

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: BP	Contact: Steve Moskal	
Address: 200 Energy Court, Farmington, NM 87401	Telephone No.: 505-326-9497	
Facility Name: Sullivan Gas Com E No. 001	Facility Type: Natural gas well	
Surface Owner: Federal	Mineral Owner: Federal	API No. 3004528641

LOCATION OF RELEASE

Unit Letter N	Section 22	Township 32N	Range 10W	Feet from the 600	North/South Line South	Feet from the 1,540	East/West Line West	County: San Juan
------------------	---------------	-----------------	--------------	----------------------	---------------------------	------------------------	------------------------	------------------

Latitude 36.695171° Longitude -107.872735°
965171

NATURE OF RELEASE

Type of Release: Compressor Lube Oil	Volume of Release: 300 gallons	Volume Recovered: 200 gallons
Source of Release: Compressor line	Date and Hour of Occurrence: 2/1/2017	Date and Hour of Discovery: 2/6/2017 @ 12:00PM
Was Immediate Notice Given? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Not Required	If YES, To Whom?	
By Whom?	Date and Hour:	
Was a Watercourse Reached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse.	

OIL CONS. DIV DIST. 3

If a Watercourse was Impacted, Describe Fully.*


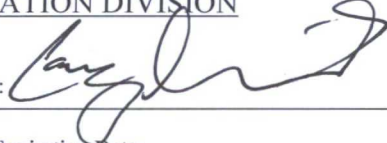
MAR 31 2017

Describe Cause of Problem and Remedial Action Taken.* Lube oil line on compressor pinched on skid and broke. 300 gallons of lube oil spilled onto skid and ground over the period of a week. 200 gallons on skid/ 100 gallons on ground. The site was excavated by hand tools and equipment around the compressor where accessible and areas impacted outside of compressor footprint. The remaining impacts beneath the compressor will be addressed when the compressor is removed or replaced.

Describe Area Affected and Cleanup Action Taken.* The area immediate to the compressor skid and around the compressor was affected. The area was excavated and contents removed for offsite disposal. Approximately 66 cubic yards of soil was exported off site for landfarm treatment. Laboratory samples confirmed the maximum, accessible, extents of impacts were removed. Attached is a field report, site diagram and laboratory analysis.

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.

OIL CONSERVATION DIVISION

Signature: 	Approved by Environmental Specialist: 	
Printed Name: Steve Moskal	Approval Date: 8/29/17	Expiration Date:
Title: Field Environmental Coordinator	Conditions of Approval: -7	Attached <input checked="" type="checkbox"/>
E-mail Address: steven.moskal@bp.com		
Date: March 31, 2017	Phone: 505-326-9497	

* Attach Additional Sheets If Necessary

#NUF1705454171

89

Smith, Cory, EMNRD

From: Smith, Cory, EMNRD
Sent: Tuesday, August 29, 2017 10:55 AM
To: Moskal, Steven
Cc: Fields, Vanessa, EMNRD
Subject: Sullivan Gas Com E #1 C-141 Conditions of Approval 30-045-28641

Steve,

OCD District III Office received a "Final C-141" on March 31, 2017 in regards to the Sullivan Gas Com E#1 (30-045-28641) which has been approved with the following conditions of approval.

- BP has until November 29, 2017 to return to the site to perform either additional remediation below the compressor skid, or perform additional delineation as required by the Conditions of Approval that were attached to the Initial C-141 approved on 2/23/17.
- BP will notify the OCD at least 72 hours but no more than 1 week prior to the start of remediation/delineation.
- BP will submit either a delineation report (To include BP path forward) on form C-141 or an additional C-141 with laboratory results no later than December 29, 2017

If you have any 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



March 24, 2017

Project Number 03143-1224

Mr. Steve Moskal
BP America Production Company
200 Energy Court
Farmington, New Mexico 87401

Phone: (505) 326-9497
Email: steven.moskal@bp.com

SPILL ASSESSMENT AND CLOSURE ACTIVITIES FOR THE SULLIVAN GAS COM E#1 WELL SITE, SAN JUAN COUNTY, NEW MEXICO

Dear Mr. Moskal:

Enclosed please find the *Spill Assessment* and *Closure Report* detailing sampling and screening activities at the Sullivan Gas Com E#1 well site located in Section 22, Township 32 North, Range 10 West, San Juan County, New Mexico.

We appreciate the opportunity to be of service. If you have any questions or require additional information, please contact our office at (505) 632-0615.

Respectfully submitted,
ENVIROTECH, INC.

OIL CONS. DIV DIST. 3

MAR 31 2017

A handwritten signature in blue ink, appearing to read 'Isaac Garcia', written over a horizontal line.

Isaac Garcia
Environmental Field Technician
igarcia@envirotech-inc.com

Enclosures: *Spill Assessment* and *Closure Report*

Cc: Client File Number 03143

SPILL ASSESSMENT AND CLOSURE REPORT

LOCATION:

**BP AMERICA PRODUCTION COMPANY
SULLIVAN GAS COM E#1 WELL SITE
SECTION 22, TOWNSHIP 32 NORTH, RANGE 10 WEST
SAN JUAN COUNTY, NEW MEXICO**

CONTRACTED BY:

**BP AMERICA PRODUCTION COMPANY
MR. STEVEN MOSKAL
200 ENERGY COURT
FARMINGTON, NEW MEXICO 87401**

**PROJECT NUMBER 03143-1224
MARCH 2017**

BP AMERICA PRODUCTION COMPANY
SPILL ASSESSMENT AND CLOSURE REPORT
SULLIVAN GAS COM E#1 WELL SITE
SECTION 22, TOWNSHIP 32 NORTH, RANGE 10WEST
SAN JUAN COUNTY, NEW MEXICO

TABLE OF CONTENTS

INTRODUCTION	1
ACTIVITIES PERFORMED.....	1
SUMMARY AND CONCLUSIONS	3
STATEMENT OF LIMITATIONS.....	4

Figures: *Figure 1, Vicinity Map*
 Figure 2, Site Map

Tables: *Table 1, Summary of Analytical Results*

Appendices: *Appendix A, Field Notes*
 Appendix B, Site Photography
 Appendix C, Analytical Results
 Appendix D, Bills of Lading

INTRODUCTION

Envirotech, Inc. (Envirotech) of Farmington, New Mexico, was contracted by BP America Production Company to provide spill assessment and closure sampling services for a release of oil from the compressor at the Sullivan Gas Com E#1 well site located in Section 22, Township 32 North, Range 10 West, San Juan County, New Mexico; see enclosed **Figure 1, Vicinity Map**. Approximately 300-500 gallons of oil were reported to be released from a compressor leak; see **Appendix B, Site Photography**. The release area surrounded the compressor and ran to the southeast off location down a hill; see enclosed **Appendix B, Site Photography**. Activities included sample collection and analysis, documentation and reporting.

ACTIVITIES PERFORMED

Envirotech, Inc. was contacted on February 15, 2017, with a request to respond to a release that occurred at the above referenced location. Because distance to surface water is between 200 and 1,000 feet from the well site, depth to groundwater is greater than 100 feet below ground surface (BGS), and the well site is not within a well head protection area, the regulatory standards for the site were determined to be 1,000 parts per million (mg/kg) total petroleum hydrocarbons (TPH) and 100 mg/kg organic vapors or 10 mg/kg benzene and 50 mg/kg BTEX, pursuant to New Mexico Oil Conservation Division (NMOCD) Guidelines for Remediation of Leaks, Spills, and Releases.

February 16, 2017

Upon arrival to the site, a brief assessment was conducted and a job safety analysis JSA was completed. The impacted area was section in to the following areas: surrounding the compressor skid (*Area 1*), to the southeast (*Area 2*), to the east (*Area 3*), and to the northeast (*Area 4*); see enclosed **Appendix A, Field Notes**. Calder Services (Calder) began manually excavating the contaminated soil, using hand shovels. *Area 1* was excavated to approximately four (4) inches below ground surface (bgs). One (1) composite sample from *Area 1* was collected and screened in the field for organic vapors (OV) using a photoionization detector (PID) and for total petroleum hydrocarbons using USEPA Method 418.1. The sample returned results above the regulatory standard for TPH and below the regulatory standard for OV; see enclosed **Appendix A, Field Notes** and **Table 1, Summary of Analytical Results** and **Appendix C, Analytical Results**. In order to establish base line concentrations and correlation between field and laboratory results, the sample was placed into a four (4) ounce, laboratory provided glass jar capped headspace, and place in a cooler with ice for future laboratory analysis.

Calder continued manual excavation on *Area 2*, *Area 3*, and *Area 4*. In order to guide and direct the cleanup activities, periodic screening for TPH using USEPA Method 418.1 and for OV's using a PID was performed on the excavations. Upon the field screening activities returning results below the regulatory standard, the samples: *Area 2a* and *Area 3b* were placed into a four (4) ounce, laboratory provided glass jars capped headspace, and place in a cooler with ice for future laboratory analysis; see enclosed **Appendix A, Field Notes** and **Table 1, Summary of Analytical Results** and **Appendix C, Analytical Results**.

The samples identified as *Area 1*, *Area 2a*, and *Area 3b* were transported in a cooler with ice and submitted to Envirotech's analytical laboratory to be analyzed for benzene and total BTEX using USEPA Method 8021B and for TPH: gasoline range organics (GRO), diesel range organics (DRO) and oil range organics (ORO) using USEPA Method 8015D. *Area 1* returned laboratory results above the regulatory standard for TPH and below the regulatory standard for benzene and BTEX. Both *Area 2a* and *Area 3b* returned laboratory results below the regulatory standard for all constituents analyzed; see enclosed **Table 1, Summary of Analytical Results** and **Appendix C, Analytical Results**. The final approximate dimensions of *Area 2* were 30' X 25' X 3" bgs. The final approximate dimensions of *Area 3* were 25' X 15' X 8"-12" bgs. Based on the Analytical results, Envirotech recommended additional excavation in *Area 1* and *Area 4*.

February 17, 2017

Upon arrival to the site, a brief assessment was conducted and a job safety analysis JSA was completed. Calder continued manual excavation activities on *Area 4*. Periodic screening for TPH using USEPA Method 418.1 and for OV's using a PID was performed on the excavation. Upon the field screening activities returning results below the regulatory standard, the samples: *Area 2e* was placed into a four (4) ounce, laboratory provided glass jar capped headspace free, and place in a cooler with ice for future laboratory analysis; see enclosed **Appendix A, Field Notes** and **Table 1, Summary of Analytical Results** and **Appendix C, Analytical Results**.

The area formerly identified as *Area 1* was divided in to three (3) sections identified as: *Area 5*, *Area 6*, and *Area 7*. Calder excavated an additional 2"- 6" bgs from *Area 5*, *Area 6*, and *Area 7* (the areas surrounding the compressor skid). The total depth of the excavation directly around the compressor skid ranged from 6"- 10" bgs. At this point a determination was made that any additional excavation around the compressor could potentially compromise the structural integrity of the soil beneath the compressor. Therefore, one (1) sample was collected from the area directly area around the compressor skid (*Around Skid*) and one (1) sample was collected from directly beneath the compressor (*Under Skid*). The samples were placed into four (4) ounce, laboratory provided glass jars capped headspace free, and place in a cooler with ice for future laboratory analysis; see enclosed **Appendix A, Field Notes**.

Calder commenced excavation activities on *Area 8* and *Area 9*. *Area 8* near the lube oil tank was excavated to the dimensions of approximately 8' X 8' X 2" bgs. One (1) composite sample was collected from the excavation and screened in the field for TPH using USEPA Method 418.1 and for OV's using a PID. The sample returned results below the regulatory standards for both TPH and OV; see enclosed **Appendix A, Field Notes** and **Table 1, Summary of Analytical Results** and **Appendix C, Analytical Results**. The sample was placed into a four (4) ounce, laboratory provided glass jars capped headspace free, and place in a cooler with ice for future laboratory analysis. *Area 9*; located directly south of *Area 4* and continued off location down the hill side, was excavated approximately 2" bgs. One (1) composite sample was collected from the excavation and screened in the field for TPH using USEPA Method 418.1 and for OV's using a PID. The sample returned results above the regulatory standards for TPH and below the regulatory standard for OV; see enclosed **Appendix A, Field Notes** and **Table 1, Summary of**

Analytical Results and **Appendix C, Analytical Results**. Based on the field screening results, Envirotech recommended additional excavation in *Area 9*.

The samples identified as *Around Skid*, *Under Skid*, *Area 4e* and *Area 8* were transported in a cooler with ice and submitted to Envirotech's analytical laboratory to be analyzed for benzene and total BTEX using USEPA Method 8021B and for TPH: GRO, DRO, & ORO using USEPA Method 8015D. The samples collected from *Around Skid*, *Area 4e* and *Area 8* returned laboratory results below the regulatory standard for all constituents analyzed; see enclosed **Table 1, Summary of Analytical Results** and **Appendix C, Analytical Results**. The sample collected from *Under Skid* returned results above the regulatory standard for TPH, and below the regulatory standard for benzene and BTEX; see enclosed **Table 1, Summary of Analytical Results** and **Appendix C, Analytical Results**. Based on the Analytical results, Envirotech recommends *No Further Action* in sections: *Around Skid*, *Area 4e*, and *Area 8*. Additionally, Envirotech recommends further excavation of the impacted material beneath the compressor skid upon removal of the compressor or decommissioning of the site.

February 20, 2017

Calder performed mechanical excavation activities on February 18, 2017 (Saturday) and resumed Monday, February 20, 2017. Upon Envirotech's arrival on the 20th, the hillside had been excavated to approximately six (6) inches BGS in two (2) sections. The impacted soil was excavated beyond visual detection of the contamination. The north section was divided into two (2) areas identified as: *Area 9* and *Area 10*. The south section was divided into two (2) areas identified as: *Area 11* and *Area 12*. One (1) composite soil sample was collected from each area and placed into separate four (4) ounce, laboratory provided, glass jars capped headspace free, placed on ice in a cooler, and transported under chain of custody to Envirotech's analytical laboratory to be analyzed for benzene and total BTEX using USEPA Method 8021B and for TPH: GRO, DRO, and ORO using USEPA Method 8015D. *Area 9* and *Area 11* returned results below the regulatory standard for all constituents analyzed; see enclosed **Table 1, Summary of Analytical Results** and **Appendix C, Analytical Results**. However, *Area 10* and *Area 12* returned results slightly above the regulatory standard for TPH (1,064 mg/kg {225 mg/kg DRO & 839 mg/kg ORO} & 1,067 mg/kg {230 mg/kg DRO & 837 mg/kg ORO}; respectively) and below the regulatory standard for benzene and BTEX; see enclosed **Table 1, Summary of Analytical Results** and **Appendix C, Analytical Results**. Based on the analytical results, Envirotech recommends *No Further Action* for *Area 9* and *Area 11*. Additionally, based on the analysis from *Area 10* and *Area 12* returning results slightly above the regulatory standard; due to the inclusion of the ORO analysis, Envirotech recommends *No Further Action* in regards to *Area 10* and *Area 12* since ORO is not regulated by the NMOCD, is not readily mobilized, and poses little to no threat to public health or the environment.

SUMMARY AND CONCLUSIONS

Spill assessment and confirmation sampling activities were performed for a release of compressor oil from the compressor at the Sullivan Gas Com E#1 well site located in Section 22, Township 32 North, Range 10 West, San Juan County, New Mexico. Approximately 66 cubic

yards of contaminated soil was transported by Calder Services to Envirotech's New Mexico Oil Conservation Division (NMOCD) permitted soil remediation facility, *Landfarm 2* located at #43 County Road 7175 South of Bloomfield, New Mexico; see enclosed **Appendix D, Bills of Lading**. All excavated areas were backfilled and returned to pre-incident conditions by Calder Services.

Based on the on-site observations and analytical results, Envirotech recommends the following activities: further remediation of the impacted soil beneath the compressor skid upon removal of the compressor or decommissioning of the site and *No Further Action* in regards to all additional areas that returned analytical results below the regulatory standard.

STATEMENT OF LIMITATIONS

Envirotech, Inc. has completed spill assessment and confirmation sampling activities for a release of compressor oil at the Sullivan Gas Com E#1 well site located in Section 22, Township 32 North, Range 10 West, San Juan County, New Mexico. The work and services provided by Envirotech were in accordance with the NMOCD standards. All observations and conclusions provided here are based on the information and current site conditions found at the site of the incident.

The undersigned has conducted this service at the above referenced site; this work has been conducted and reported in accordance with generally accepted professional practices in geology, engineering, environmental chemistry, and hydrogeology.

We appreciate the opportunity to be of service. If you have any questions or require additional information, please contact our office at (505) 632-0615.

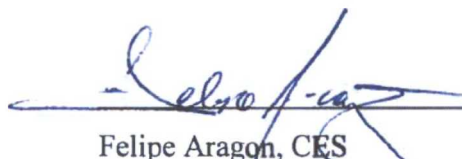
Respectfully Submitted,

Reviewed by:

ENVIROTECH, INC.



Isaac Garcia
Environmental Field Technician
igarcia@envirotech-inc.com

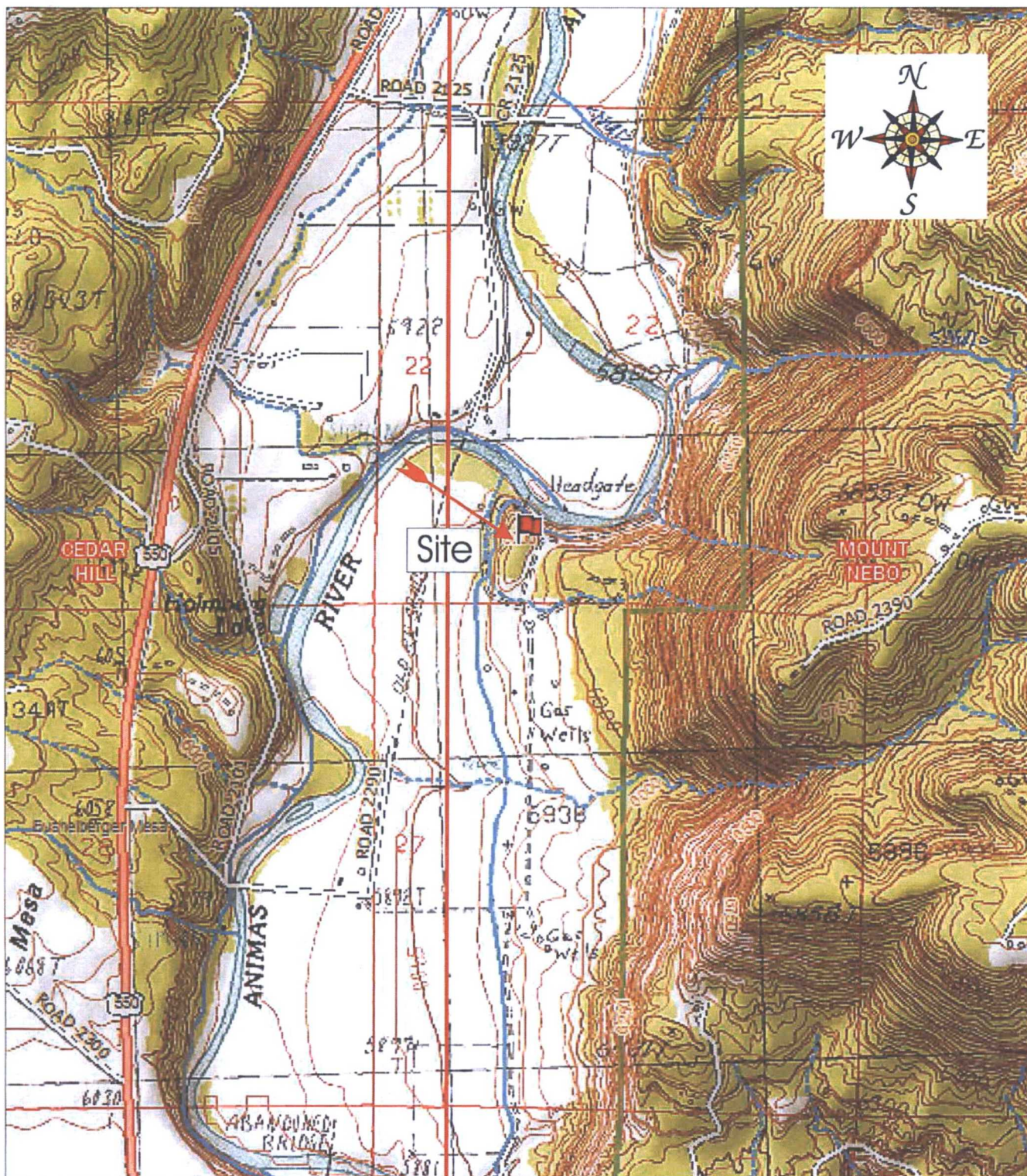


Felipe Aragon, CES
Environmental Field Coordinator
faragon@envirotech-inc.com


FIGURES

Figure 1, Vicinity Map

Figure 2, Site Map



Source: 7.5 Minute, Mount Nebo, New Mexico U.S.G.S. Topographic Quadrangle Map
 Scale: 1:24,000 1" = 2000'

BP America Sullivan Gas Com E#1 Section 22 Township 32N Range 10W San Juan County, New Mexico	 ENVIRONMENTAL SCIENTISTS & ENGINEERS 5796 U.S. HIGHWAY 64 Farmington, New Mexico 87401 505.632.0615	Vicinity Map	
Project Number: 03143-1224 Date Drawn: 3/10/17		Figure #1 DRAWN BY: Isaac Garcia	PROJECT MANAGER: Felipe Aragon

TABLES

Table 1, Summary of Analytical Results



LEGEND

 Impacted Areas

 Compressor

SITE MAP

BP America

Sullivan Gas Com E#1

SECTION 22, TWP 32 NORTH, RANGE 10 WEST
San Juan County, New Mexico

SCALE: NTS

PROJECT N003143-1224

FIGURE NO. 2

REV

REVISIONS

NO.	DATE	BY	DESCRIPTION
MAP DRWN	IG	3/10/2017	BASE DRWN



envirotech

5796 U.S. HIGHWAY 64, FARMINGTON, NM 87401 505-632-0615

Table 1, Summary of Analytical Results

BP America
Sullivan Gas Com E#1 Well Site
Spill Assessment and Closure Report
Project Number 03143-1224

Date	Sample Description	Sample Number	PID OV (ppm)	USEPA Method 418.1 TPH (ppm)	USEPA Method 8015 TPH (ppm)	USEPA Method 8021	
						Benzene (ppm)	BTEX (ppm)
NA	New Mexico Oil Conservation Division Standards	NA	100	1,000	1,000	10	50
2/16/2017	Area 1 @ 4" bgs	1	16.5	48,320	48,290.00	ND	ND
2/16/2017	Area 2 @ 2" bgs	2	7.5	1,600	NS	NS	NS
2/16/2017	Area 3 @ 4" bgs	3	8.3	732	NS	NS	NS
2/16/2017	Area 2A @ 3" bgs	4	3.7	84	ND	ND	ND
2/16/2017	Area 4 @ 6-8" bgs	5	3	384	NS	NS	NS
2/16/2017	Area 3A @ 8-10" bgs	6	1.9	168	NS	NS	NS
2/16/2017	Area 4A @ 8-12" bgs	7	4.8	2048	NS	NS	NS
2/16/2017	Area 3B @ 8-12" bgs	8	NS	76	80.80	ND	ND
2/17/2017	Area 4B @ 10-12" bgs	1	1.2	1,160	NS	NS	NS
2/17/2017	Area 5 @ 6" bgs	2	0.4	1,492	NS	NS	NS
2/17/2017	Area 6 @ 2" bgs	3	2.7	1,020	NS	NS	NS
2/17/2017	Area 7 @ 7" bgs	4	3.0	1,436	NS	NS	NS
2/17/2017	Around Skid @ 2-7" bgs	NA	NS	NA	240.70	ND	ND
2/17/2017	Under Skid	NA	NS	NA	37,040.00	ND	ND
2/17/2017	Area 4C @ 4' bgs (pothole)	5	ND	24	NS	NS	NS
2/17/2017	Area 4D @ 15" bgs	6	2.2	3,008	NS	NS	NS
2/17/2017	Area 8 @ 2" bgs	7	0.7	36	90.80	ND	ND
2/17/2017	Area 9 @ 2" bgs	8	1.4	6,496	NS	NS	NS
2/17/2017	Area 4E @ 3' bgs	9	0.7	4	57.80	ND	ND
2/20/2017	Area 9A @ 6" bgs	1	NS	NS	403.00	ND	ND
2/20/2017	Area 10 @ 6" bgs	2	NS	NS	1,064.00	ND	ND
2/20/2017	Area 11 @ 5-6" bgs	3	NS	NS	180.20	ND	ND
2/20/2017	Area 12 @ 5-6" bgs	4	NS	NS	1,067.00	ND	ND


*Values in **BOLD** above regulatory limits

*NS - Parameter not sampled *ND - Parameter not detected

Closure Sample

APPENDIX A

Field Notes

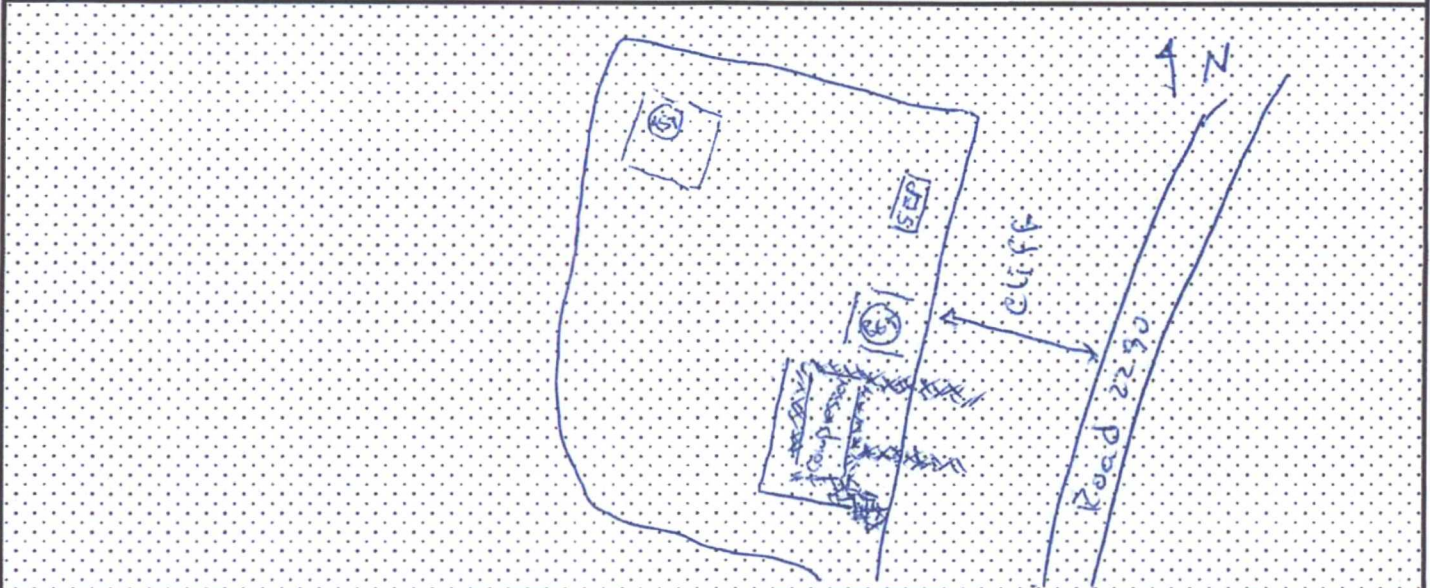
CLIENT: <u>BP</u> CLIENT/JOB #: <u>03143-1224</u> START DATE: <u>2/16/17</u> FINISH DATE: _____ Page # <u>1 of 2</u>	 envirotech <small>(505) 632-0615 (800) 362-1879 5796 U.S. Hwy 64, Farmington, NM 87401</small>	Envmtl. Spclst: <u>RGR</u> C.O.C. No: _____ LAT <u>N 36° 57' 56.66"</u> LONG <u>W 107° 52' 22.74"</u>
---	---	--

Field Report: Spill Closure Verification					
NMOCD Ranking: <u>20</u>	Depth to GW: _____	WH Protection Area: <table border="1" style="display: inline-table; width: 100px;"><tr><td>No</td><td>Yes</td></tr></table>		No	Yes
No	Yes				
NMOCD TPH Closure Std.: <u>100</u>	Distance to SW: _____				
LOCATION: Name: <u>Sullivan Gas CO E</u> Well #: <u>1</u> API: <u>3004528641</u> County: <u>San Juan</u> State: <u>New Mexico</u> ~ 500 Gallons Cause of Release: <u>compressor oil leak</u> Material Released: <u>Oil</u> Amt. Released: <u>unk</u> QUAD/UNIT: _____ SEC: <u>22</u> TWP: <u>32N</u> RNG: <u>10W</u> PM: _____ Wellhead Lat/Long: _____ Land Jurisdiction: <u>Private</u> QTR Footage: <u>600' FSL & 1540' FWL</u> Spill Located Approximately: <u>60</u> FT. <u>East</u> FROM <u>Well head</u> Excavation Approx: <u>see notes</u> FT. X _____ FT. X _____ FT. Cubic Yardage: <u>10+10+10 = 30</u> Disposal Facility: <u>Land Farm 2</u> Remediation Method: <u>Land Farm</u> Land Use: _____ Lease: <u>N4NM012648</u> Land Owner: <u>Private</u>					

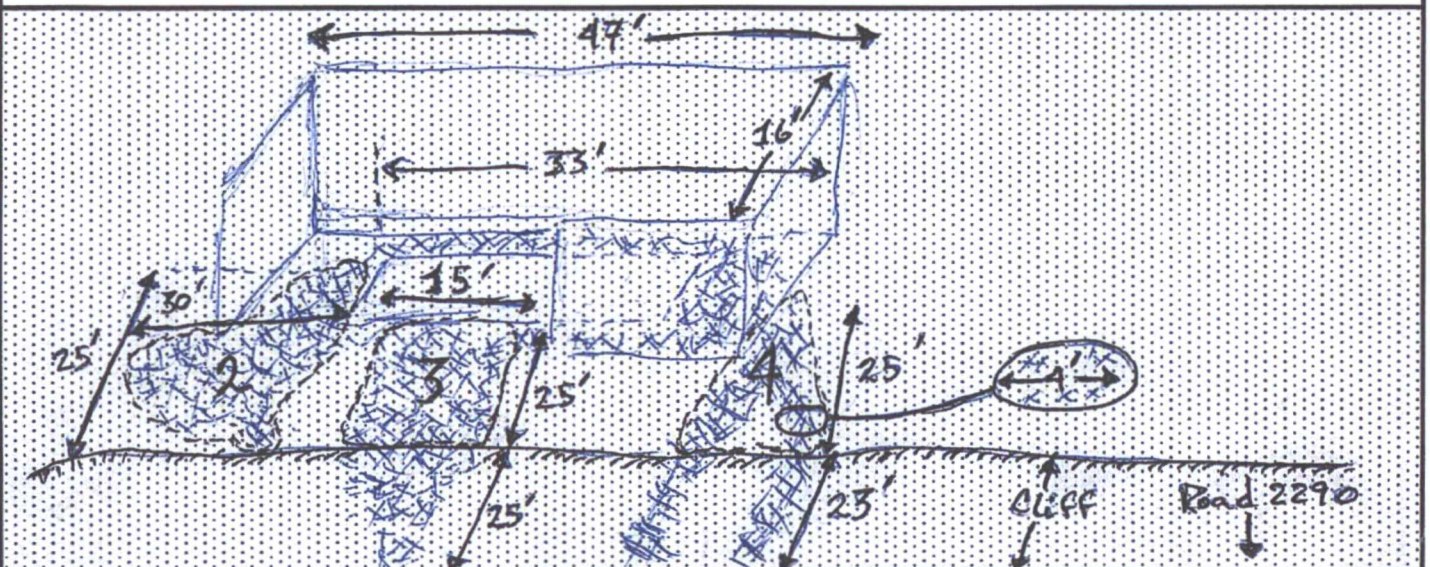
FIELD 418.1 ANALYSIS							
SAMPLE DESCRIPTION	TIME	SAMPLE I.D.	WEIGHT (g)	mL FREON	DILUTION	READING	CALC. ppm
200 & 300 STD	10:00	stds				209, 450	
4" below skid plate	10:30	1	5		X40	1208	
	10:40	1	5		X80	930	
SE of skid plate 2-3" BGS	11:00	2	5	20	X4	400	1600
E of skid plate 4" BGS	13:00	3	5	20	X4	183	732
SE of skid plate 3" BGS	13:40	2a	5	20	X4	21	84
NE of skid plate 6-8" BGS	14:30	4	5	20	X4	96	384
E of skid plate 8-10" BGS	15:20	3a	5	20	X4	42 42	168 168
NE of skid plate 8-12" BGS	15:40	4a	5	20	X4	512	2048
E of skid plate 8-12" BGS	16:00	3b	5	20	X4	19	76

OVM Results				Lab Testing		
Sample ID	Field Headspace PID (ppm)	Sample ID	Field Headspace PID (ppm)	Sample ID	Analysis Type	Time
1	16.5			1	GR0, DR0, OR0	17:30
2	7.5			2a		
3	8.3			3b		
2a	3.7					
4	3.0					
3a	1.9					
4a	4.8					

SPILL PERIMETER: Draw a schematic of the spill site. Attach photos and other diagrams as needed.



EXCAVATION PROFILE:



NOTES:

Include number of samples and borings taken, and screening types completed.
Describe spill in narrative format including amount, source and type of product.

WO #:

Who Ordered/Site Rep:

CLIENT: <u>BP</u>	 envirotech (505) 632-0615 (800) 362-1879 5796 U.S. Hwy 64, Farmington, NM 87401	Envmtl. Spclst: <u>Deno</u>
CLIENT/JOB #: <u>03143-1224</u>		C.O.C. No: _____
START DATE: <u>2/17/17</u>		LAT <u>N 36° 57' 54.616"</u>
FINISH DATE: _____		LONG <u>W 107° 52' 22.781"</u>
Page #: <u>1 of 2</u>		

Field Report: Spill Closure Verification

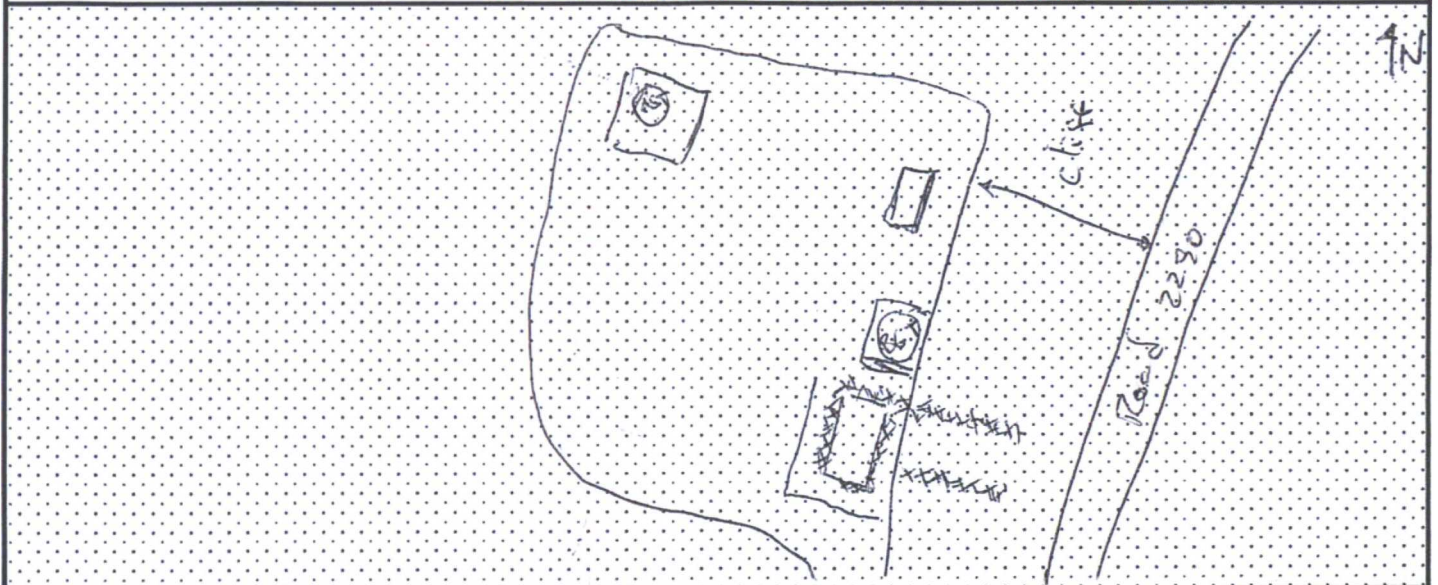
NMOCD Ranking: <u>20</u>	Depth to GW: _____	WH Protection Area: <input type="checkbox"/> No <input type="checkbox"/> Yes
NMOCD TPH Closure Std.: <u>100</u>	Distance to SW: _____	
LOCATION: Name: <u>Sullivan Gas Cont E</u> Well #: <u>4</u> API: <u>300 452 8641</u> County: <u>San Juan</u> State: <u>New Mexico</u>		
Cause of Release: <u>Oil leak from Tank</u>	Material Released: <u>oil</u>	Amt. Released: <u>~500 Gallons</u>
QUAD/UNIT: _____	SEC: <u>22</u> TWP: <u>32 N</u>	RNG: <u>10 W</u> PM: _____
Wellhead Lat/Long: _____	Land Jurisdiction: _____	QTR Footage: <u>600's & 1540' W</u>
Spill Located Approximately: <u>60</u> FT. <u>East</u> FROM <u>Wellhead</u>		
Excavation Approx: _____ FT. X _____ FT. X _____ FT.	Cubic Yardage: <u>10</u>	
Disposal Facility: <u>Land Farm 2</u>	Remediation Method: <u>Land Farm</u>	
Land Use: _____	Lease: <u>NM NM 012648</u>	Land Owner: <u>Private</u>

FIELD 418.1 ANALYSIS

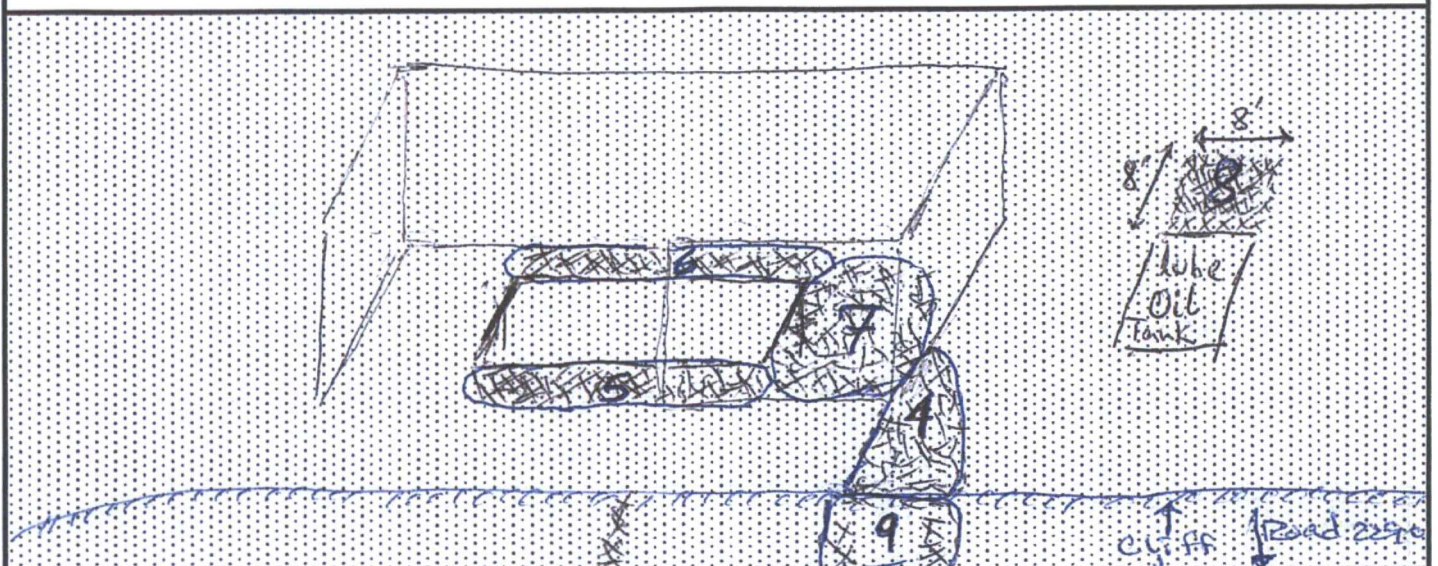
SAMPLE DESCRIPTION	TIME	SAMPLE I.D.	WEIGHT (g)	mL FREON	DILUTION	READING	CALC. ppm
200 STD	9:00	STDs				200	
NE of skid plate 10-12" BGS	9:40	4b	5	20	x4	290	1160
E of skid plate inside camp building 6" BGS	10:10	5	5	20	x4	373	1492
W of skid plate inside camp building 2" BGS	10:40	6	5	20	x4	255	1020
NE of skid plate inside camp building 6" BGS	10:50	7	5	20	x4	359	1436
NE of skid plate 4" BGS	13:10	4e	5	20	x4	6	24
NE of skid plate 15" BGS	13:30	4d	5	20	x4	752	3008
1/2 oil Tank 2" BGS	14:05	8	5	20	x4	9	36
NE of camp building down the rd 1 ft 2" BGS	14:20	9	5	20	x4	1624	6496
NE of skid plate 3" BGS	15:30	4e	5	20	x4	1	4

OVM Results				Lab Testing	
Sample ID	Field Headspace PID (ppm)	Sample ID	Field Headspace PID (ppm)	Sample ID	Analysis Type Time
4b	1.2	9	1.4	Around skid	DRO,ORO,GRO 16:45
5	0.4	4e	0.7	under skid	
6	2.7			4e	
7	3.0			8	
4c	0.2				
4d	2.2				
8	0.7				

SPILL PERIMETER: Draw a schematic of the spill site. Attach photos and other diagrams as needed.



EXCAVATION PROFILE:



NOTES:

Include number of samples and borings taken, and screening types completed.
Describe spill in narrative format including amount, source and type of product.

WO #:

Who Ordered/Site Rep:

CLIENT: <u>BP</u> CLIENT/JOB #: <u>03143-1224</u> START DATE: <u>2/20/17</u> FINISH DATE: _____ Page # <u>1</u> of <u>2</u>	 envirotech <small>(505) 632-0615 (800) 362-1879 5796 U.S. Hwy 64, Farmington, NM 87401</small>	Envmtl. Spclst: <u>Boe</u> C.O.C. No: _____ LAT <u>N 36° 57' 54.616"</u> LONG <u>W 107° 52' 22.781"</u>
--	--	--

Field Report: Spill Closure Verification

NMOCD Ranking: <u>20</u>	Depth to GW: _____	WH Protection Area: <table border="1" style="display: inline-table;"><tr><td>No</td><td>Yes</td></tr></table>	No	Yes
No	Yes			
NMOCD TPH Closure Std.: <u>100</u>	Distance to SW: _____			
LOCATION: Name: <u>Sullivan Gas COM E</u> Well #: <u>1</u> API: <u>300 452 8641</u> County: <u>San Juan</u> State: <u>New Mexico</u>				
Cause of Release: <u>Oil leak from tank</u> Material Released: <u>Oil</u> Amt. Released: <u>~500 Gallons</u>				
QUAD/UNIT: _____	SEC: <u>22</u>	TWP: <u>32N</u> RNG: <u>10W</u> PM: _____		
Wellhead Lat/Long: _____		Land Jurisdiction: _____ QTR Footage: <u>600'S & 1540'W</u>		
Spill Located Approximately: <u>60</u> FT. <u>East</u> FROM <u>Wellhead</u>				
Excavation Approx: _____ FT. X _____ FT. X _____ FT.		Cubic Yardage: _____		
Disposal Facility: <u>Landfarm 2</u>		Remediation Method: <u>Landfarm</u>		
Land Use: _____		Lease: <u>NM NM 012648</u> Land Owner: <u>Private</u>		

FIELD 418.1 ANALYSIS

SAMPLE DESCRIPTION	TIME	SAMPLE I.D.	WEIGHT (g)	mL FREON	DILUTION	READING	CALC. ppm
5pt composite 6" BGS	12:00	9a					
↓	12:00	10					
5pt composite 5-6" BGS	12:30	11					
↓	12:30	12					

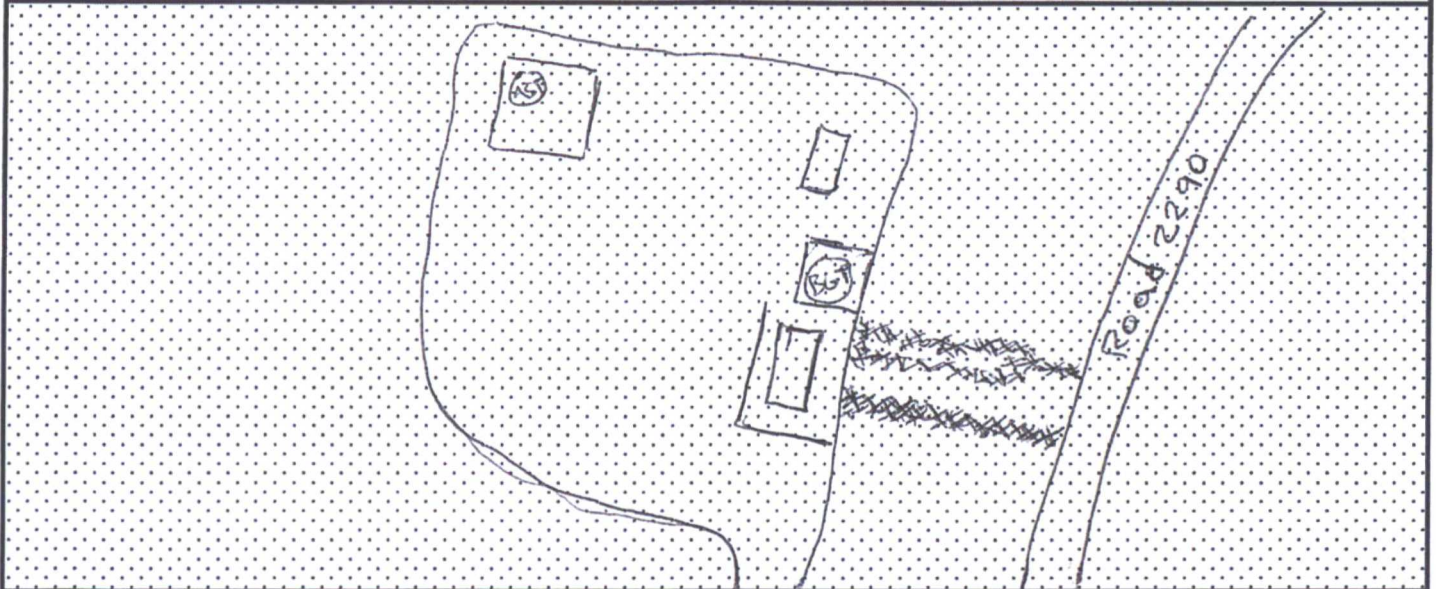
Nothing was rec'd
the field due
to lack of freon.

OVM Results

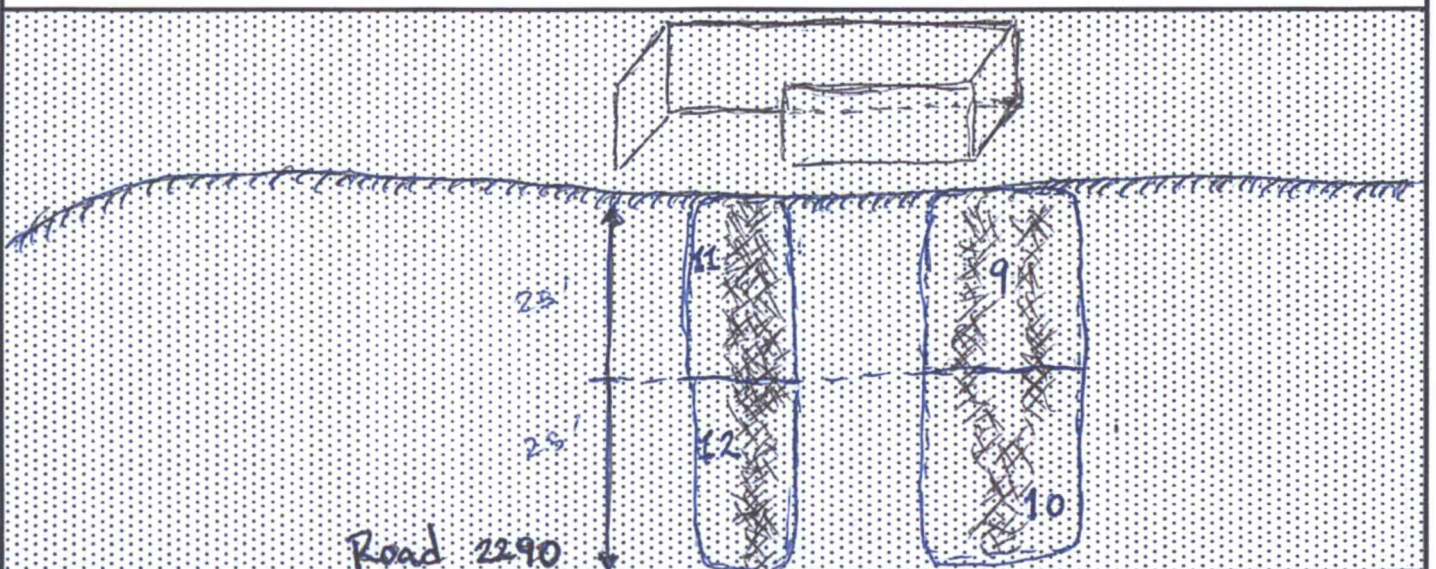
Lab Testing

Sample ID	Field Headspace PID (ppm)	Sample ID	Field Headspace PID (ppm)	Sample ID	Analysis Type	Time
				9a	6PO, PPO, OPO	13:15
				10	↓	↓
				11	↓	↓
				12	↓	↓

SPILL PERIMETER: Draw a schematic of the spill site. Attach photos and other diagrams as needed.



EXCAVATION PROFILE:



NOTES:

Include number of samples and borings taken, and screening types completed.
Describe spill in narrative format including amount, source and type of product.

WO #:

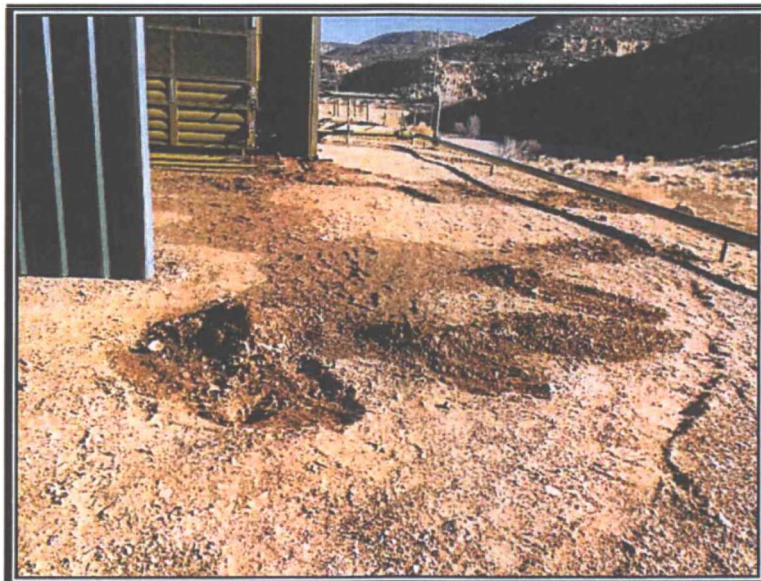
Who Ordered/Site Rep:

2/20/17

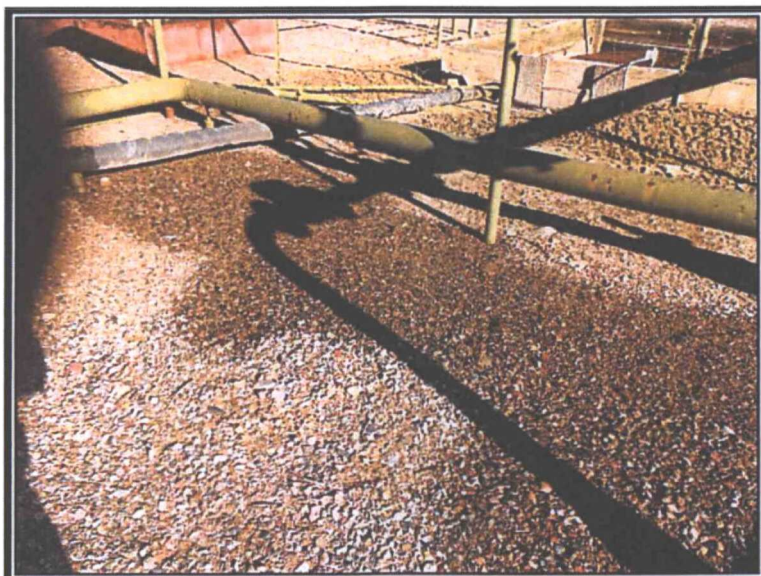
APPENDIX B

Site Photography

Site Photography
BP America
Sullivan Gas Com E#1 well site
Spill Assessment and Confirmation Report
Project No. 03143-1224

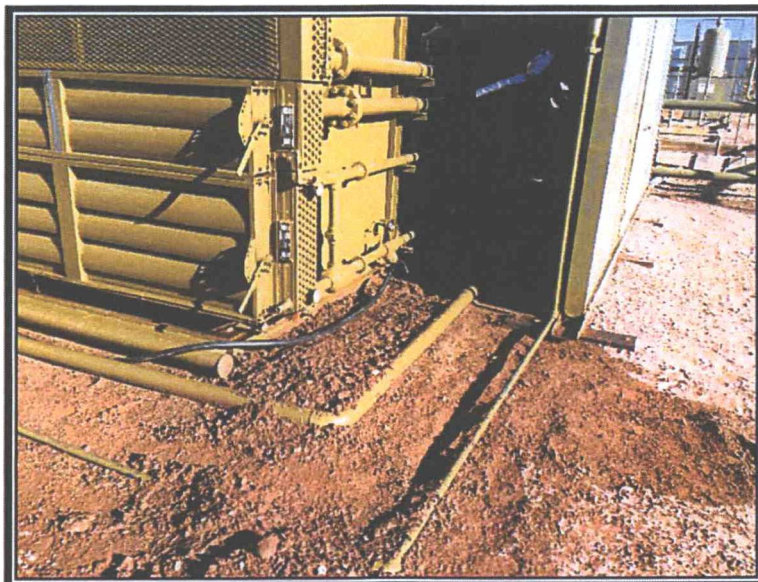


Picture 1: View of Area 2 and Area 3



Picture 2: View of Area 4

Site Photography
BP America
Sullivan Gas Com E#1 well site
Spill Assessment and Confirmation Report
Project No. 03143-1224



Picture 3: View of Area 5

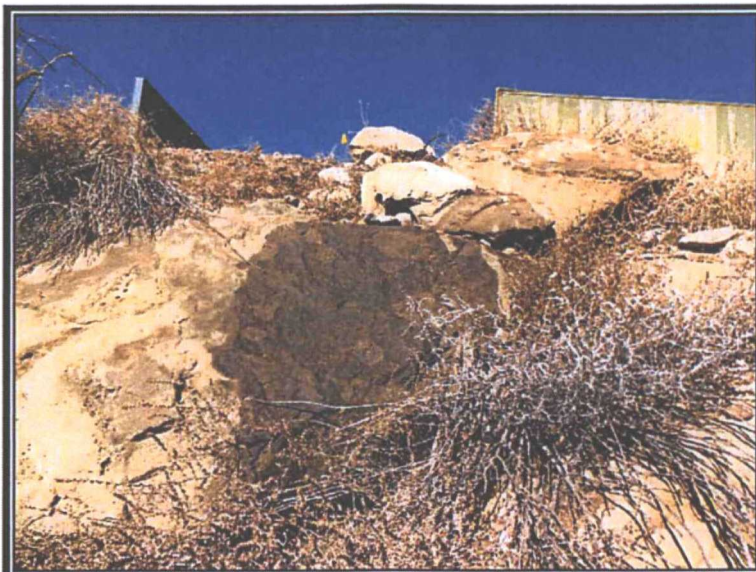


Picture 4: View of Area 8

Site Photography
BP America
Sullivan Gas Com E#1 well site
Spill Assessment and Confirmation Report
Project No. 03143-1224



Picture 5: View of Area 9 and Area 10



Picture 6: View of Area 11 and Area 12

Site Photography
BP America
Sullivan Gas Com E#1 well site
Spill Assessment and Confirmation Report
Project No. 03143-1224

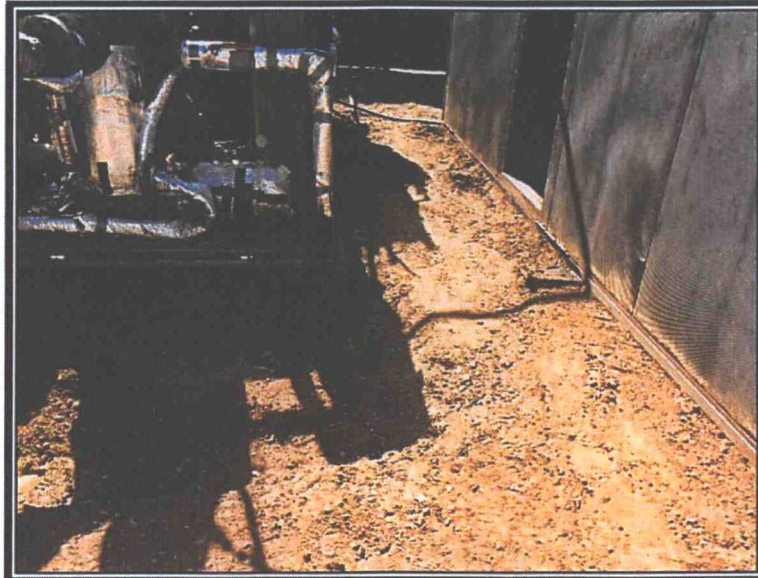


Picture 7: Cleanup Activities Area 2, Area 3, and Around Skid

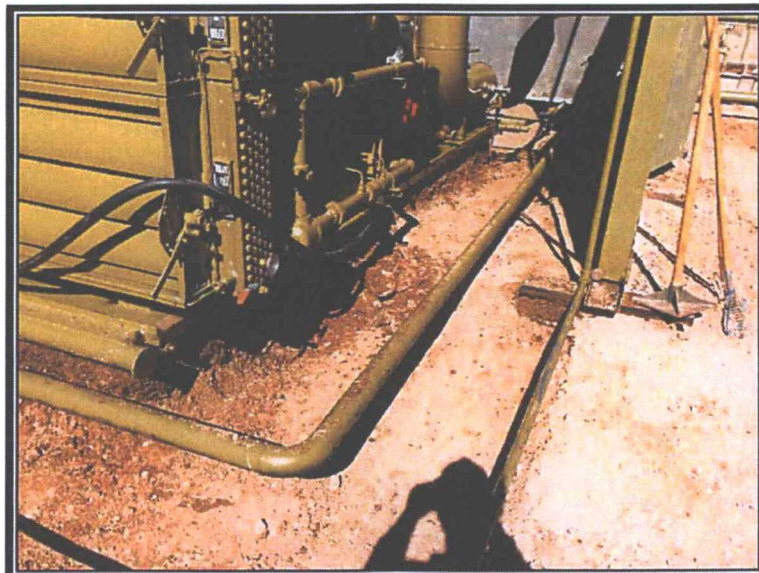


Picture 8: Cleanup of Area 4

Site Photography
BP America
Sullivan Gas Com E#1 well site
Spill Assessment and Confirmation Report
Project No. 03143-1224



Picture 9: Cleanup of Area 6 and Area 7



Picture 10: Cleanup Area 5 and Under Skid

Site Photography
BP America
Sullivan Gas Com E#1 well site
Spill Assessment and Confirmation Report
Project No. 03143-1224

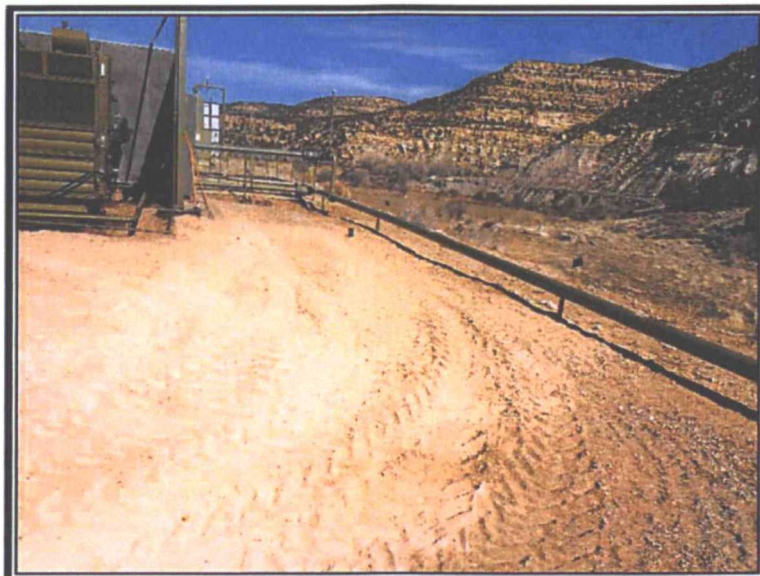


Picture 11: Cleanup of Area 9 and Area 10

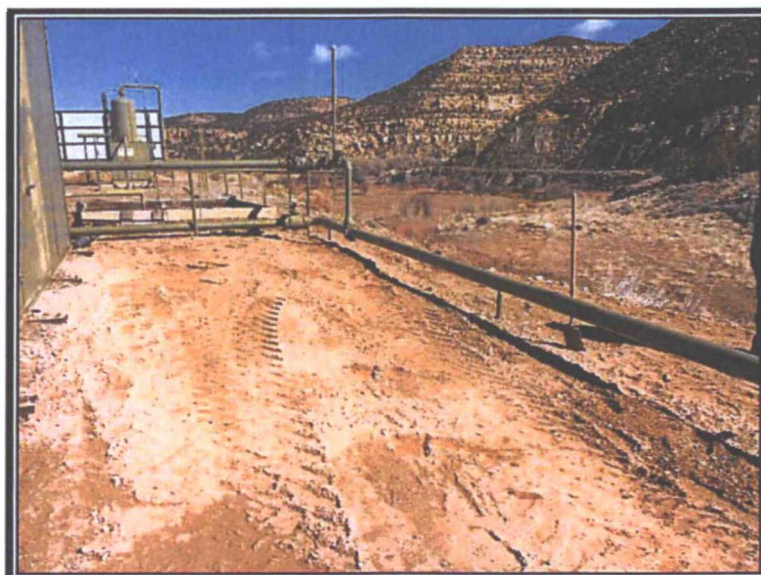


Picture 12: Cleanup of Area 11 and Area 12

Site Photography
BP America
Sullivan Gas Com E#1 well site
Spill Assessment and Confirmation Report
Project No. 03143-1224



Picture 13: Backfill (View 1)



Picture 14: Backfill (View 2)

APPENDIX C

Analytical Results



CONTINUOUS CALIBRATION
EPA METHOD 418.1
TOTAL PETROLEUM
HYDROCARBONS

Cal. Date: 16-Feb-17

Parameter	Standard Concentration mg/L	Concentration Reading mg/L
TPH	100	209
	200	
	500	
	1000	
	5000	

The accepted percent relative deviation (%RSD) of the calibration factor is less than 20% over the working range.

Rene Garcia
Analyst

3/10/2017
Date

Rene Garcia

Print Name

Felipe Aragon
Review

3/10/2017
Date

Felipe Aragon, CES

Print Name



EPA METHOD 418.1
TOTAL PETROLEUM
HYDROCARBONS

Client:	BP America	Project #:	03143-1224
Sample No.:	1	Date Reported:	3/10/2017
Sample ID:	4" below skid plate	Date Sampled:	2/16/2017
Sample Matrix:	Soil	Date Analyzed:	2/16/2017
Preservative:	Cool	Analysis Needed:	TPH-418.1
Condition:	Cool and Intact		

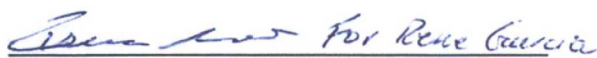
Parameter	Concentration (mg/kg)	Det. Limit (mg/kg)
Total Petroleum Hydrocarbons	4,830	5.0

ND = Parameter not detected at the stated detection limit.

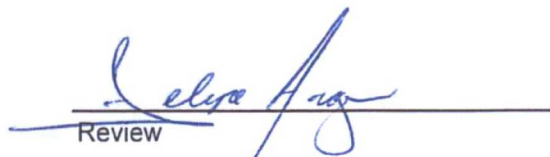
References: Method 418.1, Petroleum Hydrocarbons, Total Recoverable, Chemical Analysis of Water and Waste, USEPA Storet No. 4551, 1978.

Comments: **Sullivan Gas Com E#1**

Instrument calibrated to 200 ppm standard and zeroed before each sample.


Analyst

Rene Garcia
Printed


Review
Felipe Aragon, CES
Printed



EPA METHOD 418.1
TOTAL PETROLEUM
HYDROCARBONS

Client:	BP America	Project #:	03143-1224
Sample No.:	2	Date Reported:	3/10/2017
Sample ID:	4" below skid plate	Date Sampled:	2/16/2017
Sample Matrix:	Soil	Date Analyzed:	2/16/2017
Preservative:	Cool	Analysis Needed:	TPH-418.1
Condition:	Cool and Intact		

Parameter	Concentration (mg/kg)	Det. Limit (mg/kg)
-----------	--------------------------	--------------------------


Total Petroleum Hydrocarbons	3,720	5.0
------------------------------	-------	-----

ND = Parameter not detected at the stated detection limit.

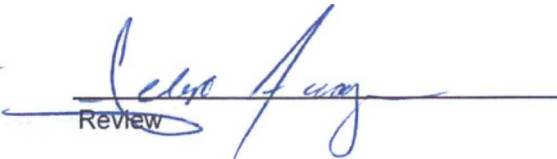
References: Method 418.1, Petroleum Hydrocarbons, Total Recoverable, Chemical Analysis of Water and Waste, USEPA Storet No. 4551, 1978.

Comments: **Sullivan Gas Com E#1**

Instrument calibrated to 200 ppm standard and zeroed before each sample.


Analyst

Rene Garcia
Printed


Review

Felipe Aragon, CES
Printed



EPA METHOD 418.1
TOTAL PETROLEUM
HYDROCARBONS

Client: BP America
Sample No.: 3
Sample ID: Area 2
Sample Matrix: Soil
Preservative: Cool
Condition: Cool and Intact

Project #: 03143-1224
Date Reported: 3/10/2017
Date Sampled: 2/16/2017
Date Analyzed: 2/16/2017
Analysis Needed: TPH-418.1

Parameter	Concentration (mg/kg)	Det. Limit (mg/kg)
Total Petroleum Hydrocarbons	1,600	5.0

ND = Parameter not detected at the stated detection limit.


References: Method 418.1, Petroleum Hydrocarbons, Total Recoverable, Chemical Analysis of Water and Waste, USEPA Storet No. 4551, 1978.

Comments: **Sullivan Gas Com E#1**

Instrument calibrated to 200 ppm standard and zeroed before each sample.


Analyst

Rene Garcia
Printed


Review

Felipe Aragon, CES
Printed



EPA METHOD 418.1
TOTAL PETROLEUM
HYDROCARBONS

Client: BP America
Sample No.: 4
Sample ID: Area 3
Sample Matrix: Soil
Preservative: Cool
Condition: Cool and Intact

Project #: 03143-1224
Date Reported: 3/10/2017
Date Sampled: 2/16/2017
Date Analyzed: 2/16/2017
Analysis Needed: TPH-418.1

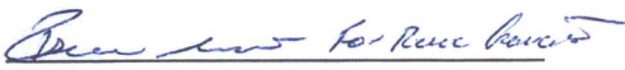
Parameter	Concentration (mg/kg)	Det. Limit (mg/kg)
Total Petroleum Hydrocarbons	732	5.0

ND = Parameter not detected at the stated detection limit.

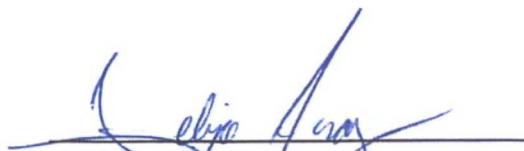
References: Method 418.1, Petroleum Hydrocarbons, Total Recoverable, Chemical Analysis of Water and Waste, USEPA Storet No. 4551, 1978.

Comments: **Sullivan Gas Com E#1**

Instrument calibrated to 200 ppm standard and zeroed before each sample.


Analyst

Rene Garcia
Printed


Review

Felipe Aragon, CES
Printed



EPA METHOD 418.1
TOTAL PETROLEUM
HYDROCARBONS

Client:	BP America	Project #:	03143-1224
Sample No.:	5	Date Reported:	3/10/2017
Sample ID:	Area 2A	Date Sampled:	2/16/2017
Sample Matrix:	Soil	Date Analyzed:	2/16/2017
Preservative:	Cool	Analysis Needed:	TPH-418.1
Condition:	Cool and Intact		


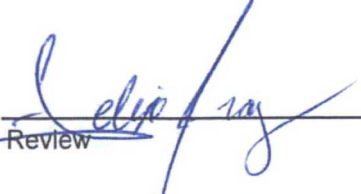
Parameter	Concentration (mg/kg)	Det. Limit (mg/kg)
Total Petroleum Hydrocarbons	84	5.0

ND = Parameter not detected at the stated detection limit.

References: Method 418.1, Petroleum Hydrocarbons, Total Recoverable, Chemical Analysis of Water and Waste, USEPA Storet No. 4551, 1978.

Comments: **Sullivan Gas Com E#1**

Instrument calibrated to 200 ppm standard and zeroed before each sample.

 Analyst	 Review
<u>Rene Garcia</u> Printed	<u>Felipe Aragon, CES</u> Printed



EPA METHOD 418.1
TOTAL PETROLEUM
HYDROCARBONS

Client: BP America
Sample No.: 6
Sample ID: Area 4
Sample Matrix: Soil
Preservative: Cool
Condition: Cool and Intact

Project #: 03143-1224
Date Reported: 3/10/2017
Date Sampled: 2/16/2017
Date Analyzed: 2/16/2017
Analysis Needed: TPH-418.1


Parameter	Concentration (mg/kg)	Det. Limit (mg/kg)
Total Petroleum Hydrocarbons	384	5.0

ND = Parameter not detected at the stated detection limit.

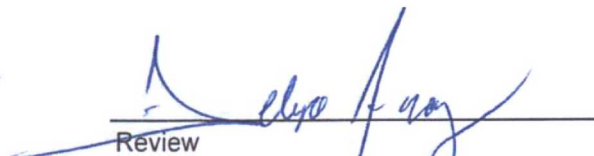
References: Method 418.1, Petroleum Hydrocarbons, Total Recoverable, Chemical Analysis of Water and Waste, USEPA Storet No. 4551, 1978.

Comments: **Sullivan Gas Com E#1**

Instrument calibrated to 200 ppm standard and zeroed before each sample.


Analyst

Rene Garcia
Printed


Review

Felipe Aragon, CES
Printed



EPA METHOD 418.1
TOTAL PETROLEUM
HYDROCARBONS

Client: BP America
Sample No.: 7
Sample ID: Area 3A
Sample Matrix: Soil
Preservative: Cool
Condition: Cool and Intact

Project #: 03143-1224
Date Reported: 3/10/2017
Date Sampled: 2/16/2017
Date Analyzed: 2/16/2017
Analysis Needed: TPH-418.1

Parameter	Concentration (mg/kg)	Det. Limit (mg/kg)
Total Petroleum Hydrocarbons	168	5.0

ND = Parameter not detected at the stated detection limit.

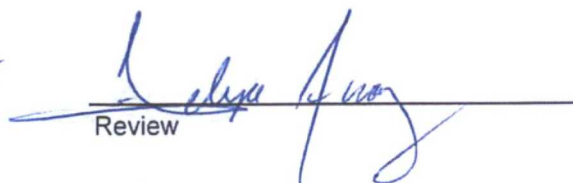
References: Method 418.1, Petroleum Hydrocarbons, Total Recoverable, Chemical Analysis of Water and Waste, USEPA Storet No. 4551, 1978.

Comments: **Sullivan Gas Com E#1**

Instrument calibrated to 200 ppm standard and zeroed before each sample.


Analyst

Rene Garcia
Printed


Review
Felipe Aragon, CES
Printed



EPA METHOD 418.1
TOTAL PETROLEUM
HYDROCARBONS

Client: BP America
Sample No.: 8
Sample ID: Area 4A
Sample Matrix: Soil
Preservative: Cool
Condition: Cool and Intact

Project #: 03143-1224
Date Reported: 3/10/2017
Date Sampled: 2/16/2017
Date Analyzed: 2/16/2017
Analysis Needed: TPH-418.1

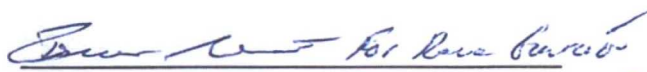
Parameter	Concentration (mg/kg)	Det. Limit (mg/kg)
Total Petroleum Hydrocarbons	2,050	5.0

ND = Parameter not detected at the stated detection limit.

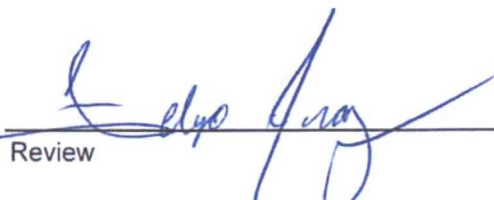
References: Method 418.1, Petroleum Hydrocarbons, Total Recoverable, Chemical Analysis of Water and Waste, USEPA Storet No. 4551, 1978.

Comments: **Sullivan Gas Com E#1**

Instrument calibrated to 200 ppm standard and zeroed before each sample.


Analyst

Rene Garcia
Printed


Review
Felipe Aragon, CES
Printed



EPA METHOD 418.1
TOTAL PETROLEUM
HYDROCARBONS

Client: BP America
Sample No.: 9
Sample ID: Area 3B
Sample Matrix: Soil
Preservative: Cool
Condition: Cool and Intact

Project #: 03143-1224
Date Reported: 3/10/2017
Date Sampled: 2/16/2017
Date Analyzed: 2/16/2017
Analysis Needed: TPH-418.1

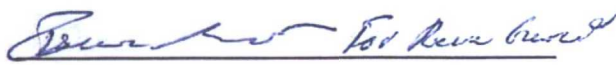
Parameter	Concentration (mg/kg)	Det. Limit (mg/kg)
Total Petroleum Hydrocarbons	76	5.0

ND = Parameter not detected at the stated detection limit.

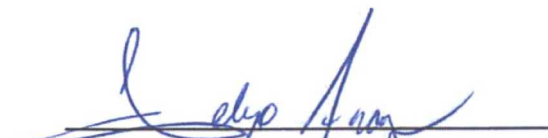
References: Method 418.1, Petroleum Hydrocarbons, Total Recoverable, Chemical Analysis of Water and Waste, USEPA Storet No. 4551, 1978.

Comments: Sullivan Gas Com E#1

Instrument calibrated to 200 ppm standard and zeroed before each sample.


Analyst

Rene Garcia
Printed


Review

Felipe Aragon, CES
Printed



CONTINUOUS CALIBRATION
EPA METHOD 418.1
TOTAL PETROLEUM
HYDROCARBONS

Cal. Date: 17-Feb-17

Parameter	Standard Concentration mg/L	Concentration Reading mg/L
TPH	100	200
	200	
	500	
	1000	
	5000	

The accepted percent relative deviation (%RSD) of the calibration factor is less than 20% over the working range.



Analyst

3/10/2017

Date

Rene Garcia

Print Name


Review

3/10/2017

Date

Felipe Aragon, CES

Print Name



EPA METHOD 418.1
TOTAL PETROLEUM
HYDROCARBONS

Client: BP America
Sample No.: 1
Sample ID: Area 4B
Sample Matrix: Soil
Preservative: Cool
Condition: Cool and Intact

Project #: 03143-1224
Date Reported: 3/10/2017
Date Sampled: 2/17/2017
Date Analyzed: 2/17/2017
Analysis Needed: TPH-418.1

Parameter	Concentration (mg/kg)	Det. Limit (mg/kg)
Total Petroleum Hydrocarbons	1,160	5.0

ND = Parameter not detected at the stated detection limit.

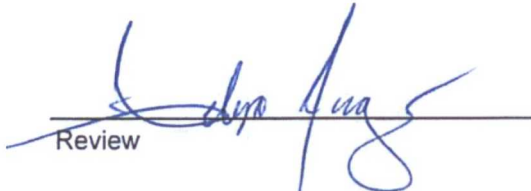
References: Method 418.1, Petroleum Hydrocarbons, Total Recoverable, Chemical Analysis of Water and Waste, USEPA Storet No. 4551, 1978.

Comments: Sullivan Gas Com E#1

Instrument calibrated to 200 ppm standard and zeroed before each sample.


Analyst

Rene Garcia
Printed


Review
Felipe Aragon, CES
Printed



EPA METHOD 418.1
TOTAL PETROLEUM
HYDROCARBONS

Client: BP America
Sample No.: 2
Sample ID: Area 5
Sample Matrix: Soil
Preservative: Cool
Condition: Cool and Intact

Project #: 03143-1224
Date Reported: 3/10/2017
Date Sampled: 2/17/2017
Date Analyzed: 2/17/2017
Analysis Needed: TPH-418.1


Parameter	Concentration (mg/kg)	Det. Limit (mg/kg)
Total Petroleum Hydrocarbons	1,490	5.0

ND = Parameter not detected at the stated detection limit.

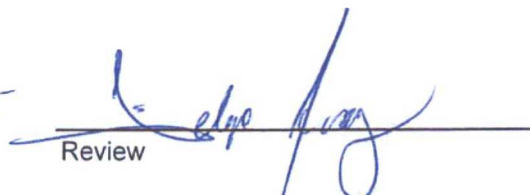
References: Method 418.1, Petroleum Hydrocarbons, Total Recoverable, Chemical Analysis of Water and Waste, USEPA Storet No. 4551, 1978.

Comments: Sullivan Gas Com E#1

Instrument calibrated to 200 ppm standard and zeroed before each sample.


Analyst

Rene Garcia
Printed


Review
Felipe Aragon, CES
Printed



EPA METHOD 418.1
TOTAL PETROLEUM
HYDROCARBONS

Client:	BP America	Project #:	03143-1224
Sample No.:	3	Date Reported:	3/10/2017
Sample ID:	Area 6	Date Sampled:	2/17/2017
Sample Matrix:	Soil	Date Analyzed:	2/17/2017
Preservative:	Cool	Analysis Needed:	TPH-418.1
Condition:	Cool and Intact		

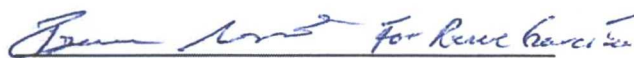
Parameter	Concentration (mg/kg)	Det. Limit (mg/kg)
Total Petroleum Hydrocarbons	1,020	5.0

ND = Parameter not detected at the stated detection limit.

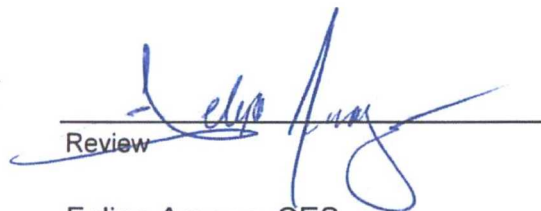
References: Method 418.1, Petroleum Hydrocarbons, Total Recoverable, Chemical Analysis of Water and Waste, USEPA Storet No. 4551, 1978.

Comments: **Sullivan Gas Com E#1**

Instrument calibrated to 200 ppm standard and zeroed before each sample.


Analyst

Rene Garcia
Printed


Review
Felipe Aragon, CES
Printed



EPA METHOD 418.1
TOTAL PETROLEUM
HYDROCARBONS

Client: BP America
Sample No.: 4
Sample ID: Area 7
Sample Matrix: Soil
Preservative: Cool
Condition: Cool and Intact

Project #: 03143-1224
Date Reported: 3/10/2017
Date Sampled: 2/17/2017
Date Analyzed: 2/17/2017
Analysis Needed: TPH-418.1

Parameter	Concentration (mg/kg)	Det. Limit (mg/kg)
Total Petroleum Hydrocarbons	1,440	5.0

ND = Parameter not detected at the stated detection limit.

References: Method 418.1, Petroleum Hydrocarbons, Total Recoverable, Chemical Analysis of Water and Waste, USEPA Storet No. 4551, 1978.

Comments: **Sullivan Gas Com E#1**

Instrument calibrated to 200 ppm standard and zeroed before each sample.

Analyst

Rene Garcia

Printed

Review

Felipe Aragon, CES

Printed



EPA METHOD 418.1
TOTAL PETROLEUM
HYDROCARBONS

Client: BP America
Sample No.: 5
Sample ID: Area 4C
Sample Matrix: Soil
Preservative: Cool
Condition: Cool and Intact

Project #: 03143-1224
Date Reported: 3/10/2017
Date Sampled: 2/17/2017
Date Analyzed: 2/17/2017
Analysis Needed: TPH-418.1

Parameter	Concentration (mg/kg)	Det. Limit (mg/kg)
Total Petroleum Hydrocarbons	24	5.0

ND = Parameter not detected at the stated detection limit.

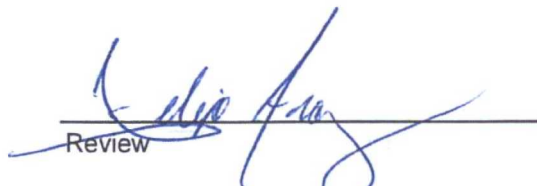
References: Method 418.1, Petroleum Hydrocarbons, Total Recoverable, Chemical Analysis of Water and Waste, USEPA Storet No. 4551, 1978.

Comments: **Sullivan Gas Com E#1**

Instrument calibrated to 200 ppm standard and zeroed before each sample.


Analyst

Rene Garcia
Printed


Review
Felipe Aragon, CES
Printed



EPA METHOD 418.1
TOTAL PETROLEUM
HYDROCARBONS

Client: BP America
Sample No.: 6
Sample ID: Area 4D
Sample Matrix: Soil
Preservative: Cool
Condition: Cool and Intact

Project #: 03143-1224
Date Reported: 3/10/2017
Date Sampled: 2/17/2017
Date Analyzed: 2/17/2017
Analysis Needed: TPH-418.1

Parameter	Concentration (mg/kg)	Det. Limit (mg/kg)
Total Petroleum Hydrocarbons	3,010	5.0

ND = Parameter not detected at the stated detection limit.

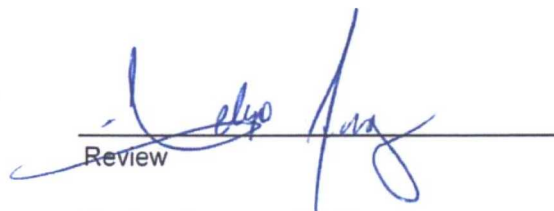
References: Method 418.1, Petroleum Hydrocarbons, Total Recoverable, Chemical Analysis of Water and Waste, USEPA Storet No. 4551, 1978.

Comments: **Sullivan Gas Com E#1**

Instrument calibrated to 200 ppm standard and zeroed before each sample.


Analyst

Rene Garcia
Printed


Review
Felipe Aragon, CES
Printed



EPA METHOD 418.1
TOTAL PETROLEUM
HYDROCARBONS

Client: BP America
Sample No.: 7
Sample ID: Area 8
Sample Matrix: Soil
Preservative: Cool
Condition: Cool and Intact

Project #: 03143-1224
Date Reported: 3/10/2017
Date Sampled: 2/17/2017
Date Analyzed: 2/17/2017
Analysis Needed: TPH-418.1

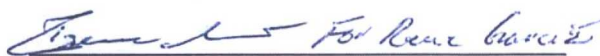
Parameter	Concentration (mg/kg)	Det. Limit (mg/kg)
Total Petroleum Hydrocarbons	36	5.0

ND = Parameter not detected at the stated detection limit.

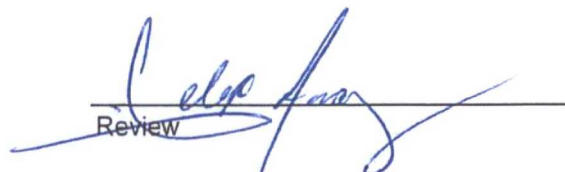
References: Method 418.1, Petroleum Hydrocarbons, Total Recoverable, Chemical Analysis of Water and Waste, USEPA Storet No. 4551, 1978.

Comments: **Sullivan Gas Com E#1**

Instrument calibrated to 200 ppm standard and zeroed before each sample.


Analyst

Rene Garcia
Printed


Review
Felipe Aragon, CES
Printed



EPA METHOD 418.1
TOTAL PETROLEUM
HYDROCARBONS

Client: BP America
Sample No.: 8
Sample ID: Area 9
Sample Matrix: Soil
Preservative: Cool
Condition: Cool and Intact

Project #: 03143-1224
Date Reported: 3/10/2017
Date Sampled: 2/17/2017
Date Analyzed: 2/17/2017
Analysis Needed: TPH-418.1


Parameter	Concentration (mg/kg)	Det. Limit (mg/kg)
Total Petroleum Hydrocarbons	6,500	5.0

ND = Parameter not detected at the stated detection limit.

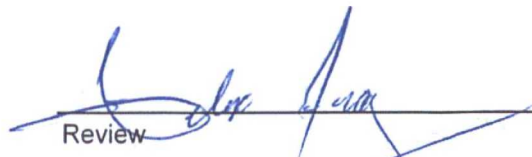
References: Method 418.1, Petroleum Hydrocarbons, Total Recoverable, Chemical Analysis of Water and Waste, USEPA Storet No. 4551, 1978.

Comments: **Sullivan Gas Com E#1**

Instrument calibrated to 200 ppm standard and zeroed before each sample.


Analyst

Rene Garcia
Printed


Review
Felipe Aragon, CES
Printed



EPA METHOD 418.1
TOTAL PETROLEUM
HYDROCARBONS

Client: BP America
Sample No.: 9
Sample ID: Area 4E
Sample Matrix: Soil
Preservative: Cool
Condition: Cool and Intact

Project #: 03143-1224
Date Reported: 3/10/2017
Date Sampled: 2/17/2017
Date Analyzed: 2/17/2017
Analysis Needed: TPH-418.1

Parameter	Concentration (mg/kg)	Det. Limit (mg/kg)
Total Petroleum Hydrocarbons	ND	5.0

ND = Parameter not detected at the stated detection limit.

References: Method 418.1, Petroleum Hydrocarbons, Total Recoverable, Chemical Analysis of Water and Waste, USEPA Storet No. 4551, 1978.

Comments: **Sullivan Gas Com E#1**

Instrument calibrated to 200 ppm standard and zeroed before each sample.

Analyst

Rene Garcia

Printed

Review

Felipe Aragon, CES

Printed



Analytical Report

Report Summary

Client: BP America Production Co.

Chain Of Custody Number:

Samples Received: 2/17/2017 7:42:00AM

Job Number: 03143-1224

Work Order: P702026

Project Name/Location: Sullivan GC E #1 Spill
Assessment

Report Reviewed By:

A handwritten signature in blue ink, appearing to read 'Walter Hinchman'.

Walter Hinchman, Laboratory Director

Date: 2/22/17

A handwritten signature in blue ink, appearing to read 'Tim Cain' with a large 'TC' monogram to the right.

Tim Cain, Quality Assurance Officer

Date: 2/22/17

The results in this report apply to the samples submitted to Envirotech's Analytical Laboratory and were analyzed in accordance with the chain of custody document supplied by you, the client, and as such are for your exclusive use only. The results in this report are based on the sample as received unless otherwise noted. Partial or incomplete reproduction of this report is prohibited, unless approved by Envirotech, Inc. If you have any questions regarding this analytical report, please don't hesitate to contact Envirotech's Laboratory Staff.



BP America Production Co.
PO Box 22024
Tulsa OK, 74121-2024

Project Name: Sullivan GC E #1 Spill Assessment
Project Number: 03143-1224
Project Manager: Felipe Aragon

Reported:
22-Feb-17 15:27

Analytical Report for Samples

Client Sample ID	Lab Sample ID	Matrix	Sampled	Received	Container
1	P702026-01A	Soil	02/16/17	02/17/17	Glass Jar, 4 oz.
2a	P702026-02A	Soil	02/16/17	02/17/17	Glass Jar, 4 oz.
3b	P702026-03A	Soil	02/16/17	02/17/17	Glass Jar, 4 oz.

Partial or incomplete reproduction of this report is prohibited, unless approved by Envirotech, Inc.

5796 US Highway 64, Farmington, NM 87401

Three Springs • 65 Mercado Street, Suite 115, Durango, CO 81301

Ph (505) 632-0615 Fx (505) 632-1865

Ph (970) 259-0615 Fr (800) 362-1879

envirotech-inc.com
laboratory@envirotech-inc.com



BP America Production Co.	Project Name:	Sullivan GC E #1 Spill Assessment	Reported: 22-Feb-17 15:27
PO Box 22024	Project Number:	03143-1224	
Tulsa OK, 74121-2024	Project Manager:	Felipe Aragon	

1

P702026-01 (Solid)

Reporting									
Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Volatile Organics by EPA 8021									
Benzene	ND	0.10	mg/kg	1	1707018	02/17/17	02/17/17	EPA 8021B	
Toluene	ND	0.10	mg/kg	1	1707018	02/17/17	02/17/17	EPA 8021B	
Ethylbenzene	ND	0.10	mg/kg	1	1707018	02/17/17	02/17/17	EPA 8021B	
p,m-Xylene	ND	0.20	mg/kg	1	1707018	02/17/17	02/17/17	EPA 8021B	
o-Xylene	ND	0.10	mg/kg	1	1707018	02/17/17	02/17/17	EPA 8021B	
Total Xylenes	ND	0.10	mg/kg	1	1707018	02/17/17	02/17/17	EPA 8021B	
Total BTEX	ND	0.10	mg/kg	1	1707018	02/17/17	02/17/17	EPA 8021B	
Surrogate: 4-Bromochlorobenzene-PID		101 %		50-150	1707018	02/17/17	02/17/17	EPA 8021B	
Nonhalogenated Organics by 8015									
Gasoline Range Organics (C6-C10)	ND	20.0	mg/kg	1	1707018	02/17/17	02/17/17	EPA 8015D	
Diesel Range Organics (C10-C28)	9690	1250	mg/kg	50	1708003	02/20/17	02/22/17	EPA 8015D	
Oil Range Organics (C28-C40+)	38600	2500	mg/kg	50	1708003	02/20/17	02/22/17	EPA 8015D	
Surrogate: 1-Chloro-4-fluorobenzene-FID		85.8 %		50-150	1707018	02/17/17	02/17/17	EPA 8015D	
Surrogate: n-Nonane		113 %		50-200	1708003	02/20/17	02/22/17	EPA 8015D	

Partial or incomplete reproduction of this report is prohibited, unless approved by Envirotech, Inc.

5796 US Highway 64, Farmington, NM 87401

Ph (505) 632-0615 Fx (505) 632-1865

Three Springs - 65 Mercado Street, Suite 115, Durango, CO 81301

Ph (970) 259-0615 Fr (800) 362-1879

envirotech-inc.com
laboratory@envirotech-inc.com



BP America Production Co. PO Box 22024 Tulsa OK, 74121-2024	Project Name: Sullivan GC E #1 Spill Assessment Project Number: 03143-1224 Project Manager: Felipe Aragon	Reported: 22-Feb-17 15:27
---	---	------------------------------

2a
P702026-02 (Solid)

Analyte	Reporting							
	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Volatile Organics by EPA 8021								
Benzene	ND	0.10	mg/kg	1	1707018	02/17/17	02/17/17	EPA 8021B
Toluene	ND	0.10	mg/kg	1	1707018	02/17/17	02/17/17	EPA 8021B
Ethylbenzene	ND	0.10	mg/kg	1	1707018	02/17/17	02/17/17	EPA 8021B
p,m-Xylene	ND	0.20	mg/kg	1	1707018	02/17/17	02/17/17	EPA 8021B
o-Xylene	ND	0.10	mg/kg	1	1707018	02/17/17	02/17/17	EPA 8021B
Total Xylenes	ND	0.10	mg/kg	1	1707018	02/17/17	02/17/17	EPA 8021B
Total BTEX	ND	0.10	mg/kg	1	1707018	02/17/17	02/17/17	EPA 8021B
Surrogate: 4-Bromochlorobenzene-PID		101 %		50-150	1707018	02/17/17	02/17/17	EPA 8021B
Nonhalogenated Organics by 8015								
Gasoline Range Organics (C6-C10)	ND	20.0	mg/kg	1	1707018	02/17/17	02/17/17	EPA 8015D
Diesel Range Organics (C10-C28)	ND	25.0	mg/kg	1	1708003	02/20/17	02/22/17	EPA 8015D
Oil Range Organics (C28-C40+)	ND	50.0	mg/kg	1	1708003	02/20/17	02/22/17	EPA 8015D
Surrogate: 1-Chloro-4-fluorobenzene-FID		88.8 %		50-150	1707018	02/17/17	02/17/17	EPA 8015D
Surrogate: n-Nonane		93.3 %		50-200	1708003	02/20/17	02/22/17	EPA 8015D

Partial or incomplete reproduction of this report is prohibited, unless approved by Envirotech, Inc.

5796 US Highway 64, Farmington, NM 87401

Three Springs • 65 Mercado Street, Suite 115, Durango, CO 81301

Ph (505) 632-0615 Fx (505) 632-1865

Ph (970) 259-0615 Fr (800) 362-1879

envirotech-inc.com
laboratory@envirotech-inc.com



BP America Production Co. PO Box 22024 Tulsa OK, 74121-2024	Project Name: Sullivan GC E #1 Spill Assessment Project Number: 03143-1224 Project Manager: Felipe Aragon	Reported: 22-Feb-17 15:27
---	---	------------------------------

3b

P702026-03 (Solid)

Reporting									
Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

Volatile Organics by EPA 8021

Benzene	ND	0.10	mg/kg	1	1707018	02/17/17	02/17/17	EPA 8021B	
Toluene	ND	0.10	mg/kg	1	1707018	02/17/17	02/17/17	EPA 8021B	
Ethylbenzene	ND	0.10	mg/kg	1	1707018	02/17/17	02/17/17	EPA 8021B	
p,m-Xylene	ND	0.20	mg/kg	1	1707018	02/17/17	02/17/17	EPA 8021B	
o-Xylene	ND	0.10	mg/kg	1	1707018	02/17/17	02/17/17	EPA 8021B	
Total Xylenes	ND	0.10	mg/kg	1	1707018	02/17/17	02/17/17	EPA 8021B	
Total BTEX	ND	0.10	mg/kg	1	1707018	02/17/17	02/17/17	EPA 8021B	
Surrogate: 4-Bromochlorobenzene-PID		102 %		50-150	1707018	02/17/17	02/17/17	EPA 8021B	

Nonhalogenated Organics by 8015

Gasoline Range Organics (C6-C10)	ND	20.0	mg/kg	1	1707018	02/17/17	02/17/17	EPA 8015D	
Diesel Range Organics (C10-C28)	ND	25.0	mg/kg	1	1708003	02/20/17	02/22/17	EPA 8015D	
Oil Range Organics (C28-C40+)	80.8	50.0	mg/kg	1	1708003	02/20/17	02/22/17	EPA 8015D	
Surrogate: 1-Chloro-4-fluorobenzene-FID		88.8 %		50-150	1707018	02/17/17	02/17/17	EPA 8015D	
Surrogate: n-Nonane		96.7 %		50-200	1708003	02/20/17	02/22/17	EPA 8015D	

Partial or incomplete reproduction of this report is prohibited, unless approved by Envirotech, Inc.

5796 US Highway 64, Farmington, NM 87401

Ph (505) 632-0615 Fx (505) 632-1865

Three Springs • 65 Mercado Street, Suite 115, Durango, CO 81301

Ph (970) 259-0615 Fr (800) 362-1879

envirotech-inc.com

laboratory@envirotech-inc.com



BP America Production Co. PO Box 22024 Tulsa OK, 74121-2024	Project Name: Sullivan GC E #1 Spill Assessment Project Number: 03143-1224 Project Manager: Felipe Aragon	Reported: 22-Feb-17 15:27
---	---	------------------------------

Volatile Organics by EPA 8021 - Quality Control
Envirotech Analytical Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
---------	--------	-----------------	-------	-------------	---------------	------	-------------	-----	-----------	-------

Batch 1707018 - Purge and Trap EPA 5030A

Blank (1707018-BLK1)		Prepared: 16-Feb-17 Analyzed: 17-Feb-17								
Benzene	ND	0.10	mg/kg							
Toluene	ND	0.10	"							
Ethylbenzene	ND	0.10	"							
p,m-Xylene	ND	0.20	"							
o-Xylene	ND	0.10	"							
Total Xylenes	ND	0.10	"							
Total BTEX	ND	0.10	"							
Surrogate: 4-Bromochlorobenzene-PID	7.64		"	8.00		95.5	50-150			

LCS (1707018-BS1)		Prepared: 16-Feb-17 Analyzed: 17-Feb-17								
Benzene	5.47	0.10	mg/kg	5.00		110	70-130			
Toluene	5.47	0.10	"	5.00		109	70-130			
Ethylbenzene	5.52	0.10	"	5.00		110	70-130			
p,m-Xylene	11.2	0.20	"	10.0		112	70-130			
o-Xylene	5.36	0.10	"	5.00		107	70-130			
Surrogate: 4-Bromochlorobenzene-PID	7.99		"	8.00		99.9	50-150			

Matrix Spike (1707018-MS1)		Source: P702023-01		Prepared: 16-Feb-17 Analyzed: 17-Feb-17						
Benzene	5.35	0.10	mg/kg	5.00	ND	107	54.3-133			
Toluene	5.37	0.10	"	5.00	ND	107	61.4-130			
Ethylbenzene	5.38	0.10	"	5.00	ND	108	61.4-133			
p,m-Xylene	10.9	0.20	"	10.0	ND	109	63.3-131			
o-Xylene	5.23	0.10	"	5.00	ND	105	63.3-131			
Surrogate: 4-Bromochlorobenzene-PID	8.09		"	8.00		101	50-150			

Matrix Spike Dup (1707018-MSD1)		Source: P702023-01		Prepared: 16-Feb-17 Analyzed: 17-Feb-17						
Benzene	5.31	0.10	mg/kg	5.00	ND	106	54.3-133	0.824	20	
Toluene	5.29	0.10	"	5.00	ND	106	61.4-130	1.48	20	
Ethylbenzene	5.33	0.10	"	5.00	ND	107	61.4-133	0.955	20	
p,m-Xylene	10.8	0.20	"	10.0	ND	108	63.3-131	0.807	20	
o-Xylene	5.19	0.10	"	5.00	ND	104	63.3-131	0.795	20	
Surrogate: 4-Bromochlorobenzene-PID	8.03		"	8.00		100	50-150			

Partial or incomplete reproduction of this report is prohibited, unless approved by Envirotech, Inc.

5796 US Highway 64, Farmington, NM 87401

Ph (505) 632-0615 Fx (505) 632-1865

Three Springs • 65 Mercado Street, Suite 115, Durango, CO 81301

Ph (970) 259-0615 Fr (800) 362-1879

envirotech-inc.com

laboratory@envirotech-inc.com



BP America Production Co.	Project Name:	Sullivan GC E #1 Spill Assessment	Reported: 22-Feb-17 15:27
PO Box 22024	Project Number:	03143-1224	
Tulsa OK, 74121-2024	Project Manager:	Felipe Aragon	

Nonhalogenated Organics by 8015 - Quality Control

Envirotech Analytical Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
---------	--------	-----------------	-------	-------------	---------------	------	-------------	-----	-----------	-------

Batch 1707018 - Purge and Trap EPA 5030A

Blank (1707018-BLK1)

Prepared: 16-Feb-17 Analyzed: 17-Feb-17

Gasoline Range Organics (C6-C10)	ND	20.0	mg/kg							
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.82		"	8.00		97.8	50-150			

LCS (1707018-BS1)

Prepared: 16-Feb-17 Analyzed: 17-Feb-17

Gasoline Range Organics (C6-C10)	58.6	20.0	mg/kg	60.9		96.2	70-130			
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.36		"	8.00		92.0	50-150			

Matrix Spike (1707018-MS1)

Source: P702023-01

Prepared: 16-Feb-17 Analyzed: 17-Feb-17

Gasoline Range Organics (C6-C10)	57.9	20.0	mg/kg	60.9	ND	95.1	70-130			
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.51		"	8.00		93.8	50-150			

Matrix Spike Dup (1707018-MSD1)

Source: P702023-01

Prepared: 16-Feb-17 Analyzed: 17-Feb-17

Gasoline Range Organics (C6-C10)	57.3	20.0	mg/kg	60.9	ND	94.1	70-130	1.04	20	
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.46		"	8.00		93.2	50-150			

Partial or incomplete reproduction of this report is prohibited, unless approved by Envirotech, Inc.

5796 US Highway 64, Farmington, NM 87401

Ph (505) 632-0615 Fx (505) 632-1865

Three Springs - 65 Mercado Street, Suite 115, Durango, CO 81301

Ph (970) 259-0615 Fr (800) 362-1879

envirotech-inc.com
laboratory@envirotech-inc.com



BP America Production Co. PO Box 22024 Tulsa OK, 74121-2024	Project Name: Sullivan GC E #1 Spill Assessment Project Number: 03143-1224 Project Manager: Felipe Aragon	Reported: 22-Feb-17 15:27
---	---	------------------------------

Nonhalogenated Organics by 8015 - Quality Control
Envirotech Analytical Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1708003 - DRO Extraction EPA 3570										
Blank (1708003-BLK1)				Prepared: 20-Feb-17 Analyzed: 22-Feb-17						
Diesel Range Organics (C10-C28)	ND	25.0	mg/kg							
Oil Range Organics (C28-C40+)	ND	50.0	"							
Surrogate: n-Nonane	40.1		"	50.0		80.3	50-200			
LCS (1708003-BS1)				Prepared: 20-Feb-17 Analyzed: 22-Feb-17						
Diesel Range Organics (C10-C28)	474	25.0	mg/kg	500		94.9	38-132			
Surrogate: n-Nonane	40.4		"	50.0		80.7	50-200			
Matrix Spike (1708003-MS1)				Source: P702026-02 Prepared: 20-Feb-17 Analyzed: 22-Feb-17						
Diesel Range Organics (C10-C28)	507	25.0	mg/kg	500	ND	101	38-132			
Surrogate: n-Nonane	41.7		"	50.0		83.4	50-200			
Matrix Spike Dup (1708003-MSD1)				Source: P702026-02 Prepared: 20-Feb-17 Analyzed: 22-Feb-17						
Diesel Range Organics (C10-C28)	503	25.0	mg/kg	500	ND	101	38-132	0.798	20	
Surrogate: n-Nonane	43.9		"	50.0		87.7	50-200			

Partial or incomplete reproduction of this report is prohibited, unless approved by Envirotech, Inc.

5796 US Highway 64, Farmington, NM 87401

Ph (505) 632-0615 Fx (505) 632-1865

Three Springs - 65 Mercado Street, Suite 115, Durango, CO 81301

Ph (970) 259-0615 Fr (800) 362-1879

envirotech-inc.com
laboratory@envirotech-inc.com



BP America Production Co.
PO Box 22024
Tulsa OK, 74121-2024

Project Name: Sullivan GC E #1 Spill Assessment
Project Number: 03143-1224
Project Manager: Felipe Aragon

Reported:
22-Feb-17 15:27

Notes and Definitions

DET Analyte DETECTED
ND Analyte NOT DETECTED at or above the reporting limit
NR Not Reported
dry Sample results reported on a dry weight basis
RPD Relative Percent Difference

Partial or incomplete reproduction of this report is prohibited, unless approved by Envirotech, Inc.

5796 US Highway 64, Farmington, NM 87401

Three Springs • 65 Mercado Street, Suite 115, Durango, CO 81301

Ph (505) 632-0615 Fx (505) 632-1865

Ph (970) 259-0615 Fr (800) 362-1879

envirotech-inc.com
laboratory@envirotech-inc.com

Page 1 of 1

Client: BP
 Project: Sullivan GC E&I Spill Assessment
 Sampler: Rene Green Pages
 Phone: 505 947 5660
 Email(s): rgreen@envirotech-inc.com
 Project Manager: FA/GWC

RUSH
☒ 1d
☐ 3d

Per Rene 2/21/17 TC

Lab Use Only		Analysis and Method								Lab Only	
Lab WO#											
P702026											
Job Number											
03143-1224											

Sample ID	Sample Date	Sample Time	Matrix	Containers QTY - Vol/TYPE/Preservative	GRO/DRO by 8015	BTEX by 8021	TPH by 418.1	Chloride by 300.0	TCLP Metals	CO Table 910-1	TDS	DRO by 8015	Lab Number	Correct Cont/Pres (s) Y/N
1	2/16/17	10:30	Soil	1 x 4oz Jar	✓	X						✓	1	Y
2a	1	13:40			✓	X						✓	2	
3b	1	16:00			✓	X						✓	3	

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time	Lab Use Only		
	2/16/17	17:30		2/17/15	7:42:40	**Received on Ice Y / N		
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time	T1	T2	T3
						AVG Temp °C 4.0		

Sample Matrix: S - Soil, Sd - Solid, Sg - Sludge, A - Aqueous, O - Other _____ Container Type: g - glass, p - poly/plastic, ag - amber glass

**Samples requiring thermal preservation must be received on ice the day they are sampled or received packed in ice at an avg temp above 0 but less than 6 °C on subsequent days.

☒ Sample(s) dropped off after hours to a secure drop off area. Chain of Custody

Notes/Billing Info: Sample in refrigerator, y



Analytical Report

Report Summary

Client: BP America Production Co.

Chain Of Custody Number:

Samples Received: 2/17/2017 4:40:00PM

Job Number: 03143-1224

Work Order: P702028

Project Name/Location: Sullivan GC E #1 Spill
Assessment

Report Reviewed By:

A handwritten signature in black ink, appearing to read 'Walter Hinchman'.

Walter Hinchman, Laboratory Director

Date: 2/22/17

A handwritten signature in black ink, appearing to read 'Tim Cain' with a large 'TC' monogram to the right.

Tim Cain, Quality Assurance Officer

Date: 2/22/17

The results in this report apply to the samples submitted to Envirotech's Analytical Laboratory and were analyzed in accordance with the chain of custody document supplied by you, the client, and as such are for your exclusive use only. The results in this report are based on the sample as received unless otherwise noted. Partial or incomplete reproduction of this report is prohibited, unless approved by Envirotech, Inc. If you have any questions regarding this analytical report, please don't hesitate to contact Envirotech's Laboratory Staff.



BP America Production Co.
PO Box 22024
Tulsa OK, 74121-2024

Project Name: Sullivan GC E #1 Spill Assessment
Project Number: 03143-1224
Project Manager: Felipe Aragon

Reported:
22-Feb-17 15:28

Analytical Report for Samples

Client Sample ID	Lab Sample ID	Matrix	Sampled	Received	Container
Around Skid	P702028-01A	Soil	02/17/17	02/17/17	Glass Jar, 4 oz.
Under	P702028-02A	Soil	02/17/17	02/17/17	Glass Jar, 4 oz.
4e	P702028-03A	Soil	02/17/17	02/17/17	Glass Jar, 4 oz.
8	P702028-04A	Soil	02/17/17	02/17/17	Glass Jar, 4 oz.

Partial or incomplete reproduction of this report is prohibited, unless approved by Envirotech, Inc.

5796 US Highway 64, Farmington, NM 87401

Three Springs - 65 Mercado Street, Suite 115, Durango, CO 81301

Ph (505) 632-0615 Fx (505) 632-1865

Ph (970) 259-0615 Fr (800) 362-1879

envirotech-inc.com
laboratory@envirotech-inc.com



BP America Production Co.	Project Name:	Sullivan GC E #1 Spill Assessment	Reported: 22-Feb-17 15:28
PO Box 22024	Project Number:	03143-1224	
Tulsa OK, 74121-2024	Project Manager:	Felipe Aragon	

**Around Skid
P702028-01 (Solid)**

Reporting									
Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Volatile Organics by EPA 8021									
Benzene	ND	0.10	mg/kg	1	1708008	02/21/17	02/21/17	EPA 8021B	
Toluene	ND	0.10	mg/kg	1	1708008	02/21/17	02/21/17	EPA 8021B	
Ethylbenzene	ND	0.10	mg/kg	1	1708008	02/21/17	02/21/17	EPA 8021B	
p,m-Xylene	ND	0.20	mg/kg	1	1708008	02/21/17	02/21/17	EPA 8021B	
o-Xylene	ND	0.10	mg/kg	1	1708008	02/21/17	02/21/17	EPA 8021B	
Total Xylenes	ND	0.10	mg/kg	1	1708008	02/21/17	02/21/17	EPA 8021B	
Total BTEX	ND	0.10	mg/kg	1	1708008	02/21/17	02/21/17	EPA 8021B	
Surrogate: 4-Bromochlorobenzene-PID		95.8 %		50-150	1708008	02/21/17	02/21/17	EPA 8021B	
Nonhalogenated Organics by 8015									
Gasoline Range Organics (C6-C10)	ND	20.0	mg/kg	1	1708008	02/21/17	02/21/17	EPA 8015D	CCV4
Diesel Range Organics (C10-C28)	69.7	25.0	mg/kg	1	1708010	02/21/17	02/22/17	EPA 8015D	
Oil Range Organics (C28-C40+)	171	50.0	mg/kg	1	1708010	02/21/17	02/22/17	EPA 8015D	
Surrogate: 1-Chloro-4-fluorobenzene-FID		118 %		50-150	1708008	02/21/17	02/21/17	EPA 8015D	
Surrogate: n-Nonane		84.7 %		50-200	1708010	02/21/17	02/22/17	EPA 8015D	

Partial or incomplete reproduction of this report is prohibited, unless approved by Envirotech, Inc.

5796 US Highway 64, Farmington, NM 87401

Ph (505) 632-0615 Fx (505) 632-1865

Three Springs • 65 Mercado Street, Suite 115, Durango, CO 81301

Ph (970) 259-0615 Fr (800) 362-1879

envirotech-inc.com
laboratory@envirotech-inc.com



BP America Production Co. PO Box 22024 Tulsa OK, 74121-2024	Project Name: Sullivan GC E #1 Spill Assessment Project Number: 03143-1224 Project Manager: Felipe Aragon	Reported: 22-Feb-17 15:28
---	---	------------------------------

**Under
P702028-02 (Solid)**

170228-02 (Cont.)									
Reporting									
Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Volatile Organics by EPA 8021									
Benzene	ND	0.10	mg/kg	1	1708008	02/21/17	02/21/17	EPA 8021B	
Toluene	ND	0.10	mg/kg	1	1708008	02/21/17	02/21/17	EPA 8021B	
Ethylbenzene	ND	0.10	mg/kg	1	1708008	02/21/17	02/21/17	EPA 8021B	
p,m-Xylene	ND	0.20	mg/kg	1	1708008	02/21/17	02/21/17	EPA 8021B	
o-Xylene	ND	0.10	mg/kg	1	1708008	02/21/17	02/21/17	EPA 8021B	
Total Xylenes	ND	0.10	mg/kg	1	1708008	02/21/17	02/21/17	EPA 8021B	
Total BTEX	ND	0.10	mg/kg	1	1708008	02/21/17	02/21/17	EPA 8021B	
Surrogate: 4-Bromochlorobenzene-PID		95.7 %		50-150	1708008	02/21/17	02/21/17	EPA 8021B	
Nonhalogenated Organics by 8015									
Gasoline Range Organics (C6-C10)	ND	20.0	mg/kg	1	1708008	02/21/17	02/21/17	EPA 8015D	CCV4
Diesel Range Organics (C10-C28)	7540	1250	mg/kg	50	1708010	02/21/17	02/22/17	EPA 8015D	
Oil Range Organics (C28-C40+)	29500	2500	mg/kg	50	1708010	02/21/17	02/22/17	EPA 8015D	
Surrogate: 1-Chloro-4-fluorobenzene-FID		117 %		50-150	1708008	02/21/17	02/21/17	EPA 8015D	
Surrogate: n-Nonane		85.8 %		50-200	1708010	02/21/17	02/22/17	EPA 8015D	

Partial or incomplete reproduction of this report is prohibited, unless approved by Envirotech, Inc.

5796 US Highway 64, Farmington, NM 87401

Three Springs • 65 Mercado Street, Suite 115, Durango, CO 81301

Ph (505) 632-0615 Fx (505) 632-1865

Ph (970) 259-0615 Fr (800) 362-1879

envirotech-inc.com
laboratory@envirotech-inc.com



BP America Production Co.	Project Name:	Sullivan GC E #1 Spill Assessment	Reported:
PO Box 22024	Project Number:	03143-1224	22-Feb-17 15:28
Tulsa OK, 74121-2024	Project Manager:	Felipe Aragon	

4e

P702028-03 (Solid)

Reporting									
Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Volatile Organics by EPA 8021									
Benzene	ND	0.10	mg/kg	1	1708008	02/21/17	02/21/17	EPA 8021B	
Toluene	ND	0.10	mg/kg	1	1708008	02/21/17	02/21/17	EPA 8021B	
Ethylbenzene	ND	0.10	mg/kg	1	1708008	02/21/17	02/21/17	EPA 8021B	
p,m-Xylene	ND	0.20	mg/kg	1	1708008	02/21/17	02/21/17	EPA 8021B	
o-Xylene	ND	0.10	mg/kg	1	1708008	02/21/17	02/21/17	EPA 8021B	
Total Xylenes	ND	0.10	mg/kg	1	1708008	02/21/17	02/21/17	EPA 8021B	
Total BTEX	ND	0.10	mg/kg	1	1708008	02/21/17	02/21/17	EPA 8021B	
Surrogate: 4-Bromochlorobenzene-PID		95.2 %		50-150	1708008	02/21/17	02/21/17	EPA 8021B	
Nonhalogenated Organics by 8015									
Gasoline Range Organics (C6-C10)	ND	20.0	mg/kg	1	1708008	02/21/17	02/21/17	EPA 8015D	CCV4
Diesel Range Organics (C10-C28)	ND	25.0	mg/kg	1	1708010	02/21/17	02/22/17	EPA 8015D	
Oil Range Organics (C28-C40+)	57.8	50.0	mg/kg	1	1708010	02/21/17	02/22/17	EPA 8015D	
Surrogate: 1-Chloro-4-fluorobenzene-FID		117 %		50-150	1708008	02/21/17	02/21/17	EPA 8015D	
Surrogate: n-Nonane		100 %		50-200	1708010	02/21/17	02/22/17	EPA 8015D	

Partial or incomplete reproduction of this report is prohibited, unless approved by Envirotech, Inc.

5796 US Highway 64, Farmington, NM 87401

Ph (505) 632-0615 Fx (505) 632-1865

Three Springs - 65 Mercado Street, Suite 115, Durango, CO 81301

Ph (970) 259-0615 Fr (800) 362-1879

envirotech-inc.com
laboratory@envirotech-inc.com



BP America Production Co. PO Box 22024 Tulsa OK, 74121-2024	Project Name: Sullivan GC E #1 Spill Assessment Project Number: 03143-1224 Project Manager: Felipe Aragon	Reported: 22-Feb-17 15:28
---	---	------------------------------

8

P702028-04 (Solid)

Analyte	Reporting							
	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method

Volatile Organics by EPA 8021

Benzene	ND	0.10	mg/kg	1	1708008	02/21/17	02/21/17	EPA 8021B
Toluene	ND	0.10	mg/kg	1	1708008	02/21/17	02/21/17	EPA 8021B
Ethylbenzene	ND	0.10	mg/kg	1	1708008	02/21/17	02/21/17	EPA 8021B
p,m-Xylene	ND	0.20	mg/kg	1	1708008	02/21/17	02/21/17	EPA 8021B
o-Xylene	ND	0.10	mg/kg	1	1708008	02/21/17	02/21/17	EPA 8021B
Total Xylenes	ND	0.10	mg/kg	1	1708008	02/21/17	02/21/17	EPA 8021B
Total BTEX	ND	0.10	mg/kg	1	1708008	02/21/17	02/21/17	EPA 8021B

Surrogate: 4-Bromochlorobenzene-PID 95.1 % 50-150 1708008 02/21/17 02/21/17 EPA 8021B

Nonhalogenated Organics by 8015

Gasoline Range Organics (C6-C10)	ND	20.0	mg/kg	1	1708008	02/21/17	02/21/17	EPA 8015D	CCV4
Diesel Range Organics (C10-C28)	33.3	25.0	mg/kg	1	1708010	02/21/17	02/22/17	EPA 8015D	
Oil Range Organics (C28-C40+)	57.5	50.0	mg/kg	1	1708010	02/21/17	02/22/17	EPA 8015D	

Surrogate: 1-Chloro-4-fluorobenzene-FID 114 % 50-150 1708008 02/21/17 02/21/17 EPA 8015D

Surrogate: n-Nonane 95.9 % 50-200 1708010 02/21/17 02/22/17 EPA 8015D

Partial or incomplete reproduction of this report is prohibited, unless approved by Envirotech, Inc.

5796 US Highway 64, Farmington, NM 87401

Ph (505) 632-0615 Fx (505) 632-1865

Three Springs • 65 Mercado Street, Suite 115, Durango, CO 81301

Ph (970) 259-0615 Fr (800) 362-1879

envirotech-inc.com
laboratory@envirotech-inc.com



BP America Production Co. PO Box 22024 Tulsa OK, 74121-2024	Project Name: Sullivan GC E #1 Spill Assessment Project Number: 03143-1224 Project Manager: Felipe Aragon	Reported: 22-Feb-17 15:28
---	---	------------------------------

Volatile Organics by EPA 8021 - Quality Control

Envirotech Analytical Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
---------	--------	-----------------	-------	-------------	---------------	------	-------------	-----	-----------	-------

Batch 1708008 - Purge and Trap EPA 5030A

Blank (1708008-BLK1)

Prepared & Analyzed: 21-Feb-17

Benzene	ND	0.10	mg/kg							
Toluene	ND	0.10	"							
Ethylbenzene	ND	0.10	"							
p,m-Xylene	ND	0.20	"							
o-Xylene	ND	0.10	"							
Total Xylenes	ND	0.10	"							
Total BTEX	ND	0.10	"							
Surrogate: 4-Bromochlorobenzene-PID	7.66		"	8.00		95.7	50-150			

LCS (1708008-BS1)

Prepared & Analyzed: 21-Feb-17

Benzene	5.45	0.10	mg/kg	5.00		109	70-130			
Toluene	5.36	0.10	"	5.00		107	70-130			
Ethylbenzene	5.33	0.10	"	5.00		107	70-130			
p,m-Xylene	10.6	0.20	"	10.0		107	70-130			
o-Xylene	5.22	0.10	"	5.00		104	70-130			
Surrogate: 4-Bromochlorobenzene-PID	7.76		"	8.00		97.0	50-150			

Matrix Spike (1708008-MS1)

Source: P702029-01

Prepared & Analyzed: 21-Feb-17

Benzene	5.49	0.10	mg/kg	5.00	ND	110	54.3-133			
Toluene	5.39	0.10	"	5.00	ND	108	61.4-130			
Ethylbenzene	5.34	0.10	"	5.00	ND	107	61.4-133			
p,m-Xylene	10.7	0.20	"	10.0	ND	107	63.3-131			
o-Xylene	5.23	0.10	"	5.00	ND	105	63.3-131			
Surrogate: 4-Bromochlorobenzene-PID	7.76		"	8.00		97.0	50-150			

Matrix Spike Dup (1708008-MSD1)

Source: P702029-01

Prepared & Analyzed: 21-Feb-17

Benzene	5.20	0.10	mg/kg	5.00	ND	104	54.3-133	5.57	20	
Toluene	5.08	0.10	"	5.00	ND	102	61.4-130	5.79	20	
Ethylbenzene	5.04	0.10	"	5.00	ND	101	61.4-133	5.68	20	
p,m-Xylene	10.1	0.20	"	10.0	ND	101	63.3-131	5.79	20	
o-Xylene	4.94	0.10	"	5.00	ND	98.8	63.3-131	5.75	20	
Surrogate: 4-Bromochlorobenzene-PID	7.81		"	8.00		97.7	50-150			

Partial or incomplete reproduction of this report is prohibited, unless approved by Envirotech, Inc.

5796 US Highway 64, Farmington, NM 87401

Ph (505) 632-0615 Fx (505) 632-1865

Three Springs • 65 Mercado Street, Suite 115, Durango, CO 81301

Ph (970) 259-0615 Fx (800) 362-1879

envirotech-inc.com

laboratory@envirotech-inc.com



BP America Production Co. PO Box 22024 Tulsa OK, 74121-2024	Project Name: Sullivan GC E #1 Spill Assessment Project Number: 03143-1224 Project Manager: Felipe Aragon	Reported: 22-Feb-17 15:28
---	---	------------------------------

Nonhalogenated Organics by 8015 - Quality Control

Envirotech Analytical Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1708008 - Purge and Trap EPA 5030A										
Blank (1708008-BLK1)				Prepared & Analyzed: 21-Feb-17						
Gasoline Range Organics (C6-C10)	ND	20.0	mg/kg							
Surrogate: 1-Chloro-4-fluorobenzene-FID	9.05		"	8.00		113	50-150			
LCS (1708008-BS1)				Prepared & Analyzed: 21-Feb-17						
Gasoline Range Organics (C6-C10)	73.3	20.0	mg/kg	60.9		120	70-130			
Surrogate: 1-Chloro-4-fluorobenzene-FID	9.13		"	8.00		114	50-150			
Matrix Spike (1708008-MS1)				Source: P702029-01 Prepared & Analyzed: 21-Feb-17						
Gasoline Range Organics (C6-C10)	73.8	20.0	mg/kg	60.9	ND	121	70-130			
Surrogate: 1-Chloro-4-fluorobenzene-FID	9.18		"	8.00		115	50-150			
Matrix Spike Dup (1708008-MSD1)				Source: P702029-01 Prepared & Analyzed: 21-Feb-17						
Gasoline Range Organics (C6-C10)	73.2	20.0	mg/kg	60.9	ND	120	70-130	0.817	20	
Surrogate: 1-Chloro-4-fluorobenzene-FID	9.69		"	8.00		121	50-150			

Partial or incomplete reproduction of this report is prohibited, unless approved by Envirotech, Inc.

5796 US Highway 64, Farmington, NM 87401

Three Springs • 65 Mercado Street, Suite 115, Durango, CO 81301

Ph (505) 632-0615 Fx (505) 632-1865

Ph (970) 259-0615 Fr (800) 362-1879

envirotech-inc.com

laboratory@envirotech-inc.com



BP America Production Co. PO Box 22024 Tulsa OK, 74121-2024	Project Name: Sullivan GC E #1 Spill Assessment Project Number: 03143-1224 Project Manager: Felipe Aragon	Reported: 22-Feb-17 15:28
---	---	------------------------------

Nonhalogenated Organics by 8015 - Quality Control

Envirotech Analytical Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1708010 - DRO Extraction EPA 3570										
Blank (1708010-BLK1)				Prepared: 21-Feb-17 Analyzed: 22-Feb-17						
Diesel Range Organics (C10-C28)	ND	25.0	mg/kg							
Oil Range Organics (C28-C40+)	ND	50.0	"							
Surrogate: n-Nonane	43.8		"	50.0		87.6	50-200			
LCS (1708010-BS1)				Prepared: 21-Feb-17 Analyzed: 22-Feb-17						
Diesel Range Organics (C10-C28)	498	25.0	mg/kg	500		99.6	38-132			
Surrogate: n-Nonane	42.0		"	50.0		84.0	50-200			
Matrix Spike (1708010-MS1)				Source: P702028-01		Prepared: 21-Feb-17 Analyzed: 22-Feb-17				
Diesel Range Organics (C10-C28)	556	25.0	mg/kg	500	69.7	97.2	38-132			
Surrogate: n-Nonane	47.8		"	50.0		95.6	50-200			
Matrix Spike Dup (1708010-MSD1)				Source: P702028-01		Prepared: 21-Feb-17 Analyzed: 22-Feb-17				
Diesel Range Organics (C10-C28)	559	25.0	mg/kg	500	69.7	97.9	38-132	0.660	20	
Surrogate: n-Nonane	42.7		"	50.0		85.5	50-200			

Partial or incomplete reproduction of this report is prohibited, unless approved by Envirotech, Inc.

5796 US Highway 64, Farmington, NM 87401

Ph (505) 632-0615 Fx (505) 632-1865

Three Springs - 65 Mercado Street, Suite 115, Durango, CO 81301

Ph (970) 259-0615 Fr (800) 362-1879

envirotech-inc.com
laboratory@envirotech-inc.com



BP America Production Co.
PO Box 22024
Tulsa OK, 74121-2024

Project Name: Sullivan GC E #1 Spill Assessment
Project Number: 03143-1224
Project Manager: Felipe Aragon

Reported:
22-Feb-17 15:28

Notes and Definitions

CCV4 CCV recovery was above quality control limits. This target analyte was not detected in the sample.

DET Analyte DETECTED

ND Analyte NOT DETECTED at or above the reporting limit

NR Not Reported

dry Sample results reported on a dry weight basis

RPD Relative Percent Difference

Partial or incomplete reproduction of this report is prohibited, unless approved by Envirotech, Inc.

5796 US Highway 64, Farmington, NM 87401

Three Springs • 65 Mercado Street, Suite 115, Durango, CO 81301

Ph (505) 632-0615 Fx (505) 632-1865

Ph (970) 259-0615 Fr (800) 362-1879

envirotech-inc.com
laboratory@envirotech-inc.com

Client: BP
 Project: Sullivan GC E&E Spit Assessment
 Sampler: RGR
 Phone: 505 947 5660
 Email(s): rgarcia@envirotech-inc.com
 Project Manager: GC/FA

RUSH?

☐ 1d
☐ 3d

Lab Use Only		Analysis and Method								Lab Only	
Lab WO#										Lab Number	Correct Cont/Prsry(s) Y/N
P702028											
Job Number		GRO/DRO by 8015	BTEX by 8021	TPH by 418.1	Chloride by 300.0	TCLP Metals	CO Table 910-1	TDS	GRO by 8015		
0913-1224											

Page 1 of 1

Sample ID	Sample Date	Sample Time	Matrix	Containers QTY - Vol/TYPE/Preservative	GRO/DRO by 8015	BTEX by 8021	TPH by 418.1	Chloride by 300.0	TCLP Metals	CO Table 910-1	TDS	GRO by 8015	Lab Number	Correct Cont/Prsry(s) Y/N
Around skid	2/17/17	12:30	Soil	402 Jar	X							X	1	Y
Under		12:40			X							X	2	
4e		15:30			X							X	3	
8		14:05			X							X	4	

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time	Lab Use Only	
<i>[Signature]</i>	2/17/17	16:40	<i>[Signature]</i>	2/17/17	16:40	**Received on Ice <input checked="" type="checkbox"/> Y / <input type="checkbox"/> N	
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time	T1 _____ T2 _____ T3 _____	
						AVG Temp °C <u>4.0</u>	

Sample Matrix: S - Soil, Sd - Solid, Sg - Sludge, A - Aqueous, O - Other _____ Container Type: g - glass, p - poly/plastic, ag - amber glass

**Samples requiring thermal preservation must be received on Ice the day they are sampled or received packed in Ice at an avg temp above 0 but less than 6 °C on subsequent days.

☐ Sample(s) dropped off after hours to a secure drop off area.

Chain of Custody

Notes/Billing Info:

Page 11 of 12

University of California, Los Angeles



Analytical Report

Report Summary

Client: BP America Production Co.

Chain Of Custody Number:

Samples Received: 2/20/2017 1:15:00PM

Job Number: 03143-1224

Work Order: P702030

Project Name/Location: Sullivan GC E #1 Spill
Assessment

Report Reviewed By:

A handwritten signature in blue ink, appearing to read 'Walter Hinchman'.

Date: 2/23/17

Walter Hinchman, Laboratory Director

A handwritten signature in blue ink, appearing to read 'Tim Cain'.

Date: 2/23/17

Tim Cain, Quality Assurance Officer

The results in this report apply to the samples submitted to Envirotech's Analytical Laboratory and were analyzed in accordance with the chain of custody document supplied by you, the client, and as such are for your exclusive use only. The results in this report are based on the sample as received unless otherwise noted. Partial or incomplete reproduction of this report is prohibited, unless approved by Envirotech, Inc. If you have any questions regarding this analytical report, please don't hesitate to contact Envirotech's Laboratory Staff.



BP America Production Co.
PO Box 22024
Tulsa OK, 74121-2024

Project Name: Sullivan GC E #1 Spill Assessment
Project Number: 03143-1224
Project Manager: Felipe Aragon

Reported:
23-Feb-17 10:36

Analytical Report for Samples

Client Sample ID	Lab Sample ID	Matrix	Sampled	Received	Container
9a	P702030-01A	Soil	02/20/17	02/20/17	Glass Jar, 4 oz.
10	P702030-02A	Soil	02/20/17	02/20/17	Glass Jar, 4 oz.
11	P702030-03A	Soil	02/20/17	02/20/17	Glass Jar, 4 oz.
12	P702030-04A	Soil	02/20/17	02/20/17	Glass Jar, 4 oz.

Partial or incomplete reproduction of this report is prohibited, unless approved by Envirotech, Inc.

5796 US Highway 64, Farmington, NM 87401

Three Springs • 65 Mercado Street, Suite 115, Durango, CO 81301

Ph (505) 632-0615 Fx (505) 632-1865

Ph (970) 259-0615 Fr (800) 362-1879

envirotech-inc.com
laboratory@envirotech-inc.com



BP America Production Co. PO Box 22024 Tulsa OK, 74121-2024	Project Name: Sullivan GC E #1 Spill Assessment Project Number: 03143-1224 Project Manager: Felipe Aragon	Reported: 23-Feb-17 10:36
---	---	------------------------------

9a
P702030-01 (Solid)

Reporting									
Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Volatile Organics by EPA 8021									
Benzene	ND	0.10	mg/kg	1	1708008	02/21/17	02/22/17	EPA 8021B	
Toluene	ND	0.10	mg/kg	1	1708008	02/21/17	02/22/17	EPA 8021B	
Ethylbenzene	ND	0.10	mg/kg	1	1708008	02/21/17	02/22/17	EPA 8021B	
p,m-Xylene	ND	0.20	mg/kg	1	1708008	02/21/17	02/22/17	EPA 8021B	
o-Xylene	ND	0.10	mg/kg	1	1708008	02/21/17	02/22/17	EPA 8021B	
Total Xylenes	ND	0.10	mg/kg	1	1708008	02/21/17	02/22/17	EPA 8021B	
Total BTEX	ND	0.10	mg/kg	1	1708008	02/21/17	02/22/17	EPA 8021B	
Surrogate: 4-Bromochlorobenzene-PID		94.2 %		50-150	1708008	02/21/17	02/22/17	EPA 8021B	
Nonhalogenated Organics by 8015									
Gasoline Range Organics (C6-C10)	ND	20.0	mg/kg	1	1708008	02/21/17	02/22/17	EPA 8015D	CCV4
Diesel Range Organics (C10-C28)	80.0	25.0	mg/kg	1	1708010	02/21/17	02/22/17	EPA 8015D	
Oil Range Organics (C28-C40+)	323	50.0	mg/kg	1	1708010	02/21/17	02/22/17	EPA 8015D	
Surrogate: 1-Chloro-4-fluorobenzene-FID		117 %		50-150	1708008	02/21/17	02/22/17	EPA 8015D	
Surrogate: n-Nonane		89.3 %		50-200	1708010	02/21/17	02/22/17	EPA 8015D	

Partial or incomplete reproduction of this report is prohibited, unless approved by Envirotech, Inc.

5796 US Highway 64, Farmington, NM 87401

Three Springs • 65 Mercado Street, Suite 115, Durango, CO 81301

Ph (505) 632-0615 Fx (505) 632-1865

Ph (970) 259-0615 Fr (800) 362-1879

envirotech-inc.com
laboratory@envirotech-inc.com



BP America Production Co. PO Box 22024 Tulsa OK, 74121-2024	Project Name: Sullivan GC E #1 Spill Assessment Project Number: 03143-1224 Project Manager: Felipe Aragon	Reported: 23-Feb-17 10:36
---	---	------------------------------

10
P702030-02 (Solid)

Reporting									
Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

Volatile Organics by EPA 8021

Benzene	ND	0.10	mg/kg	1	1708008	02/21/17	02/22/17	EPA 8021B	
Toluene	ND	0.10	mg/kg	1	1708008	02/21/17	02/22/17	EPA 8021B	
Ethylbenzene	ND	0.10	mg/kg	1	1708008	02/21/17	02/22/17	EPA 8021B	
p,m-Xylene	ND	0.20	mg/kg	1	1708008	02/21/17	02/22/17	EPA 8021B	
o-Xylene	ND	0.10	mg/kg	1	1708008	02/21/17	02/22/17	EPA 8021B	
Total Xylenes	ND	0.10	mg/kg	1	1708008	02/21/17	02/22/17	EPA 8021B	
Total BTEX	ND	0.10	mg/kg	1	1708008	02/21/17	02/22/17	EPA 8021B	

Surrogate: 4-Bromochlorobenzene-PID	94.2 %	50-150	1708008	02/21/17	02/22/17	EPA 8021B
-------------------------------------	--------	--------	---------	----------	----------	-----------

Nonhalogenated Organics by 8015

Gasoline Range Organics (C6-C10)	ND	20.0	mg/kg	1	1708008	02/21/17	02/22/17	EPA 8015D	CCV4
Diesel Range Organics (C10-C28)	225	25.0	mg/kg	1	1708010	02/21/17	02/22/17	EPA 8015D	
Oil Range Organics (C28-C40+)	839	50.0	mg/kg	1	1708010	02/21/17	02/22/17	EPA 8015D	

Surrogate: 1-Chloro-4-fluorobenzene-FID	118 %	50-150	1708008	02/21/17	02/22/17	EPA 8015D
---	-------	--------	---------	----------	----------	-----------

Surrogate: n-Nonane	99.8 %	50-200	1708010	02/21/17	02/22/17	EPA 8015D
---------------------	--------	--------	---------	----------	----------	-----------

Partial or incomplete reproduction of this report is prohibited, unless approved by Envirotech, Inc.

5796 US Highway 64, Farmington, NM 87401

Ph (505) 632-0615 Fx (505) 632-1865

Three Springs • 65 Mercado Street, Suite 115, Durango, CO 81301

Ph (970) 259-0615 Fr (800) 362-1879

envirotech-inc.com
laboratory@envirotech-inc.com



BP America Production Co. PO Box 22024 Tulsa OK, 74121-2024	Project Name: Sullivan GC E #1 Spill Assessment Project Number: 03143-1224 Project Manager: Felipe Aragon	Reported: 23-Feb-17 10:36
---	---	------------------------------

11
P702030-03 (Solid)

Reporting									
Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

Volatile Organics by EPA 8021

Benzene	ND	0.10	mg/kg	1	1708008	02/21/17	02/22/17	EPA 8021B	
Toluene	ND	0.10	mg/kg	1	1708008	02/21/17	02/22/17	EPA 8021B	
Ethylbenzene	ND	0.10	mg/kg	1	1708008	02/21/17	02/22/17	EPA 8021B	
p,m-Xylene	ND	0.20	mg/kg	1	1708008	02/21/17	02/22/17	EPA 8021B	
o-Xylene	ND	0.10	mg/kg	1	1708008	02/21/17	02/22/17	EPA 8021B	
Total Xylenes	ND	0.10	mg/kg	1	1708008	02/21/17	02/22/17	EPA 8021B	
Total BTEX	ND	0.10	mg/kg	1	1708008	02/21/17	02/22/17	EPA 8021B	
Surrogate: 4-Bromochlorobenzene-PID		94.3 %		50-150	1708008	02/21/17	02/22/17	EPA 8021B	

Nonhalogenated Organics by 8015

Gasoline Range Organics (C6-C10)	ND	20.0	mg/kg	1	1708008	02/21/17	02/22/17	EPA 8015D	CCV4
Diesel Range Organics (C10-C28)	26.2	25.0	mg/kg	1	1708010	02/21/17	02/22/17	EPA 8015D	
Oil Range Organics (C28-C40+)	154	50.0	mg/kg	1	1708010	02/21/17	02/22/17	EPA 8015D	
Surrogate: 1-Chloro-4-fluorobenzene-FID		118 %		50-150	1708008	02/21/17	02/22/17	EPA 8015D	
Surrogate: n-Nonane		98.9 %		50-200	1708010	02/21/17	02/22/17	EPA 8015D	

Partial or incomplete reproduction of this report is prohibited, unless approved by Envirotech, Inc.

5796 US Highway 64, Farmington, NM 87401

Ph (505) 632-0615 Fx (505) 632-1865

Three Springs • 65 Mercado Street, Suite 115, Durango, CO 81301

Ph (970) 259-0615 Fr (800) 362-1879

envirotech-inc.com
laboratory@envirotech-inc.com



BP America Production Co. PO Box 22024 Tulsa OK, 74121-2024	Project Name: Sullivan GC E #1 Spill Assessment Project Number: 03143-1224 Project Manager: Felipe Aragon	Reported: 23-Feb-17 10:36
---	---	------------------------------

12
P702030-04 (Solid)

Reporting									
Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

Volatile Organics by EPA 8021

Benzene	ND	0.10	mg/kg	1	1708008	02/21/17	02/22/17	EPA 8021B	
Toluene	ND	0.10	mg/kg	1	1708008	02/21/17	02/22/17	EPA 8021B	
Ethylbenzene	ND	0.10	mg/kg	1	1708008	02/21/17	02/22/17	EPA 8021B	
p,m-Xylene	ND	0.20	mg/kg	1	1708008	02/21/17	02/22/17	EPA 8021B	
o-Xylene	ND	0.10	mg/kg	1	1708008	02/21/17	02/22/17	EPA 8021B	
Total Xylenes	ND	0.10	mg/kg	1	1708008	02/21/17	02/22/17	EPA 8021B	
Total BTEX	ND	0.10	mg/kg	1	1708008	02/21/17	02/22/17	EPA 8021B	

Surrogate: 4-Bromochlorobenzene-PID 94.1 % 50-150 1708008 02/21/17 02/22/17 EPA 8021B

Nonhalogenated Organics by 8015

Gasoline Range Organics (C6-C10)	ND	20.0	mg/kg	1	1708008	02/21/17	02/22/17	EPA 8015D	CCV4
Diesel Range Organics (C10-C28)	230	25.0	mg/kg	1	1708010	02/21/17	02/22/17	EPA 8015D	
Oil Range Organics (C28-C40+)	837	50.0	mg/kg	1	1708010	02/21/17	02/22/17	EPA 8015D	

Surrogate: 1-Chloro-4-fluorobenzene-FID 115 % 50-150 1708008 02/21/17 02/22/17 EPA 8015D

Surrogate: n-Nonane 108 % 50-200 1708010 02/21/17 02/22/17 EPA 8015D

Partial or incomplete reproduction of this report is prohibited, unless approved by Envirotech, Inc.

5796 US Highway 64, Farmington, NM 87401

Ph (505) 632-0615 Fx (505) 632-1865

Three Springs - 65 Mercado Street, Suite 115, Durango, CO 81301

Ph (970) 259-0615 Fr (800) 362-1879

envirotech-inc.com
laboratory@envirotech-inc.com



BP America Production Co. PO Box 22024 Tulsa OK, 74121-2024	Project Name: Sullivan GC E #1 Spill Assessment Project Number: 03143-1224 Project Manager: Felipe Aragon	Reported: 23-Feb-17 10:36
---	---	------------------------------

Volatile Organics by EPA 8021 - Quality Control
Envirotech Analytical Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
---------	--------	-----------------	-------	-------------	---------------	------	-------------	-----	-----------	-------

Batch 1708008 - Purge and Trap EPA 5030A

Blank (1708008-BLK1)				Prepared & Analyzed: 21-Feb-17						
Benzene	ND	0.10	mg/kg							
Toluene	ND	0.10	"							
Ethylbenzene	ND	0.10	"							
p,m-Xylene	ND	0.20	"							
o-Xylene	ND	0.10	"							
Total Xylenes	ND	0.10	"							
Total BTEX	ND	0.10	"							
Surrogate: 4-Bromochlorobenzene-PID	7.66		"	8.00		95.7	50-150			

LCS (1708008-BS1)				Prepared & Analyzed: 21-Feb-17						
Benzene	5.45	0.10	mg/kg	5.00		109	70-130			
Toluene	5.36	0.10	"	5.00		107	70-130			
Ethylbenzene	5.33	0.10	"	5.00		107	70-130			
p,m-Xylene	10.6	0.20	"	10.0		107	70-130			
o-Xylene	5.22	0.10	"	5.00		104	70-130			
Surrogate: 4-Bromochlorobenzene-PID	7.76		"	8.00		97.0	50-150			

Matrix Spike (1708008-MS1)				Source: P702029-01		Prepared & Analyzed: 21-Feb-17				
Benzene	5.49	0.10	mg/kg	5.00	ND	110	54.3-133			
Toluene	5.39	0.10	"	5.00	ND	108	61.4-130			
Ethylbenzene	5.34	0.10	"	5.00	ND	107	61.4-133			
p,m-Xylene	10.7	0.20	"	10.0	ND	107	63.3-131			
o-Xylene	5.23	0.10	"	5.00	ND	105	63.3-131			
Surrogate: 4-Bromochlorobenzene-PID	7.76		"	8.00		97.0	50-150			

Matrix Spike Dup (1708008-MSD1)				Source: P702029-01		Prepared & Analyzed: 21-Feb-17				
Benzene	5.20	0.10	mg/kg	5.00	ND	104	54.3-133	5.57	20	
Toluene	5.08	0.10	"	5.00	ND	102	61.4-130	5.79	20	
Ethylbenzene	5.04	0.10	"	5.00	ND	101	61.4-133	5.68	20	
p,m-Xylene	10.1	0.20	"	10.0	ND	101	63.3-131	5.79	20	
o-Xylene	4.94	0.10	"	5.00	ND	98.8	63.3-131	5.75	20	
Surrogate: 4-Bromochlorobenzene-PID	7.81		"	8.00		97.7	50-150			

Partial or incomplete reproduction of this report is prohibited, unless approved by Envirotech, Inc.

5796 US Highway 64, Farmington, NM 87401

Ph (505) 632-0615 Fx (505) 632-1865

Three Springs • 65 Mercado Street, Suite 115, Durango, CO 81301

Ph (970) 259-0615 Fr (800) 362-1879

envirotech-inc.com
laboratory@envirotech-inc.com



BP America Production Co.
PO Box 22024
Tulsa OK, 74121-2024

Project Name: Sullivan GC E #1 Spill Assessment
Project Number: 03143-1224
Project Manager: Felipe Aragon

Reported:
23-Feb-17 10:36

Nonhalogenated Organics by 8015 - Quality Control

Envirotech Analytical Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1708008 - Purge and Trap EPA 5030A										
Blank (1708008-BLK1)				Prepared & Analyzed: 21-Feb-17						
Gasoline Range Organics (C6-C10)	ND	20.0	mg/kg							
Surrogate: 1-Chloro-4-fluorobenzene-FID	9.05		"	8.00		113	50-150			
LCS (1708008-BS1)				Prepared & Analyzed: 21-Feb-17						
Gasoline Range Organics (C6-C10)	73.3	20.0	mg/kg	60.9		120	70-130			
Surrogate: 1-Chloro-4-fluorobenzene-FID	9.13		"	8.00		114	50-150			
Matrix Spike (1708008-MS1)				Source: P702029-01		Prepared & Analyzed: 21-Feb-17				
Gasoline Range Organics (C6-C10)	73.8	20.0	mg/kg	60.9	ND	121	70-130			
Surrogate: 1-Chloro-4-fluorobenzene-FID	9.18		"	8.00		115	50-150			
Matrix Spike Dup (1708008-MSD1)				Source: P702029-01		Prepared & Analyzed: 21-Feb-17				
Gasoline Range Organics (C6-C10)	73.2	20.0	mg/kg	60.9	ND	120	70-130	0.817	20	
Surrogate: 1-Chloro-4-fluorobenzene-FID	9.69		"	8.00		121	50-150			

Partial or incomplete reproduction of this report is prohibited, unless approved by Envirotech, Inc.

5796 US Highway 64, Farmington, NM 87401

Three Springs • 65 Mercado Street, Suite 115, Durango, CO 81301

Ph (505) 632-0615 Fx (505) 632-1865

Ph (970) 259-0615 Fr (800) 362-1879

envirotech-inc.com
laboratory@envirotech-inc.com



BP America Production Co. PO Box 22024 Tulsa OK, 74121-2024	Project Name: Sullivan GC E #1 Spill Assessment Project Number: 03143-1224 Project Manager: Felipe Aragon	Reported: 23-Feb-17 10:36
---	---	------------------------------

Nonhalogenated Organics by 8015 - Quality Control

Envirotech Analytical Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1708010 - DRO Extraction EPA 3570										
Blank (1708010-BLK1)				Prepared: 21-Feb-17 Analyzed: 22-Feb-17						
Diesel Range Organics (C10-C28)	ND	25.0	mg/kg							
Oil Range Organics (C28-C40+)	ND	50.0	"							
Surrogate: n-Nonane	43.8		"	50.0		87.6	50-200			
LCS (1708010-BS1)				Prepared: 21-Feb-17 Analyzed: 22-Feb-17						
Diesel Range Organics (C10-C28)	498	25.0	mg/kg	500		99.6	38-132			
Surrogate: n-Nonane	42.0		"	50.0		84.0	50-200			
Matrix Spike (1708010-MS1)				Source: P702028-01		Prepared: 21-Feb-17 Analyzed: 22-Feb-17				
Diesel Range Organics (C10-C28)	556	25.0	mg/kg	500	69.7	97.2	38-132			
Surrogate: n-Nonane	47.8		"	50.0		95.6	50-200			
Matrix Spike Dup (1708010-MSD1)				Source: P702028-01		Prepared: 21-Feb-17 Analyzed: 22-Feb-17				
Diesel Range Organics (C10-C28)	559	25.0	mg/kg	500	69.7	97.9	38-132	0.660	20	
Surrogate: n-Nonane	42.7		"	50.0		85.5	50-200			

Partial or incomplete reproduction of this report is prohibited, unless approved by Envirotech, Inc.

5796 US Highway 64, Farmington, NM 87401

Three Springs - 65 Mercado Street, Suite 115, Durango, CO 81301

Ph (505) 632-0615 Fx (505) 632-1865

Ph (970) 259-0615 Fr (800) 362-1879

envirotech-inc.com
Laboratory@envirotech-inc.com



BP America Production Co.
PO Box 22024
Tulsa OK, 74121-2024

Project Name: Sullivan GC E #1 Spill Assessment
Project Number: 03143-1224
Project Manager: Felipe Aragon

Reported:
23-Feb-17 10:36

Notes and Definitions

CCV4 CCV recovery was above quality control limits. This target analyte was not detected in the sample.

DET Analyte DETECTED

ND Analyte NOT DETECTED at or above the reporting limit

NR Not Reported

dry Sample results reported on a dry weight basis

RPD Relative Percent Difference

Partial or incomplete reproduction of this report is prohibited, unless approved by Envirotech, Inc.

5796 US Highway 64, Farmington, NM 87401

Three Springs - 65 Mercado Street, Suite 115, Durango, CO 81301

Ph (505) 632-0615 Fx (505) 632-1865

Ph (970) 259-0615 Fr (800) 362-1879

envirotech-inc.com
laboratory@envirotech-inc.com

Client:

RP

Project: Sullivan Gas Com F&I Spill Assessment

Sampler: Rene Garcia Reyes

Phone: 505 947 5660

Email(s): rgarcia@envirotech-inc.com

Project Manager: GC/FA

RUSH?

1d

3d

Lab Use Only

Lab WO#

P702030

Job Number

03148-1224

Analysis and Method

Lab Only

Page 1 of 1

Sample ID	Sample Date	Sample Time	Matrix	Containers QTY - Vol/TYPE/Preservative	GRO/DRO by 8015	BTEX by 8021	TPH by 418.1	Chloride by 300.0	TCLP Metals	CO Table 910-1	TDS	ORO by 8015	Lab Number	Correct Cont/Prsry(s) Y/N
9a	2/20/17	12:00	Soil	4oz Jar	✓							✓		✓
10		12:00			✓							✓		✓
11		12:30			✓							✓		✓
12		12:30			✓							✓		✓

Relinquished by: (Signature)

Date

Time

Received by: (Signature)

Date

Time

Lab Use Only

Relinquished by: (Signature)

Date

Time

Received by: (Signature)

Date

Time

**Received on Ice Y / N

T1

T2

T3

AVG Temp °C 4.0

Sample Matrix: S - Soil, Sd - Solid, Sg - Sludge, A - Aqueous, O - Other

Container Type: g - glass, p - poly/plastic, ag - amber glass

**Samples requiring thermal preservation must be received on ice the day they are sampled or received packed in ice at an avg temp above 0 but less than 5 °C on subsequent days.

Sample(s) dropped off after hours to a secure drop off area.

Chain of Custody

Notes/Billing info:



envirotech

Analytical Laboratory

5796 US Highway 64, Farmington, NM 87401

Three Springs - 65 Mercado Street, Suite 115, Durango, CO 81301

Ph (505) 632-0615 Fx (505) 632-1865

Ph (970) 259-0615 Fr (800) 362-1879

envirotech-inc.com

laboratory@envirotech-inc.com

Page 11 of 12

APPENDIX D

Bills of Lading



MANIFEST # 56050
GENERATOR ArchRock
POINT OF ORIGIN Sullivan Gas Com E. I.
TRANSPORTER Calder Service
DATE 2-17-17 JOB # 15096-0010

By signing as the driver/transporter, I certify the material hauled from the above location has not been added to or tampered with. I certify the material is from the above mentioned Generator/Point of Origin and that no additional material has been added or mixed into the load.

DISTRIBUTION: **White** - Company Records, **Yellow** - Billing, **Pink** - Customer, **Goldenrod** - LF Copy

