gray, dry, no odor	37.6	<0.02	<20.71
-40	X	B15-40						

PROJECT NAME: San Juan 27-5 No. 1
LOCATION: Rio Arriba County, New Mexico
FIELD LOGGED BY: Jeff Walker
SURFACE ELEVATION (msl): No Survey Data Available
GROUNDWATER ELEVATION (msl): Not Encountered
REMARKS: Sampled via continuous core barrel

COORDINATES: 36.59716, 107.3565

SOIL BORING NO: B-16
DRILL TYPE: Hollow Stem Auger
CME-85
BORE HOLE DIAMETER: 7 7/8"
DRILLED BY: National EWP
DATE/TIME HOLE STARTED: 9/16/2016 @1550
DATE/TIME HOLE COMPLETED: 9/16/2016 @

DEPTH (bgs) - ft	SAMPLE TO LAB	SAMPLE ID	STRATAGRAPHIC SEQUENCE	COMPLETION INFORMATION	CLASSIFICATION AND DESCRIPTION	PID (ppm)	Total BTEX (mg/kg)	Total TPH (mg/kg)
0					Predrilled via hand auger			
-5					Sandy Silt: fine grained, brown, loose, dry, no odor	0.2		
					Clay: stiff, brown, dry, no odor	0.4		
-10					Silt: sandy, brown, medium stiff, dry, no odor			
					Clay: soft, brown, becoming stiff, light graytowards 15ft, dry, no odor, caliche nodules	0.3		
-15					Shale: dark gray, soft, shale light gray, fissile, very fractured, very hard at 20ft	0.3		
-20					mostly weathered but some fissility, no odor			

PROJECT NAME: San Juan 27-5 No. 1
LOCATION: Rio Arriba County, New Mexico
FIELD LOGGED BY: Jeff Walker
SURFACE ELEVATION (msl): No Survey Data Available
GROUNDWATER ELEVATION (msl): Not Encountered
REMARKS: Sampled via continuous core barrel
COORDINATES: 36.59716, 107.3565

SOIL BORING NO: B-16
DRILL TYPE: Hollow Stem Auger
CME-85
BORE HOLE DIAMETER: 7 7/8"
DRILLED BY: National EWP
DATE/TIME HOLE STARTED: 9/16/2016 @1550
DATE/TIME HOLE COMPLETED: 9/16/2016 @

DEPTH (bgs) - ft	SAMPLE TO LAB	SAMPLE ID	STRATAGRAPHIC SEQUENCE	COMPLETION INFORMATION	CLASSIFICATION AND DESCRIPTION	PID (ppm)	Total BTEX (mg/kg)	Total TPH (mg/kg)
-25					slight color variations, no odor	0.4		
-30		B16-35			same as above	0.4		
-35	X				same as above	1147	1.81	162
-40	X	B16-40				6.1	<0.02	<20.72

Appendix D
GHD Soil Boring Assessment Laboratory Reports

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

September 30, 2016

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

RE: Project: 11124687-COP SAN JUAN 27-5 #1
Pace Project No.: 60228117

Dear Christine Mathews:
Enclosed are the analytical results for sample(s) received by the laboratory on September 20, 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

REPORT OF LABORATORY ANALYSIS

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

CERTIFICATIONS

Project: 11124687-COP SAN JUAN 27-5 #1
Pace Project No.: 60228117

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

SAMPLE SUMMARY

Project: 11124687-COP SAN JUAN 27-5 #1
Pace Project No.: 60228117

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60228117001	S-11124687-091516-JW-B10@24'	Solid	09/15/16 11:15	09/20/16 08:50
60228117002	S-11124687-091516-JW-B11@14'	Solid	09/15/16 13:20	09/20/16 08:50
60228117003	S-11124687-091516-JW-B11@35'	Solid	09/15/16 13:35	09/20/16 08:50
60228117004	S-11124687-091516-JW-B12@43.5-	Solid	09/15/16 16:50	09/20/16 08:50
60228117005	S-11124687-091516-JW-B12@50'	Solid	09/15/16 17:25	09/20/16 08:50
60228117006	S-11124687-091616-JW-B13@40'	Solid	09/16/16 10:30	09/20/16 08:50
60228117007	S-11124687-091616-JW-B14@30'	Solid	09/16/16 12:10	09/20/16 08:50
60228117008	S-11124687-091616-JW-B14@40'	Solid	09/16/16 13:05	09/20/16 08:50
60228117009	S-11124687-091616-JW-B15@34'	Solid	09/16/16 14:45	09/20/16 08:50
60228117010	S-11124687-091616-JW-B15@40'	Solid	09/16/16 15:00	09/20/16 08:50
60228117011	S-11124687-091616-JW-B16@35'	Solid	09/16/16 16:25	09/20/16 08:50
60228117012	S-11124687-091616-JW-B16@40'	Solid	09/16/16 16:45	09/20/16 08:50

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

SAMPLE ANALYTE COUNT

Project: 11124687-COP SAN JUAN 27-5 #1
Pace Project No.: 60228117

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60228117001	S-11124687-091516-JW-B10@24'	EPA 8015B	AJM	4
		EPA 5035A/8260	TJT	8
		ASTM D2974	DWC	1
60228117002	S-11124687-091516-JW-B11@14'	EPA 8015B	AJM	4
		EPA 5035A/8260	TJT	8
		ASTM D2974	DWC	1
60228117003	S-11124687-091516-JW-B11@35'	EPA 8015B	AJM	4
		EPA 5035A/8260	TJT	8
		ASTM D2974	DWC	1
60228117004	S-11124687-091516-JW-B12@43.5-	EPA 8015B	AJM	4
		EPA 5035A/8260	TJT	7
		ASTM D2974	DWC	1
60228117005	S-11124687-091516-JW-B12@50'	EPA 8015B	AJM	4
		EPA 5035A/8260	TJT	8
		ASTM D2974	DWC	1
60228117006	S-11124687-091616-JW-B13@40'	EPA 8015B	AJM	4
		EPA 5035A/8260	TJT	8
		ASTM D2974	DWC	1
60228117007	S-11124687-091616-JW-B14@30'	EPA 8015B	AJM	4
		EPA 5035A/8260	TJT	8
		ASTM D2974	DWC	1
60228117008	S-11124687-091616-JW-B14@40'	EPA 8015B	AJM	4
		EPA 5035A/8260	TJT	8
		ASTM D2974	DWC	1
60228117009	S-11124687-091616-JW-B15@34'	EPA 8015B	AJM	4
		EPA 5035A/8260	TJT	8
		ASTM D2974	DWC	1
60228117010	S-11124687-091616-JW-B15@40'	EPA 8015B	AJM	4
		EPA 5035A/8260	TJT	8
		ASTM D2974	DWC	1
60228117011	S-11124687-091616-JW-B16@35'	EPA 8015B	AJM	4
		EPA 5035A/8260	TJT	8
		ASTM D2974	DWC	1
60228117012	S-11124687-091616-JW-B16@40'	EPA 8015B	AJM	4
		EPA 5035A/8260	TJT	8
		ASTM D2974	DWC	1

REPORT OF LABORATORY ANALYSIS

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

PROJECT NARRATIVE

Project: 11124687-COP SAN JUAN 27-5 #1
Pace Project No.: 60228117

Method: **EPA 8015B**
Description: 8015B Diesel Range Organics
Client: GHD Services_COP NM
Date: September 30, 2016

General Information:
12 samples were analyzed for EPA 8015B. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

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

Sample Preparation:
The samples were prepared in accordance with EPA 3546 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.

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

QC Batch: 447452

S4: Surrogate recovery not evaluated against control limits due to sample dilution.
- S-11124687-091516-JW-B11@14' (Lab ID: 60228117002)
  - n-Tetracosane (S)
  - p-Terphenyl (S)

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

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

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

Additional Comments:

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

PROJECT NARRATIVE

Project: 11124687-COP SAN JUAN 27-5 #1
Pace Project No.: 60228117

Method: **EPA 5035A/8260**
Description: 8260 MSV GRO and Oxygenates
Client: GHD Services_COP NM
Date: September 30, 2016

General Information:
12 samples were analyzed for EPA 5035A/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.

QC Batch: 448339

S0: Surrogate recovery outside laboratory control limits.
- MSD (Lab ID: 1834069)
  - 4-Bromofluorobenzene (S)

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: 11124687-COP SAN JUAN 27-5 #1
Pace Project No.: 60228117

Sample: S-11124687-091516-JW-B10@24' **Lab ID: 60228117001** Collected: 09/15/16 11:15 Received: 09/20/16 08:50 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015B Diesel Range Organics	Analytical Method: EPA 8015B Preparation Method: EPA 3546							
TPH-DRO	ND	mg/kg	10.6	1	09/21/16 00:00	09/22/16 13:09		
TPH-ORO (C28-C35)	ND	mg/kg	10.6	1	09/21/16 00:00	09/22/16 13:09		
Surrogates								
n-Tetracosane (S)	87	%	49-133	1	09/21/16 00:00	09/22/16 13:09	646-31-1	
p-Terphenyl (S)	86	%	57-108	1	09/21/16 00:00	09/22/16 13:09	92-94-4	
8260 MSV GRO and Oxygenates	Analytical Method: EPA 5035A/8260							
Benzene	ND	mg/kg	0.0053	1		09/27/16 15:02	71-43-2	
Ethylbenzene	ND	mg/kg	0.0053	1		09/27/16 15:02	100-41-4	
Toluene	ND	mg/kg	0.0053	1		09/27/16 15:02	108-88-3	
TPH-GRO	ND	mg/kg	0.53	1		09/27/16 15:02		
Xylene (Total)	ND	mg/kg	0.011	1		09/27/16 15:02	1330-20-7	
Surrogates								
Toluene-d8 (S)	98	%	80-120	1		09/27/16 15:02	2037-26-5	
4-Bromofluorobenzene (S)	110	%	81-117	1		09/27/16 15:02	460-00-4	
1,2-Dichloroethane-d4 (S)	104	%	83-120	1		09/27/16 15:02	17060-07-0	
Percent Moisture	Analytical Method: ASTM D2974							
Percent Moisture	**6.1**	%	0.50	1		09/22/16 00:00		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 11124687-COP SAN JUAN 27-5 #1
Pace Project No.: 60228117

Sample: S-11124687-091516-JW-B11@14' **Lab ID: 60228117002** Collected: 09/15/16 13:20 Received: 09/20/16 08:50 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015B Diesel Range Organics	Analytical Method: EPA 8015B Preparation Method: EPA 3546							
TPH-DRO	**1180**	mg/kg	116	10	09/21/16 00:00	09/22/16 15:58		
TPH-ORO (C28-C35)	ND	mg/kg	116	10	09/21/16 00:00	09/22/16 15:58		
Surrogates								
n-Tetracosane (S)	0	%	49-133	10	09/21/16 00:00	09/22/16 15:58	646-31-1	S4
p-Terphenyl (S)	0	%	57-108	10	09/21/16 00:00	09/22/16 15:58	92-94-4	S4
8260 MSV GRO and Oxygenates	Analytical Method: EPA 5035A/8260							
Benzene	ND	mg/kg	0.29	50		09/27/16 15:18	71-43-2	
Ethylbenzene	ND	mg/kg	0.29	50		09/27/16 15:18	100-41-4	
Toluene	ND	mg/kg	0.29	50		09/27/16 15:18	108-88-3	
TPH-GRO	**293**	mg/kg	29.3	50		09/27/16 15:18		
Xylene (Total)	**4.8**	mg/kg	0.59	50		09/27/16 15:18	1330-20-7	
Surrogates								
Toluene-d8 (S)	98	%	80-120	50		09/27/16 15:18	2037-26-5	
4-Bromofluorobenzene (S)	112	%	81-117	50		09/27/16 15:18	460-00-4	
1,2-Dichloroethane-d4 (S)	103	%	83-120	50		09/27/16 15:18	17060-07-0	
Percent Moisture	Analytical Method: ASTM D2974							
Percent Moisture	**15.0**	%	0.50	1		09/22/16 00:00		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 11124687-COP SAN JUAN 27-5 #1
Pace Project No.: 60228117

Sample: S-11124687-091516-JW-B11@35' **Lab ID: 60228117003** Collected: 09/15/16 13:35 Received: 09/20/16 08:50 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015B Diesel Range Organics	Analytical Method: EPA 8015B Preparation Method: EPA 3546							
TPH-DRO	**13.5**	mg/kg	11.6	1	09/21/16 00:00	09/22/16 16:17		
TPH-ORO (C28-C35)	ND	mg/kg	11.6	1	09/21/16 00:00	09/22/16 16:17		
Surrogates								
n-Tetracosane (S)	84	%	49-133	1	09/21/16 00:00	09/22/16 16:17	646-31-1	
p-Terphenyl (S)	83	%	57-108	1	09/21/16 00:00	09/22/16 16:17	92-94-4	
8260 MSV GRO and Oxygenates	Analytical Method: EPA 5035A/8260							
Benzene	ND	mg/kg	0.0058	1		09/27/16 15:34	71-43-2	
Ethylbenzene	ND	mg/kg	0.0058	1		09/27/16 15:34	100-41-4	
Toluene	ND	mg/kg	0.0058	1		09/27/16 15:34	108-88-3	
TPH-GRO	**1.0**	mg/kg	0.58	1		09/27/16 15:34		
Xylene (Total)	ND	mg/kg	0.012	1		09/27/16 15:34	1330-20-7	
Surrogates								
Toluene-d8 (S)	95	%	80-120	1		09/27/16 15:34	2037-26-5	
4-Bromofluorobenzene (S)	116	%	81-117	1		09/27/16 15:34	460-00-4	
1,2-Dichloroethane-d4 (S)	96	%	83-120	1		09/27/16 15:34	17060-07-0	
Percent Moisture	Analytical Method: ASTM D2974							
Percent Moisture	**14.1**	%	0.50	1		09/22/16 00:00		

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ANALYTICAL RESULTS

Project: 11124687-COP SAN JUAN 27-5 #1
Pace Project No.: 60228117

Sample: S-11124687-091516-JW-B12@43.5- **Lab ID: 60228117004** Collected: 09/15/16 16:50 Received: 09/20/16 08:50 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015B Diesel Range Organics	Analytical Method: EPA 8015B Preparation Method: EPA 3546							
TPH-DRO	**106**	mg/kg	10.7	1	09/21/16 00:00	09/22/16 13:55		
TPH-ORO (C28-C35)	ND	mg/kg	10.7	1	09/21/16 00:00	09/22/16 13:55		
Surrogates								
n-Tetracosane (S)	91	%	49-133	1	09/21/16 00:00	09/22/16 13:55	646-31-1	
p-Terphenyl (S)	91	%	57-108	1	09/21/16 00:00	09/22/16 13:55	92-94-4	
8260 MSV GRO and Oxygenates	Analytical Method: EPA 5035A/8260							
Benzene	ND	mg/kg	0.27	50		09/27/16 15:49	71-43-2	
Ethylbenzene	ND	mg/kg	0.27	50		09/27/16 15:49	100-41-4	
Toluene	**0.36**	mg/kg	0.27	50		09/27/16 15:49	108-88-3	
TPH-GRO	**145**	mg/kg	27.4	50		09/27/16 15:49		
Xylene (Total)	**2.3**	mg/kg	0.55	50		09/27/16 15:49	1330-20-7	
Surrogates								
Toluene-d8 (S)	98	%	80-120	50		09/27/16 15:49	2037-26-5	
4-Bromofluorobenzene (S)	112	%	81-117	50		09/27/16 15:49	460-00-4	
Percent Moisture	Analytical Method: ASTM D2974							
Percent Moisture	**8.7**	%	0.50	1		09/22/16 00:00		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 11124687-COP SAN JUAN 27-5 #1
Pace Project No.: 60228117

Sample: S-11124687-091516-JW-B12@50' **Lab ID: 60228117005** Collected: 09/15/16 17:25 Received: 09/20/16 08:50 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015B Diesel Range Organics	Analytical Method: EPA 8015B Preparation Method: EPA 3546							
TPH-DRO	**14.2**	mg/kg	10.5	1	09/21/16 00:00	09/22/16 14:23		
TPH-ORO (C28-C35)	ND	mg/kg	10.5	1	09/21/16 00:00	09/22/16 14:23		
Surrogates								
n-Tetracosane (S)	82	%	49-133	1	09/21/16 00:00	09/22/16 14:23	646-31-1	
p-Terphenyl (S)	83	%	57-108	1	09/21/16 00:00	09/22/16 14:23	92-94-4	
8260 MSV GRO and Oxygenates	Analytical Method: EPA 5035A/8260							
Benzene	ND	mg/kg	0.0052	1		09/27/16 16:05	71-43-2	
Ethylbenzene	ND	mg/kg	0.0052	1		09/27/16 16:05	100-41-4	
Toluene	ND	mg/kg	0.0052	1		09/27/16 16:05	108-88-3	
TPH-GRO	ND	mg/kg	0.52	1		09/27/16 16:05		
Xylene (Total)	**0.011**	mg/kg	0.010	1		09/27/16 16:05	1330-20-7	
Surrogates								
Toluene-d8 (S)	94	%	80-120	1		09/27/16 16:05	2037-26-5	
4-Bromofluorobenzene (S)	112	%	81-117	1		09/27/16 16:05	460-00-4	
1,2-Dichloroethane-d4 (S)	98	%	83-120	1		09/27/16 16:05	17060-07-0	
Percent Moisture	Analytical Method: ASTM D2974							
Percent Moisture	**5.2**	%	0.50	1		09/22/16 00:00		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 11124687-COP SAN JUAN 27-5 #1
Pace Project No.: 60228117

Sample: S-11124687-091616-JW-B13@40' **Lab ID: 60228117006** Collected: 09/16/16 10:30 Received: 09/20/16 08:50 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015B Diesel Range Organics	Analytical Method: EPA 8015B Preparation Method: EPA 3546							
TPH-DRO	ND	mg/kg	11.3	1	09/21/16 00:00	09/22/16 14:32		
TPH-ORO (C28-C35)	ND	mg/kg	11.3	1	09/21/16 00:00	09/22/16 14:32		
Surrogates								
n-Tetracosane (S)	87	%	49-133	1	09/21/16 00:00	09/22/16 14:32	646-31-1	
p-Terphenyl (S)	86	%	57-108	1	09/21/16 00:00	09/22/16 14:32	92-94-4	
8260 MSV GRO and Oxygenates	Analytical Method: EPA 5035A/8260							
Benzene	ND	mg/kg	0.0059	1		09/27/16 16:20	71-43-2	
Ethylbenzene	ND	mg/kg	0.0059	1		09/27/16 16:20	100-41-4	
Toluene	ND	mg/kg	0.0059	1		09/27/16 16:20	108-88-3	
TPH-GRO	ND	mg/kg	0.59	1		09/27/16 16:20		
Xylene (Total)	ND	mg/kg	0.012	1		09/27/16 16:20	1330-20-7	
Surrogates								
Toluene-d8 (S)	96	%	80-120	1		09/27/16 16:20	2037-26-5	
4-Bromofluorobenzene (S)	108	%	81-117	1		09/27/16 16:20	460-00-4	
1,2-Dichloroethane-d4 (S)	100	%	83-120	1		09/27/16 16:20	17060-07-0	
Percent Moisture	Analytical Method: ASTM D2974							
Percent Moisture	**16.4**	%	0.50	1		09/22/16 00:00		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 11124687-COP SAN JUAN 27-5 #1
Pace Project No.: 60228117

Sample: S-11124687-091616-JW-B14@30' **Lab ID: 60228117007** Collected: 09/16/16 12:10 Received: 09/20/16 08:50 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015B Diesel Range Organics	Analytical Method: EPA 8015B Preparation Method: EPA 3546							
TPH-DRO	**246**	mg/kg	31.2	1	09/21/16 00:00	09/22/16 14:41		
TPH-ORO (C28-C35)	ND	mg/kg	31.2	1	09/21/16 00:00	09/22/16 14:41		
Surrogates								
n-Tetracosane (S)	87	%	49-133	1	09/21/16 00:00	09/22/16 14:41	646-31-1	
p-Terphenyl (S)	88	%	57-108	1	09/21/16 00:00	09/22/16 14:41	92-94-4	
8260 MSV GRO and Oxygenates	Analytical Method: EPA 5035A/8260							
Benzene	ND	mg/kg	0.0052	1		09/27/16 16:36	71-43-2	
Ethylbenzene	ND	mg/kg	0.0052	1		09/27/16 16:36	100-41-4	
Toluene	ND	mg/kg	0.0052	1		09/27/16 16:36	108-88-3	
TPH-GRO	**1.4**	mg/kg	0.52	1		09/27/16 16:36		
Xylene (Total)	ND	mg/kg	0.010	1		09/27/16 16:36	1330-20-7	
Surrogates								
Toluene-d8 (S)	92	%	80-120	1		09/27/16 16:36	2037-26-5	
4-Bromofluorobenzene (S)	117	%	81-117	1		09/27/16 16:36	460-00-4	
1,2-Dichloroethane-d4 (S)	106	%	83-120	1		09/27/16 16:36	17060-07-0	
Percent Moisture	Analytical Method: ASTM D2974							
Percent Moisture	**5.3**	%	0.50	1		09/22/16 00:00		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 11124687-COP SAN JUAN 27-5 #1
Pace Project No.: 60228117

Sample: S-11124687-091616-JW-B14@40' **Lab ID: 60228117008** Collected: 09/16/16 13:05 Received: 09/20/16 08:50 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015B Diesel Range Organics	Analytical Method: EPA 8015B Preparation Method: EPA 3546							
TPH-DRO	ND	mg/kg	10.3	1	09/21/16 00:00	09/22/16 14:50		
TPH-ORO (C28-C35)	ND	mg/kg	10.3	1	09/21/16 00:00	09/22/16 14:50		
Surrogates								
n-Tetracosane (S)	78	%	49-133	1	09/21/16 00:00	09/22/16 14:50	646-31-1	
p-Terphenyl (S)	77	%	57-108	1	09/21/16 00:00	09/22/16 14:50	92-94-4	
8260 MSV GRO and Oxygenates	Analytical Method: EPA 5035A/8260							
Benzene	ND	mg/kg	0.0053	1		09/27/16 16:51	71-43-2	
Ethylbenzene	ND	mg/kg	0.0053	1		09/27/16 16:51	100-41-4	
Toluene	ND	mg/kg	0.0053	1		09/27/16 16:51	108-88-3	
TPH-GRO	ND	mg/kg	0.53	1		09/27/16 16:51		
Xylene (Total)	ND	mg/kg	0.011	1		09/27/16 16:51	1330-20-7	
Surrogates								
Toluene-d8 (S)	95	%	80-120	1		09/27/16 16:51	2037-26-5	
4-Bromofluorobenzene (S)	109	%	81-117	1		09/27/16 16:51	460-00-4	
1,2-Dichloroethane-d4 (S)	98	%	83-120	1		09/27/16 16:51	17060-07-0	
Percent Moisture	Analytical Method: ASTM D2974							
Percent Moisture	**5.5**	%	0.50	1		09/23/16 00:00		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 11124687-COP SAN JUAN 27-5 #1
Pace Project No.: 60228117

Sample: S-11124687-091616-JW-B15@34' **Lab ID: 60228117009** Collected: 09/16/16 14:45 Received: 09/20/16 08:50 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015B Diesel Range Organics	Analytical Method: EPA 8015B Preparation Method: EPA 3546							
TPH-DRO	**37.2**	mg/kg	10.9	1	09/21/16 00:00	09/22/16 15:00		
TPH-ORO (C28-C35)	ND	mg/kg	10.9	1	09/21/16 00:00	09/22/16 15:00		
Surrogates								
n-Tetracosane (S)	87	%	49-133	1	09/21/16 00:00	09/22/16 15:00	646-31-1	
p-Terphenyl (S)	84	%	57-108	1	09/21/16 00:00	09/22/16 15:00	92-94-4	
8260 MSV GRO and Oxygenates	Analytical Method: EPA 5035A/8260							
Benzene	ND	mg/kg	0.0055	1		09/28/16 10:26	71-43-2	
Ethylbenzene	ND	mg/kg	0.0055	1		09/28/16 10:26	100-41-4	
Toluene	ND	mg/kg	0.0055	1		09/28/16 10:26	108-88-3	
TPH-GRO	**3.1**	mg/kg	0.55	1		09/28/16 10:26		
Xylene (Total)	**0.053**	mg/kg	0.011	1		09/28/16 10:26	1330-20-7	
Surrogates								
Toluene-d8 (S)	96	%	80-120	1		09/28/16 10:26	2037-26-5	
4-Bromofluorobenzene (S)	112	%	81-117	1		09/28/16 10:26	460-00-4	
1,2-Dichloroethane-d4 (S)	95	%	83-120	1		09/28/16 10:26	17060-07-0	
Percent Moisture	Analytical Method: ASTM D2974							
Percent Moisture	**10.1**	%	0.50	1		09/23/16 00:00		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 11124687-COP SAN JUAN 27-5 #1
Pace Project No.: 60228117

Sample: S-11124687-091616-JW-B15@40' **Lab ID: 60228117010** Collected: 09/16/16 15:00 Received: 09/20/16 08:50 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015B Diesel Range Organics	Analytical Method: EPA 8015B Preparation Method: EPA 3546							
TPH-DRO	ND	mg/kg	10.1	1	09/21/16 00:00	09/22/16 15:09		
TPH-ORO (C28-C35)	ND	mg/kg	10.1	1	09/21/16 00:00	09/22/16 15:09		
Surrogates								
n-Tetracosane (S)	86	%	49-133	1	09/21/16 00:00	09/22/16 15:09	646-31-1	
p-Terphenyl (S)	84	%	57-108	1	09/21/16 00:00	09/22/16 15:09	92-94-4	
8260 MSV GRO and Oxygenates	Analytical Method: EPA 5035A/8260							
Benzene	ND	mg/kg	0.0051	1		09/27/16 17:22	71-43-2	
Ethylbenzene	ND	mg/kg	0.0051	1		09/27/16 17:22	100-41-4	
Toluene	ND	mg/kg	0.0051	1		09/27/16 17:22	108-88-3	
TPH-GRO	ND	mg/kg	0.51	1		09/27/16 17:22		
Xylene (Total)	ND	mg/kg	0.010	1		09/27/16 17:22	1330-20-7	
Surrogates								
Toluene-d8 (S)	96	%	80-120	1		09/27/16 17:22	2037-26-5	
4-Bromofluorobenzene (S)	105	%	81-117	1		09/27/16 17:22	460-00-4	
1,2-Dichloroethane-d4 (S)	99	%	83-120	1		09/27/16 17:22	17060-07-0	
Percent Moisture	Analytical Method: ASTM D2974							
Percent Moisture	**2.8**	%	0.50	1		09/23/16 00:00		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 11124687-COP SAN JUAN 27-5 #1
Pace Project No.: 60228117

Sample: S-11124687-091616-JW-B16@35' **Lab ID: 60228117011** Collected: 09/16/16 16:25 Received: 09/20/16 08:50 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015B Diesel Range Organics	Analytical Method: EPA 8015B Preparation Method: EPA 3546							
TPH-DRO	**154**	mg/kg	10.8	1	09/21/16 00:00	09/22/16 15:18		
TPH-ORO (C28-C35)	ND	mg/kg	10.8	1	09/21/16 00:00	09/22/16 15:18		
Surrogates								
n-Tetracosane (S)	89	%	49-133	1	09/21/16 00:00	09/22/16 15:18	646-31-1	
p-Terphenyl (S)	85	%	57-108	1	09/21/16 00:00	09/22/16 15:18	92-94-4	
8260 MSV GRO and Oxygenates	Analytical Method: EPA 5035A/8260							
Benzene	**0.021**	mg/kg	0.0055	1		09/27/16 17:38	71-43-2	
Ethylbenzene	**0.052**	mg/kg	0.0055	1		09/27/16 17:38	100-41-4	
Toluene	**0.14**	mg/kg	0.0055	1		09/27/16 17:38	108-88-3	
TPH-GRO	**8.0**	mg/kg	0.55	1		09/27/16 17:38		
Xylene (Total)	**1.6**	mg/kg	0.54	50		09/28/16 11:28	1330-20-7	
Surrogates								
Toluene-d8 (S)	99	%	80-120	1		09/27/16 17:38	2037-26-5	
4-Bromofluorobenzene (S)	104	%	81-117	1		09/27/16 17:38	460-00-4	
1,2-Dichloroethane-d4 (S)	102	%	83-120	1		09/27/16 17:38	17060-07-0	
Percent Moisture	Analytical Method: ASTM D2974							
Percent Moisture	**8.9**	%	0.50	1		09/23/16 00:00		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 11124687-COP SAN JUAN 27-5 #1
Pace Project No.: 60228117

Sample: S-11124687-091616-JW-B16@40' **Lab ID: 60228117012** Collected: 09/16/16 16:45 Received: 09/20/16 08:50 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015B Diesel Range Organics	Analytical Method: EPA 8015B Preparation Method: EPA 3546							
TPH-DRO	ND	mg/kg	10.1	1	09/21/16 00:00	09/22/16 15:27		
TPH-ORO (C28-C35)	ND	mg/kg	10.1	1	09/21/16 00:00	09/22/16 15:27		
Surrogates								
n-Tetracosane (S)	75	%	49-133	1	09/21/16 00:00	09/22/16 15:27	646-31-1	
p-Terphenyl (S)	74	%	57-108	1	09/21/16 00:00	09/22/16 15:27	92-94-4	
8260 MSV GRO and Oxygenates	Analytical Method: EPA 5035A/8260							
Benzene	ND	mg/kg	0.0052	1		09/27/16 17:53	71-43-2	
Ethylbenzene	ND	mg/kg	0.0052	1		09/27/16 17:53	100-41-4	
Toluene	ND	mg/kg	0.0052	1		09/27/16 17:53	108-88-3	
TPH-GRO	ND	mg/kg	0.52	1		09/27/16 17:53		
Xylene (Total)	ND	mg/kg	0.010	1		09/27/16 17:53	1330-20-7	
Surrogates								
Toluene-d8 (S)	97	%	80-120	1		09/27/16 17:53	2037-26-5	
4-Bromofluorobenzene (S)	106	%	81-117	1		09/27/16 17:53	460-00-4	
1,2-Dichloroethane-d4 (S)	99	%	83-120	1		09/27/16 17:53	17060-07-0	
Percent Moisture	Analytical Method: ASTM D2974							
Percent Moisture	**4.9**	%	0.50	1		09/23/16 00:00		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 11124687-COP SAN JUAN 27-5 #1
Pace Project No.: 60228117

QC Batch: 448196 Analysis Method: EPA 5035A/8260
QC Batch Method: EPA 5035A/8260 Analysis Description: 8260 MSV GRO and Oxygenates
Associated Lab Samples: 60228117001, 60228117002, 60228117003, 60228117004, 60228117005, 60228117006, 60228117007, 60228117008, 60228117009, 60228117010, 60228117011, 60228117012

METHOD BLANK: 1833617 Matrix: Solid
Associated Lab Samples: 60228117001, 60228117002, 60228117003, 60228117004, 60228117005, 60228117006, 60228117007, 60228117008, 60228117009, 60228117010, 60228117011, 60228117012

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	mg/kg	ND	0.0050	09/27/16 12:42	
Ethylbenzene	mg/kg	ND	0.0050	09/27/16 12:42	
Toluene	mg/kg	ND	0.0050	09/27/16 12:42	
TPH-GRO	mg/kg	ND	0.50	09/27/16 12:42	
Xylene (Total)	mg/kg	ND	0.010	09/27/16 12:42	
1,2-Dichloroethane-d4 (S)	%	103	83-120	09/27/16 12:42	
4-Bromofluorobenzene (S)	%	108	81-117	09/27/16 12:42	
Toluene-d8 (S)	%	94	80-120	09/27/16 12:42	

LABORATORY CONTROL SAMPLE: 1833618

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	mg/kg	.1	0.087	87	75-116	
Ethylbenzene	mg/kg	.1	0.091	91	72-116	
Toluene	mg/kg	.1	0.085	85	72-116	
TPH-GRO	mg/kg	4	4.3	108	76-128	
Xylene (Total)	mg/kg	.3	0.29	97	69-116	
1,2-Dichloroethane-d4 (S)	%			98	83-120	
4-Bromofluorobenzene (S)	%			105	81-117	
Toluene-d8 (S)	%			96	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: 11124687-COP SAN JUAN 27-5 #1
Pace Project No.: 60228117

QC Batch: 448339
QC Batch Method: EPA 5035A/8260
Analysis Method: EPA 5035A/8260
Analysis Description: 8260 MSV GRO and Oxygenates
Associated Lab Samples: 60228117009, 60228117011

METHOD BLANK: 1834066 Matrix: Solid
Associated Lab Samples: 60228117009, 60228117011

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	mg/kg	ND	0.0050	09/28/16 09:55	
Ethylbenzene	mg/kg	ND	0.0050	09/28/16 09:55	
Toluene	mg/kg	ND	0.0050	09/28/16 09:55	
TPH-GRO	mg/kg	ND	0.50	09/28/16 09:55	
Xylene (Total)	mg/kg	ND	0.010	09/28/16 09:55	
1,2-Dichloroethane-d4 (S)	%	98	83-120	09/28/16 09:55	
4-Bromofluorobenzene (S)	%	107	81-117	09/28/16 09:55	
Toluene-d8 (S)	%	96	80-120	09/28/16 09:55	

LABORATORY CONTROL SAMPLE: 1834067

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	mg/kg	.1	0.087	87	75-116	
Ethylbenzene	mg/kg	.1	0.095	95	72-116	
Toluene	mg/kg	.1	0.087	87	72-116	
TPH-GRO	mg/kg	4	5.0	126	76-128	
Xylene (Total)	mg/kg	.3	0.30	100	69-116	
1,2-Dichloroethane-d4 (S)	%			94	83-120	
4-Bromofluorobenzene (S)	%			113	81-117	
Toluene-d8 (S)	%			96	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1834068 1834069

Parameter	Units	60228321001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Benzene	mg/kg	ND	.1	.099	0.070	0.059	68	58	28-136	17	36	
Ethylbenzene	mg/kg	0.041	.1	.099	0.084	0.076	42	35	10-152	11	48	
Toluene	mg/kg	ND	.1	.099	0.059	0.049	59	50	19-141	19	40	
Xylene (Total)	mg/kg	ND	.3	.3	0.16	0.14	51	46	10-149	11	50	
1,2-Dichloroethane-d4 (S)	%						109	107	83-120			
4-Bromofluorobenzene (S)	%						113	118	81-117			S0
Toluene-d8 (S)	%						95	93	80-120		38	

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: 11124687-COP SAN JUAN 27-5 #1
Pace Project No.: 60228117

QC Batch: 447452 Analysis Method: EPA 8015B
QC Batch Method: EPA 3546 Analysis Description: EPA 8015B
Associated Lab Samples: 60228117001, 60228117002, 60228117003, 60228117004, 60228117005, 60228117006, 60228117007, 60228117008, 60228117009, 60228117010, 60228117011, 60228117012

METHOD BLANK: 1830387 Matrix: Solid
Associated Lab Samples: 60228117001, 60228117002, 60228117003, 60228117004, 60228117005, 60228117006, 60228117007, 60228117008, 60228117009, 60228117010, 60228117011, 60228117012

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
TPH-DRO	mg/kg	ND	9.9	09/22/16 12:50	
n-Tetracosane (S)	%	90	49-133	09/22/16 12:50	
p-Terphenyl (S)	%	92	57-108	09/22/16 12:50	

LABORATORY CONTROL SAMPLE: 1830388

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
TPH-DRO	mg/kg	81.7	75.1	92	77-122	
n-Tetracosane (S)	%			96	49-133	
p-Terphenyl (S)	%			103	57-108	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1830389 1830390

Parameter	Units	60228117001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
TPH-DRO	mg/kg	ND	86.8	86.7	82.4	81.3	92	91	44-138	1	71	
n-Tetracosane (S)	%						98	94	49-133		58	
p-Terphenyl (S)	%						102	99	57-108		56	

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QUALITY CONTROL DATA

Project: 11124687-COP SAN JUAN 27-5 #1
Pace Project No.: 60228117

QC Batch: 447594 Analysis Method: ASTM D2974
QC Batch Method: ASTM D2974 Analysis Description: Dry Weight/Percent Moisture
Associated Lab Samples: 60228117001, 60228117002, 60228117003, 60228117004, 60228117005, 60228117006, 60228117007

METHOD BLANK: 1830948 Matrix: Solid
Associated Lab Samples: 60228117001, 60228117002, 60228117003, 60228117004, 60228117005, 60228117006, 60228117007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Percent Moisture	%	ND	0.50	09/22/16 00:00	

SAMPLE DUPLICATE: 1830949

Parameter	Units	60228025003 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	7.0	6.8	3	20	

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QUALITY CONTROL DATA

Project: 11124687-COP SAN JUAN 27-5 #1
Pace Project No.: 60228117

QC Batch: 447903 Analysis Method: ASTM D2974
QC Batch Method: ASTM D2974 Analysis Description: Dry Weight/Percent Moisture
Associated Lab Samples: 60228117008, 60228117009, 60228117010, 60228117011, 60228117012

METHOD BLANK: 1832579 Matrix: Solid
Associated Lab Samples: 60228117008, 60228117009, 60228117010, 60228117011, 60228117012

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Percent Moisture	%	ND	0.50	09/23/16 00:00	

SAMPLE DUPLICATE: 1832580

Parameter	Units	60228025006 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	8.2	8.4	3	20	

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REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: 11124687-COP SAN JUAN 27-5 #1
Pace Project No.: 60228117

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

S0	Surrogate recovery outside laboratory control limits.
S4	Surrogate recovery not evaluated against control limits due to sample dilution.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 11124687-COP SAN JUAN 27-5 #1
Pace Project No.: 60228117

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60228117001	S-11124687-091516-JW-B10@24'	EPA 3546	447452	EPA 8015B	447506
60228117002	S-11124687-091516-JW-B11@14'	EPA 3546	447452	EPA 8015B	447506
60228117003	S-11124687-091516-JW-B11@35'	EPA 3546	447452	EPA 8015B	447506
60228117004	S-11124687-091516-JW-B12@43.5-	EPA 3546	447452	EPA 8015B	447506
60228117005	S-11124687-091516-JW-B12@50'	EPA 3546	447452	EPA 8015B	447506
60228117006	S-11124687-091616-JW-B13@40'	EPA 3546	447452	EPA 8015B	447506
60228117007	S-11124687-091616-JW-B14@30'	EPA 3546	447452	EPA 8015B	447506
60228117008	S-11124687-091616-JW-B14@40'	EPA 3546	447452	EPA 8015B	447506
60228117009	S-11124687-091616-JW-B15@34'	EPA 3546	447452	EPA 8015B	447506
60228117010	S-11124687-091616-JW-B15@40'	EPA 3546	447452	EPA 8015B	447506
60228117011	S-11124687-091616-JW-B16@35'	EPA 3546	447452	EPA 8015B	447506
60228117012	S-11124687-091616-JW-B16@40'	EPA 3546	447452	EPA 8015B	447506
60228117001	S-11124687-091516-JW-B10@24'	EPA 5035A/8260	448196		
60228117002	S-11124687-091516-JW-B11@14'	EPA 5035A/8260	448196		
60228117003	S-11124687-091516-JW-B11@35'	EPA 5035A/8260	448196		
60228117004	S-11124687-091516-JW-B12@43.5-	EPA 5035A/8260	448196		
60228117005	S-11124687-091516-JW-B12@50'	EPA 5035A/8260	448196		
60228117006	S-11124687-091616-JW-B13@40'	EPA 5035A/8260	448196		
60228117007	S-11124687-091616-JW-B14@30'	EPA 5035A/8260	448196		
60228117008	S-11124687-091616-JW-B14@40'	EPA 5035A/8260	448196		
60228117009	S-11124687-091616-JW-B15@34'	EPA 5035A/8260	448196		
60228117009	S-11124687-091616-JW-B15@34'	EPA 5035A/8260	448339		
60228117010	S-11124687-091616-JW-B15@40'	EPA 5035A/8260	448196		
60228117011	S-11124687-091616-JW-B16@35'	EPA 5035A/8260	448196		
60228117011	S-11124687-091616-JW-B16@35'	EPA 5035A/8260	448339		
60228117012	S-11124687-091616-JW-B16@40'	EPA 5035A/8260	448196		
60228117001	S-11124687-091516-JW-B10@24'	ASTM D2974	447594		
60228117002	S-11124687-091516-JW-B11@14'	ASTM D2974	447594		
60228117003	S-11124687-091516-JW-B11@35'	ASTM D2974	447594		
60228117004	S-11124687-091516-JW-B12@43.5-	ASTM D2974	447594		
60228117005	S-11124687-091516-JW-B12@50'	ASTM D2974	447594		
60228117006	S-11124687-091616-JW-B13@40'	ASTM D2974	447594		
60228117007	S-11124687-091616-JW-B14@30'	ASTM D2974	447594		
60228117008	S-11124687-091616-JW-B14@40'	ASTM D2974	447903		
60228117009	S-11124687-091616-JW-B15@34'	ASTM D2974	447903		
60228117010	S-11124687-091616-JW-B15@40'	ASTM D2974	447903		
60228117011	S-11124687-091616-JW-B16@35'	ASTM D2974	447903		
60228117012	S-11124687-091616-JW-B16@40'	ASTM D2974	447903		

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Sample Condition Upon Receipt
ESI Tech Spec Client

WO#: 60228117

60228117

Client Name: GHD GP

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

Tracking #: 7044 6653 3060 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 -0.1 T-239 Type of Ice: Wet Blue None

BB 9/20/16

Cooler Temperature (°C): As-read 3.1 Corr. Factor CF +1.1 CF -0.1 Corrected 4.2

Date and initials of person examining contents:

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: SL	☐Yes ☐No ☐N/A	
Containers requiring pH preservation in compliance? (HNO_3, H_2SO_4, HCl<2; NaOH>9 Sulfide, NaOH>10 Cyanide) (Exceptions: VOA, Micro, O&G, KS TPH, OK-DRO)	☐Yes ☐No ☑N/A	
Cyanide water sample checks: ☐ N/A Lead acetate strip turns dark? (Record only) Potassium iodide test strip turns blue/purple? (Preserve)	☐Yes ☐No ☐Yes ☐No	
Trip Blank present:	☐Yes ☑No ☐N/A	
Headspace in VOA vials (>6mm):	☐Yes ☐No ☑N/A	
Samples from USDA Regulated Area: State: NM	☐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: 09/20/16

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

Start: 1015	Start:
End: 1025	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_COP NM	Report To:	Jeffrey Walker	Attention:	
Address:	6121 Indian School Rd NE	Copy To:	Christine Mathews	Company Name:	
	Albuquerque, NM 87110			Address:	
Email:	jeff.walker@ghd.com	Purchase Order #:		Pace Quote:	
Phone:	505-377-3920 Fax:	Project Name:	11124687-COP ~~Houston~~ SAN JUAN 27-5 #1	Pace Project Manager:	alice.flanagan@pacelabs.com,
Requested Due Date:		Project #:	11124687	Pace Profile #:	8644, line 30

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 GRO/BTEX	8015 DRO/MRO	Residual Chlorine (Y/N)	60028117
1	S-11124687-091516-JW-B10C24'	SL	G	9/15	1115					X									X	X		2WGFV
2	S11124687-091516-JW-B11C14'	SL	G	9/15	1320					X									X	X		
3	S11124687-091516-JW-B11C35'			9/15	1335					X									X	X		
4	S11124687-091516-JW-B12C43-45'			9/15	1650					X									X	X		
5	S-11124687-091516-JW-B12C50'			9/15	1725					X									X	X		
6	S-11124687-091616-JW-B13C40'			9/16	1030					X									X	X		
7	S-11124687-091616-JW-B14C30'			9/16	1210					X									X	X		
8	S-11124687-091616-JW-B14C40'			9/16	1305					X									X	X		
9	S-11124687-091616-JW-B15C34'			9/16	1445					X									X	X		
10	S-11124687-091616-JW-B15C40'			9/16	1500					X									X	X		
11	S-11124687-091616-JW-B16C35'			9/16	1625					X									X	X		
12	S-11124687-091616-JW-B16C40'			9/16	1645					X									X	X		

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS: TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
Please Project Name: SanJuan 27-5 #1 Proj. #11124687	Jeff Walker GHD	9/19/16	1240	Ken Rowe	9/20/16	0850	4.2	Y	Y	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Jeff Walker

SIGNATURE of SAMPLER: Jeff Walker DATE Signed: 9/19/16

Appendix E
Waste Manifests/NMOCD Form C 138

Waste Request Summary

October 26, 2016

To:	Jeffrey Walker	Ref. No.:	11124687-AS01
	LJ		
From:	Lesley Jones/ph/1	Tel:	615-778-2535

Subject: **ConocoPhillips Company – WR7592 – San Juan 27-5 No.1 - Disposal of Soil Cuttings & Decon Water**

1. Generator/Site Information

Facility Name: ConocoPhillips Company
San Juan 27-5 No.1
RMR# 7051

Location: Section 4, T27N, R5W
Bloomfield, NM 87413

2. Wastestream Information

Profile: N/A

Wastestream Name: Soil Cuttings & Decon Water

3. Shipping Information

1st Transporter: Industrial Ecosystems, Inc.

4. Disposal Facility Information

Manifest No.: 11124687 (received 10/12/16)
Facility: Industrial Ecosystems, Inc.
Location: 49 Road 3150
Aztec, NM 87410

Ship Date: 9/27/16
Received Date: 9/27/16

5. Attachments

Waste Authorization Letter	☑	Waste Manifest/Bill of Lading	☑
Weight Tickets	☐	Waste Profiles	☑
Vendor Profile Approvals	☑	Waste Determination Forms	☑
Certificate of Destruction (COD)/ Certificate of Recycling (COR)	☐	Field Notes (sampling)	☐
Safety Data Sheets (SDS)	☐	Other: _____	☐
Analytical Data	☐		

GHD
6520 Corporate Drive Indianapolis Indiana 46278 USA
T 317 291 7007 **F** 317 328 2666 **W** www.ghd.com

ConocoPhillips

Waste Manifest Signature Authority Delegation

Keith Coffman
Program Manager
ConocoPhillips Company
Risk Management & Remediation
600 N. Dairy Ashford
2 WL 11050
Houston, Texas 77079
832-486-2226
Keith.coffman@cop.com

February 29, 2016

Mr. Phil Hurley
Vice-President
GHD Services Inc.
1755 Wittington Place, Suite 500
Dallas, TX 75234

RE: Disposal of wastes on behalf of ConocoPhillips Risk Management and Remediation (RM&R)

Dear Mr. Hurley:

Pursuant to the current Master Service Agreement (Contract #97520.0-MSA-GPS) between ConocoPhillips Company and GHD Services Inc. (GHD), GHD may perform certain activities related to the management of wastes at RM&R project sites. These activities may result in the generation of hazardous and/or non-hazardous wastes that must be appropriately managed and transported to an approved ConocoPhillips waste management facility for treatment, storage or disposal. To facilitate the management of waste, RM&R delegates to GHD, the limited authority to prepare and sign waste manifests, Land Disposal Restriction Notices (LDR), or shipping papers, on behalf of RM&R. This delegation is subject to the terms and conditions of this agreement and the applicable Master Service Agreement (MSA). RM&R understands and acknowledges that GHD may delegate specified authority to authorized subcontractors; however, GHD's use of subcontractors shall be governed by the applicable provisions of the MSA.

The GHD employees and/or subcontractor employees listed on Page 2 (and 3, if applicable) of this letter are the only GHD employees and/or subcontractor employees authorized to prepare and/or sign the aforementioned documents. Provided GHD fulfills the requirements of the MSA and the RM&R requirements for waste management; and provided GHD is neither negligent nor willfully fails to comply with any regulatory requirements; ConocoPhillips will indemnify, defend and hold harmless GHD, its officers, directors and employees from and against any and all claims, damages, losses, expenses and other liabilities arising from the rights herein granted.

The designated GHD employees and/or subcontractor employees must review RM&R's requirements related to waste management, as well as the *Contractor Waste Manifest Signature Delegation Process*, and follow the requirements described therein. GHD certifies by signing under "Agreed to" section below, that the designated GHD employees and/or subcontractor employees have received all necessary training to perform this work.

Please return an executed copy of this letter to me prior to arranging for the transport of waste from any RM&R project site.

Thank you for providing this service.

Sincerely,

B.K. Coff

Keith Coffman – ConocoPhillips RM&R Program Manager

By signing below, I agree to the terms of this letter and confirm that the GHD employees and/or GHD subcontractor employees listed below meet the requirements of *RM&R's Contractor Waste Manifest Signature Authority Process*.

Agreed to:

By: _____

Title: Principal
GHD Services Inc.

Date: 3/2/16

List of GHD Services Inc. employees and/or subcontractor employees authorized to sign waste documents on behalf of ConocoPhillips Risk Management & Remediation:

Name	Company	State or Project Limitations
Bernie Bockisch	GHD Services Inc.	New Mexico
Christine Mathews	GHD Services Inc.	New Mexico
Steven Perez	GHD Services Inc.	New Mexico
Cale Kanack	GHD Services Inc.	New Mexico
Jeff Walker	GHD Services Inc.	New Mexico
David Bonga	GHD Services Inc.	Colorado
Tom Echtermeyer	GHD Services Inc.	Colorado
Tom Habberfield	GHD Services Inc.	Colorado
Evan Varnas	GHD Services Inc.	Colorado

NON-HAZARDOUS WASTE MANIFEST

1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Waste Tracking Number
NIA	1	866 529-4886	111241687

GENERATOR

5. Generator's Name and Mailing Address: ConocoPhillips c/o GHD
209 Cothic Ct. Ste 109
Franklin, TN 37067

Generator's Site Address (if different than mailing address): San Juan 27-5 No 1
Sec 4, T27N, R5W, Rio Arriba Co

Generator's Phone:

6. Transporter 1 Company Name: IFI — U.S. EPA ID Number:

7. Transporter 2 Company Name — U.S. EPA ID Number:

8. Designated Facility Name and Site Address: Industrial Ecosystems
49 Road 3150
Aztec, NM 87410

U.S. EPA ID Number: Permit # NM01-0010B

Facility's Phone:

	9. Waste Shipping Name and Description	10 Containers No.	10 Containers Type	11. Total Quantity	12. Unit Wt./Vol.	
1.	Soil Cuttings	6	DM	1500	P	
2.	Decon Water	2	DM	110	G	
3.						
4.						

13. Special Handling Instructions and Additional Information
Bill GHD

14. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations.

Generator's/Offeror's Printed/Typed Name: Jeff Walker for ConocoPhillips Co — Signature: [signature] — Month: 9 Day: 27 Year: 16

INT'L

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter Signature (for exports only): Date leaving U.S.:

TRANSPORTER

16. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Robert Pollo — Signature: [signature] — Month: 9 Day: 27 Year: 16

Transporter 2 Printed/Typed Name — Signature — Month — Day — Year

DESIGNATED FACILITY

17. Discrepancy

17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator) — U.S. EPA ID Number

Facility's Phone:

17c. Signature of Alternate Facility (or Generator) — Month — Day — Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a

Printed/Typed Name: M. Marquez — Signature: [signature] — Month: 9 Day: 27 Year: 16

DESIGNATED FACILITY TO GENERATOR

District I
1625 N. French Dr., Hobbs, NM 88240
District II
811 S. First St., Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-138
Revised August 1, 2011

*Surface Waste Management Facility Operator and Generator shall maintain and make this documentation available for Division inspection.

REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE

1. **Generator Name and Address:**
ConocoPhillips Company – 600 N. Dairy Ashford, 2WL 11050, Houston, TX 77079
BILL TO GHD

2. **Originating Site:** San Juan 27-5 No. 1
Section 4, T27N, R5W, Rio Arriba County, NM (36.59725, -107.35659)

3. **Location of Material (Street Address, City, State or ULSTR):** Section 4, T27N, R5W, Rio Arriba County, NM (36.59725, -107.35659)

4. **Source and Description of Waste:** Soil cuttings from borings
***Authorization is given to IEI to perform chloride content and paint filter testing and to certify below.**

Estimated Volume 6 drums yd³ / bbls Known Volume (to be entered by the operator at the end of the haul) yd³ / bbls

5. **GENERATOR CERTIFICATION STATEMENT OF WASTE STATUS**

I, B.L. Cole, representative or authorized agent for ConocoPhillips Company do hereby certify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 1988 regulatory determination, the above described waste is: (Check the appropriate classification)

☒ RCRA Exempt: Oil field wastes generated from oil and gas exploration and production operations and are not mixed with non-exempt waste. *Operator Use Only: Waste Acceptance Frequency: ☒ Monthly ☒ Weekly ☒ Per Load*

☐ RCRA Non-Exempt: Oil field waste which is non-hazardous that does not exceed the minimum standards for waste hazardous by characteristics established in RCRA regulations, 40 CFR 261.21-261.24, or listed hazardous waste as defined in 40 CFR, part 261, subpart D, as amended. The following documentation is attached to demonstrate the above-described waste is non-hazardous. (Check the appropriate items)

☐ MSDS Information ☐ RCRA Hazardous Waste Analysis ☐ Process Knowledge ☐ Other (Provide description in Box 4)

GENERATOR 19.15.36.15 WASTE TESTING CERTIFICATION STATEMENT FOR LANDFARMS

I, , representative for , do hereby certify that representative samples of the oil field waste have been subjected to the paint filter test and tested for chloride content and that the samples have been found to conform to the specific requirements applicable to landfarms pursuant to Section 15 of 19.15.36 NMAC. The results of the representative samples are attached to demonstrate the above-described waste conform to the requirements of Section 15 of 19.15.36 NMAC.

5. **Transporter:** IEI

OCD Permitted Surface Waste Management Facility

Name and Facility Permit #:

Address of Facility:

Method of Treatment and/or Disposal:

☐ Evaporation ☐ Injection ☐ Treating Plant ☐ Landfarm ☐ Landfill ☐ Other

Waste Acceptance Status:

☐ APPROVED ☐ DENIED (Must Be Maintained As Permanent Record)

PRINT NAME: TITLE: DATE:

SIGNATURE: TELEPHONE NO.:
Surface Waste Management Facility Authorized Agent

District I
1625 N. French Dr., Hobbs, NM 88240
District II
811 S. First St., Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-138
Revised August 1, 2011

*Surface Waste Management Facility Operator and Generator shall maintain and make this documentation available for Division inspection.

REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE

1. **Generator Name and Address:**
ConocoPhillips Company – 600 N. Dairy Ashford, 2WL 11050, Houston, TX 77079
BILL TO GHD

2. **Originating Site:** San Juan 27-5 No. 1
Section 4, T27N, R5W, Rio Arriba County, NM (36.59725, -107.35659)

3. **Location of Material (Street Address, City, State or ULSTR):** Section 4, T27N, R5W, Rio Arriba County, NM (36.59725, -107.35659)

4. **Source and Description of Waste:** Decon water from equipment used for soil borings
***Authorization is given to IEI to perform chloride content and paint filter testing and to certify below.**

Estimated Volume 2 drums yd^3 / bbls Known Volume (to be entered by the operator at the end of the haul) yd^3 / bbls

5. **GENERATOR CERTIFICATION STATEMENT OF WASTE STATUS**

I, B. J. [redacted], representative or authorized agent for ConocoPhillips Company do hereby certify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 1988 regulatory determination, the above described waste is: (Check the appropriate classification)

☒ RCRA Exempt: Oil field wastes generated from oil and gas exploration and production operations and are not mixed with non-exempt waste. *Operator Use Only: Waste Acceptance Frequency ☐ Monthly ☐ Weekly ☐ Per Load*

☐ RCRA Non-Exempt: Oil field waste which is non-hazardous that does not exceed the minimum standards for waste hazardous by characteristics established in RCRA regulations, 40 CFR 261.21-261.24, or listed hazardous waste as defined in 40 CFR, part 261, subpart D, as amended. The following documentation is attached to demonstrate the above-described waste is non-hazardous. (Check the appropriate items)

☐ MSDS Information ☐ RCRA Hazardous Waste Analysis ☐ Process Knowledge ☐ Other (Provide description in Box 4)

GENERATOR 19.15.36.15 WASTE TESTING CERTIFICATION STATEMENT FOR LANDFARMS

I, [redacted], representative for [redacted] do hereby certify that representative samples of the oil field waste have been subjected to the paint filter test and tested for chloride content and that the samples have been found to conform to the specific requirements applicable to landfarms pursuant to Section 15 of 19.15.36 NMAC. The results of the representative samples are attached to demonstrate the above-described waste conform to the requirements of Section 15 of 19.15.36 NMAC.

5. **Transporter:** IEI

OCD Permitted Surface Waste Management Facility

Name and Facility Permit #:

Address of Facility:

Method of Treatment and/or Disposal:

☐ Evaporation ☐ Injection ☐ Treating Plant ☐ Landfarm ☐ Landfill ☐ Other

Waste Acceptance Status:

☐ **APPROVED** ☐ **DENIED** (Must Be Maintained As Permanent Record)

PRINT NAME: [redacted] TITLE: [redacted] DATE: [redacted]

SIGNATURE: _____ TELEPHONE NO.: [redacted]

Surface Waste Management Facility Authorized Agent

District I
1625 N. French Dr., Hobbs, NM 88240
District II
811 S. First St., Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-138
Revised August 1, 2011

*Surface Waste Management Facility Operator and Generator shall maintain and make this documentation available for Division inspection.

REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE

1. **Generator Name and Address:**
ConocoPhillips Company – 600 N. Dairy Ashford, 2WL 11050, Houston, TX 77079
BILL TO GHD

2. **Originating Site:** San Juan 27-5 No. 1
Section 4, T27N, R5W, Rio Arriba County, NM (36.59725, -107.35659)

3. **Location of Material (Street Address, City, State or ULSTR):** Section 4, T27N, R5W, Rio Arriba County, NM (36.59725, -107.35659)

4. **Source and Description of Waste:** Soil cuttings from borings
***Authorization is given to IEI to perform chloride content and paint filter testing and to certify below.**

Estimated Volume: 6 drums yd³ / bbls Known Volume (to be entered by the operator at the end of the haul): 6 yd³ / bbls

5. **GENERATOR CERTIFICATION STATEMENT OF WASTE STATUS**

I, [illegible], representative or authorized agent for ConocoPhillips Company do hereby certify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 1988 regulatory determination, the above described waste is: (Check the appropriate classification)

☒ RCRA Exempt: Oil field wastes generated from oil and gas exploration and production operations and are not mixed with non-exempt waste. [illegible]

☐ RCRA Non-Exempt: Oil field waste which is non-hazardous that does not exceed the minimum standards for waste hazardous by characteristics established in RCRA regulations, 40 CFR 261.21-261.24, or listed hazardous waste as defined in 40 CFR, part 261, subpart D, as amended. The following documentation is attached to demonstrate the above-described waste is non-hazardous. (Check the appropriate items)

☐ MSDS Information ☐ RCRA Hazardous Waste Analysis ☐ Process Knowledge ☐ Other (Provide description in Box 4)

GENERATOR 19.15.36.15 WASTE TESTING CERTIFICATION STATEMENT FOR LANDFARMS

I, [illegible], representative for [illegible] do hereby certify that representative samples of the oil field waste have been subjected to the paint filter test and tested for chloride content and that the samples have been found to conform to the specific requirements applicable to landfarms pursuant to Section 15 of 19.15.36 NMAC. The results of the representative samples are attached to demonstrate the above-described waste conform to the requirements of Section 15 of 19.15.36 NMAC.

5. **Transporter:** IEI

OCD Permitted Surface Waste Management Facility

Name and Facility Permit #: JFJ / IEI NM01-0010B

Address of Facility: 49 Rd. 3180 Aztec, NM 87410

Method of Treatment and/or Disposal:

☐ Evaporation ☐ Injection ☐ Treating Plant ☒ Landfarm ☐ Landfill ☐ Other

Waste Acceptance Status: ☒ APPROVED ☐ DENIED (Must Be Maintained As Permanent Record)

PRINT NAME: Marieda Lee TITLE: Clerk DATE: 9-27-16

SIGNATURE: Marieda Lee TELEPHONE NO.: 505-632-1782

Surface Waste Management Facility Authorized Agent

9/26/16

District I
1625 N. French Dr., Hobbs, NM 88240
District II
811 S. First St., Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-138
Revised August 1, 2011

*Surface Waste Management Facility Operator and Generator shall maintain and make this documentation available for Division inspection.

REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE

1. **Generator Name and Address:**
ConocoPhillips Company – 600 N. Dairy Ashford, 2WL 11050, Houston, TX 77079
BILL TO GHD

2. **Originating Site:** San Juan 27-5 No. 1
Section 4, T27N, R5W, Rio Arriba County, NM (36.59725, -107.35659)

3. **Location of Material (Street Address, City, State or ULSTR):** Section 4, T27N, R5W, Rio Arriba County, NM (36.59725, -107.35659)

4. **Source and Description of Waste:** Decon water from equipment used for soil borings
***Authorization is given to IEI to perform chloride content and paint filter testing and to certify below.**

Estimated Volume 2 drums yd³ / bbls Known Volume (to be entered by the operator at the end of the haul) 2 yd³ / bbls

5. **GENERATOR CERTIFICATION STATEMENT OF WASTE STATUS**

I [redacted], representative or authorized agent for ConocoPhillips Company do hereby certify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 1988 regulatory determination, the above described waste is: (Check the appropriate classification)

☒ RCRA Exempt: Oil field wastes generated from oil and gas exploration and production operations and are not mixed with non-exempt waste. Operator Use Only: Waste Acceptance Frequency ☐ Monthly ☐ Weekly ☐ Per Load

☐ RCRA Non-Exempt: Oil field waste which is non-hazardous that does not exceed the minimum standards for waste hazardous by characteristics established in RCRA regulations, 40 CFR 261.21-261.24, or listed hazardous waste as defined in 40 CFR, part 261, subpart D, as amended. The following documentation is attached to demonstrate the above-described waste is non-hazardous. (Check the appropriate items)

☐ MSDS Information ☐ RCRA Hazardous Waste Analysis ☐ Process Knowledge ☐ Other (Provide description in Box 4)

GENERATOR 19.15.36.15 WASTE TESTING CERTIFICATION STATEMENT FOR LANDFARMS

I [redacted], representative for [redacted] do hereby certify that representative samples of the oil field waste have been subjected to the paint filter test and tested for chloride content and that the samples have been found to conform to the specific requirements applicable to landfarms pursuant to Section 15 of 19.15.36 NMAC. The results of the representative samples are attached to demonstrate the above-described waste conform to the requirements of Section 15 of 19.15.36 NMAC.

5. **Transporter:** IEI

OCD Permitted Surface Waste Management Facility

Name and Facility Permit #: JFJ/IEI NM 01-0010B

Address of Facility: 49 Rd. 3150 Aztec, NM 87410

Method of Treatment and/or Disposal:

☐ Evaporation ☐ Injection ☐ Treating Plant ☒ Landfarm ☐ Landfill ☐ Other

Waste Acceptance Status:

☐ APPROVED ☐ DENIED (Must Be Maintained As Permanent Record)

PRINT NAME: Marieda Lee TITLE: Clerk DATE: 9-27-16

SIGNATURE: Marieda Lee TELEPHONE NO: 505-632-1782

Surface Waste Management Facility Authorized Agent

9/26/16

FORM MUST BE COMPLETED BEFORE WASTE IS TRANSPORTED

- **» UST Exemption: Complete Sections A and B, check "UST Exemption" box in Section B.**
- **» E&P Exemption: Complete Sections A and B, check "E&P Exemption" box in Section B.**
- **» All Others: Complete Sections A through G as appropriate.**
- **» Indicate if analytical testing results are attached and status of the material in Section B.**

☐ **Repeat Waste Generation with Current and Applicable Waste Determination Form:** *If a Waste Determination Form was completed on this material within the last 3 years* and there have been no changes in material components or the process generating the material, complete Sections A and B only and file the completed form in the Livelink "Waste Management" folder for the subject site.*

Date of most recent complete Waste Determination Form on File: _____

☒ **All Others:** *If a Waste Determination Form (WDF) has not been completed in the last 3 years* for the material or if the material components or the material generation process has changed since this material was last generated, complete the entire Waste Determination Form. Maintain a copy of the completed form in the Livelink "Waste Management" folder for the subject site.*

**State or local regulations may require a waste determination on a more frequent interval. RM&R uses 3 years as a maximum period.*

A. MATERIAL GENERATOR INFORMATION

1. RM&R Site No.: 7051 2. Site Name: San Juan 27-5 No. 1 3. SIC Code: _____
4. Site Area Name: _____ 5. Site Address: Section 4, T27N, R5W
6. County: Rio Arriba 7. State: NM
8. EPA ID No.: _____ 9. State ID No.: _____ 10. Other ID: _____
11. Project Contact Name: Keith Coffman 12. Project Contact Phone No.: (832) 486-2226
13. Material Generation Start Date (date material is contained): 09/21/2016 14. Date Form Completed: 09/23/2016

B. MATERIAL INFORMATION

1. Material Name: Soil Cuttings
2. Material Generation Process: Soil borings
3. Specific Location of Material at the Site: In drums on-site

☐ **UST Exemption:** *Petroleum contaminated media and debris that fail the test for TCLP but are managed under a Federal/State UST Corrective Action program are solid wastes that are expressly excluded from the definition of a hazardous waste (40 CFR 261.4(b)(10)). Project file has the necessary analytical data.*

☒ **E&P Exemption:** *Petroleum contaminated media and debris generated by drilling fluids, produced waters, and other wastes associated with the exploration, development or production of crude oil, natural gas or geothermal energy are solid wastes that are expressly excluded from the definition of a hazardous waste (40 CFR 261.4(b)(5). Project file has the necessary analytical data.*

Note: Materials conforming to either of the above two hazardous waste exemptions must still be managed according to RM&R non-hazardous waste procedures.

☐ Analytical testing results on material attached.

Material is: ☐ **RCRA Hazardous** ☐ **Non-RCRA Hazardous** ☒ **Non-Hazardous**

Section A and B signatures required below:

Prepared by (name and company): Lesley Jones

Digitally signed by Lesley Jones
DN: cn=Lesley Jones, o=GHD Services Inc, ou, email=Lesley.Jones@ghd.com, c=US
Date: 2016.09.23 10:25:52 -05'00'

ConocoPhillips Company Representative: B.K.

***** Remainder of form need not be completed if the project-related waste conforms to UST or E&P Exemption criteria *****

FORM MUST BE COMPLETED BEFORE WASTE IS TRANSPORTED

» **UST Exemption: Complete Sections A and B, check "UST Exemption" box in Section B.**
» **E&P Exemption: Complete Sections A and B, check "E&P Exemption" box in Section B.**
» **All Others: Complete Sections A through G as appropriate.**
» **Indicate if analytical testing results are attached and status of the material in Section B.**

☐ **Repeat Waste Generation with Current and Applicable Waste Determination Form:** *If a Waste Determination Form was completed on this material within the last 3 years* and there have been no changes in material components or the process generating the material, complete Sections A and B only and file the completed form in the Livelink "Waste Management" folder for the subject site.*

Date of most recent complete Waste Determination Form on File: _____

☒ **All Others:** *If a Waste Determination Form (WDF) has not been completed in the last 3 years* for the material or if the material components or the material generation process has changed since this material was last generated, complete the entire Waste Determination Form. Maintain a copy of the completed form in the Livelink "Waste Management" folder for the subject site.*

**State or local regulations may require a waste determination on a more frequent interval. RM&R uses 3 years as a maximum period.*

A. MATERIAL GENERATOR INFORMATION

1. RM&R Site No.: 7051 2. Site Name: San Juan 27-5 No. 1 3. SIC Code: _____
4. Site Area Name: _____ 5. Site Address: Section 4, T27N, R5W
6. County: Rio Arriba 7. State: NM
8. EPA ID No.: _____ 9. State ID No.: _____ 10. Other ID: _____
11. Project Contact Name: Keith Coffman 12. Project Contact Phone No.: (832) 486-2226
13. Material Generation Start Date (date material is contained): 09/21/2016 14. Date Form Completed: 09/23/2016

B. MATERIAL INFORMATION

1. Material Name: Decon Water
2. Material Generation Process: Decon equipment used for soil borings
3. Specific Location of Material at the Site: In drums on-site

☐ **UST Exemption:** *Petroleum contaminated media and debris that fail the test for TCLP but are managed under a Federal/State UST Corrective Action program are solid wastes that are expressly excluded from the definition of a hazardous waste (40 CFR 261.4(b)(10)). Project file has the necessary analytical data.*

☒ **E&P Exemption:** *Petroleum contaminated media and debris generated by drilling fluids, produced waters, and other wastes associated with the exploration, development or production of crude oil, natural gas or geothermal energy are solid wastes that are expressly excluded from the definition of a hazardous waste (40 CFR 261.4(b)(5). Project file has the necessary analytical data.*

Note: Materials conforming to either of the above two hazardous waste exemptions must still be managed according to RM&R non-hazardous waste procedures.

☐ Analytical testing results on material attached.

Material is: ☐ **RCRA Hazardous** ☐ **Non-RCRA Hazardous** ☒ **Non-Hazardous**

Section A and B signatures required below:

Prepared by (name and company): Lesley Jones

Digitally signed by Lesley Jones
DN: cn=Lesley Jones, o=GHD Services Inc, ou, email=Lesley.Jones@ghd.com, c=US
Date: 2016.09.23 10:28:21 -05'00'

ConocoPhillips Company Representative: B. K. Coff

***** Remainder of form need not be completed if the project-related waste conforms to UST or E&P Exemption criteria *****