

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
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Latitude 36.695171⁸ 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.

Signature:	OIL CONSERVATION DIVISION	
Printed Name: Steve Moskal	Approved by Environmental Specialist:	
Title: Field Environmental Coordinator	Approval Date: 8/29/17	Expiration Date:
E-mail Address: steven.moskal@bp.com	Conditions of Approval: -7	Attached <input checked="" type="checkbox"/>
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 black ink, appearing to read 'Isaac Garcia'.

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**

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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.

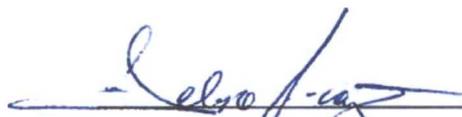
Respectfully Submitted,

ENVIROTECH, INC.



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

Reviewed by:

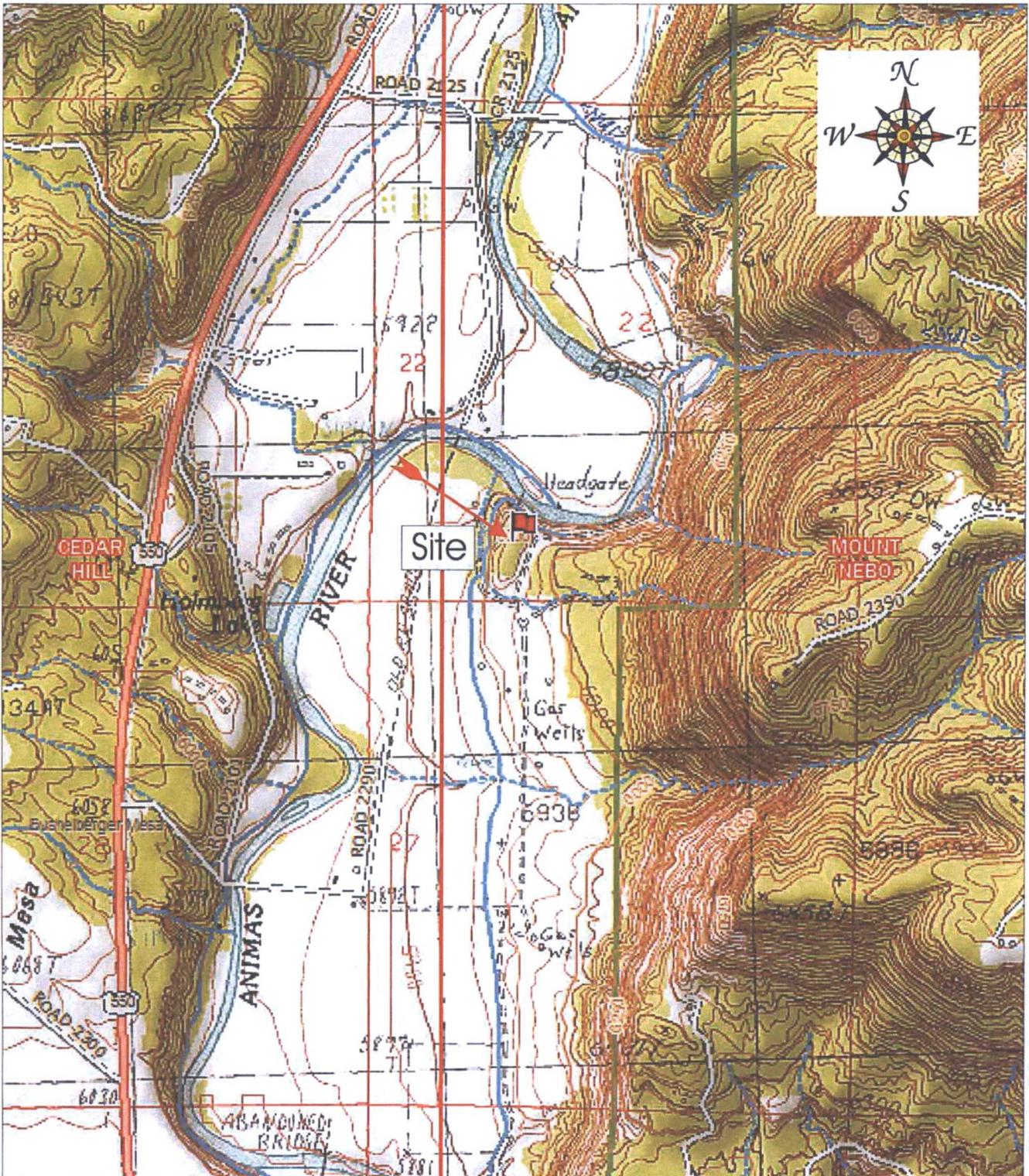


Felipe Aragon, CES
Environmental Field Coordinator
faragon@envirotech-inc.com

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'

<p>BP America Sullivan Gas Com E#1 Section 22 Township 32N Range 10W San Juan County, New Mexico</p>	 <p>5796 U.S. HIGHWAY 64 Farmington, New Mexico 87401 505.632.0615</p>	<p>Vicinity Map</p>		
<p>Project Number: 03143-1224 Date Drawn: 3/10/17</p>		<p>Figure #1</p> <table border="1"> <tr> <td data-bbox="987 1915 1193 1979"> <p>DRAWN BY: Isaac Garcia</p> </td> <td data-bbox="1193 1915 1469 1979"> <p>PROJECT MANAGER: Felipe Aragon</p> </td> </tr> </table>		<p>DRAWN BY: Isaac Garcia</p>
<p>DRAWN BY: Isaac Garcia</p>	<p>PROJECT MANAGER: Felipe Aragon</p>			

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	FIGURE NO. 2	REV
PROJECT N003143-1224		

REVISIONS

NO.	DATE	BY	DESCRIPTION
-----	------	----	-------------

MAP DRWN	IG	3/10/2017	BASE DRWN		
----------	----	-----------	-----------	--	--



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	USEPA Method	USEPA Method 8021	
				418.1 TPH (ppm)	8015 TPH (ppm)	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>	 (505) 632-0615 (800) 362-1879 5796 U.S. Hwy 64, Farmington, NM 87401	Envmtl. Spclst: <u>RGR</u>
CLIENT/JOB #: <u>03143-1224</u>		C.O.C. No: _____
START DATE: <u>2/16/17</u>		LAT: <u>N 36° 57' 56.66" N</u>
FINISH DATE: _____		LONG: <u>W 107° 52' 22.78" W</u>
Page #: <u>1 of 2</u>		

Field Report: Spill Closure Verification

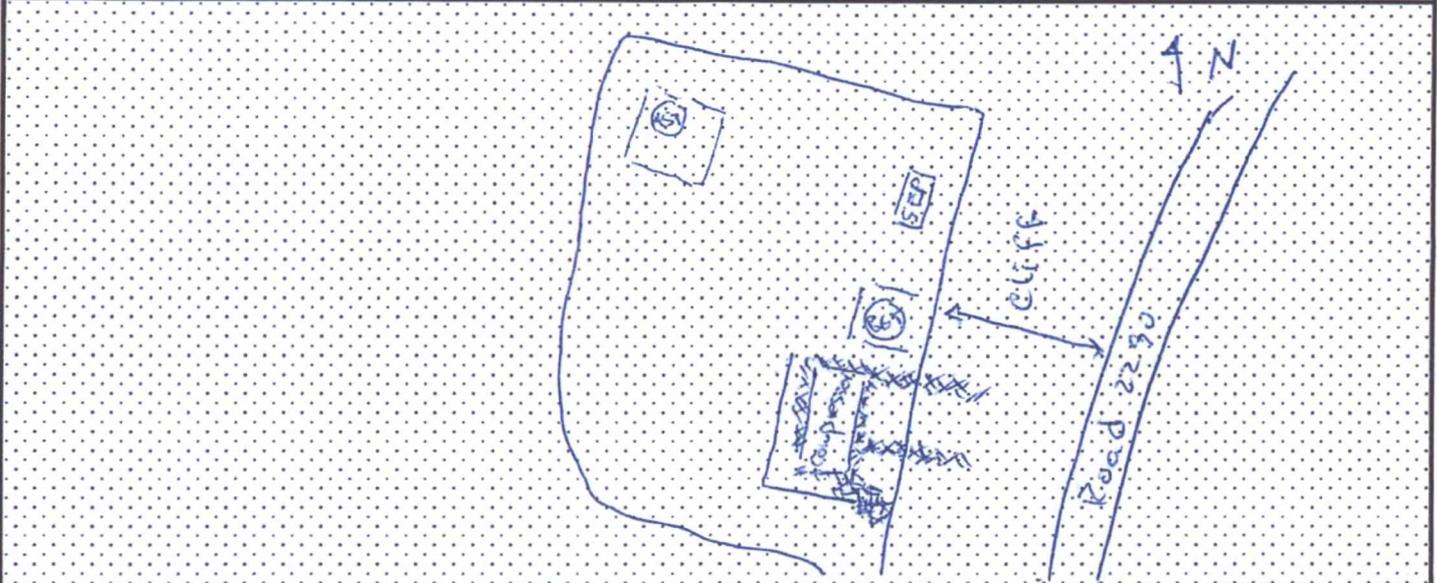
NMOCD Ranking: <u>20</u>	Depth to GW: _____	WH Protection Area: <input type="checkbox"/> No <input type="checkbox"/> Yes
NMOCD TPH Closure Std.: <u>100</u>	Distance to SW: _____	
LOCATION: Name: <u>Sullivan Gas Well E</u> Well #: <u>1</u>	API: <u>3004528641</u>	
County: <u>San Juan</u>	State: <u>New Mexico</u>	<u>N 500</u> gal/gas
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>32 N</u> RNG: <u>10 W</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</u> <u>30</u>	
Disposal Facility: <u>Land Farm 2</u>	Remediation Method: <u>Land Farm</u>	
Land Use: _____	Lease: <u>NMNM012648</u>	Land Owner: <u>Private</u>

FIELD 418.1 ANALYSIS

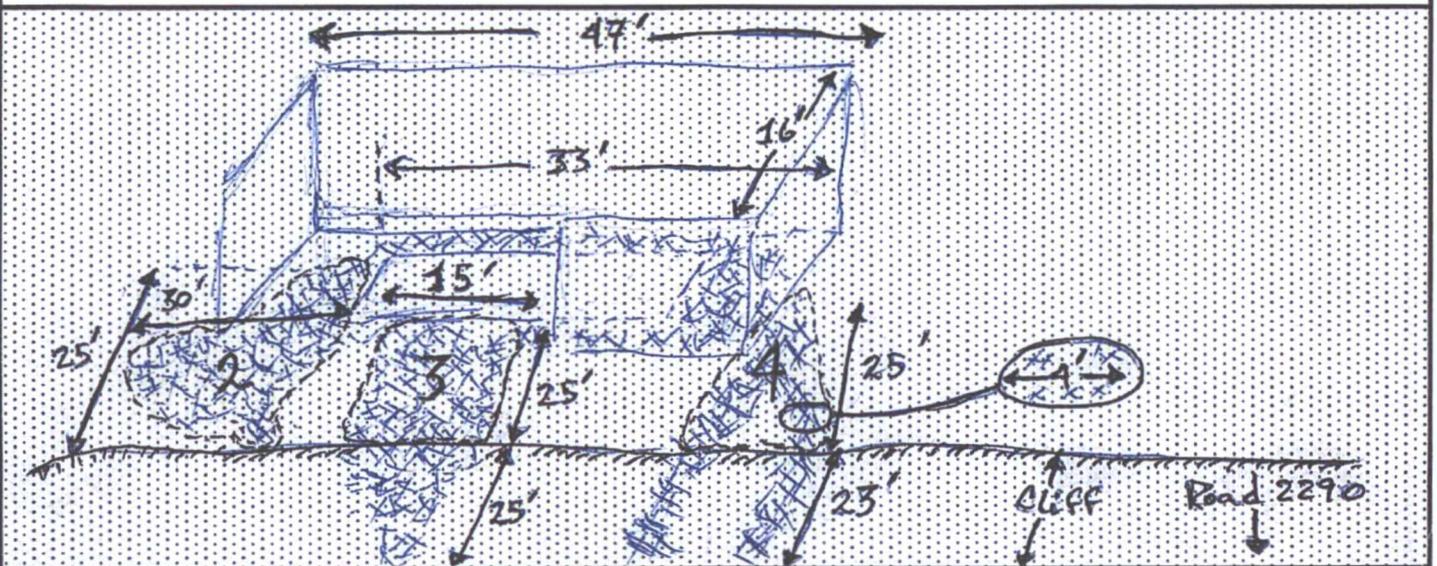
SAMPLE DESCRIPTION	TIME	SAMPLE I.D.	WEIGHT (g)	mL FREON	DILUTION	READING	CALC. ppm
<u>200 & 300 STD</u>	<u>10:20</u>	<u>stds</u>				<u>209, 450</u>	
<u>4" below skid plate</u>	<u>10:30</u>	<u>1</u>	<u>5</u>		<u>X40</u>	<u>1208</u>	
	<u>10:40</u>	<u>1</u>	<u>5</u>		<u>X80</u>	<u>930</u>	
<u>SE of skid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

OVM Results				Lab Testing		
Sample ID	Field Headspace PID (ppm)	Sample ID	Field Headspace PID (ppm)	Sample ID	Analysis Type	Time
<u>1</u>	<u>16.5</u>			<u>1</u>	<u>ORO, DRO, ORO</u>	<u>17:30</u>
<u>2</u>	<u>7.5</u>			<u>2a</u>		
<u>3</u>	<u>8.3</u>			<u>3b</u>		
<u>2a</u>	<u>3.7</u>					
<u>4</u>	<u>3.0</u>					
<u>3a</u>	<u>1.9</u>					
<u>4a</u>	<u>4.8</u>					

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>	 (505) 632-0615 (800) 362-1879 5796 U.S. Hwy 64, Farmington, NM 87401	Envmtl. Spclst: <u>Devo</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 & 1500' 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	1456
NE of skid plate 4" BGS	13:10	4c	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	7	36
NE of camp building down the 1/2" BGS	14:20	9	5	20	x4	1627	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	4c	0.7	under skid	
6	2.7			4e	
7	3.0			8	
4c	0.2				
4d	2.2				
8	0.7				

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

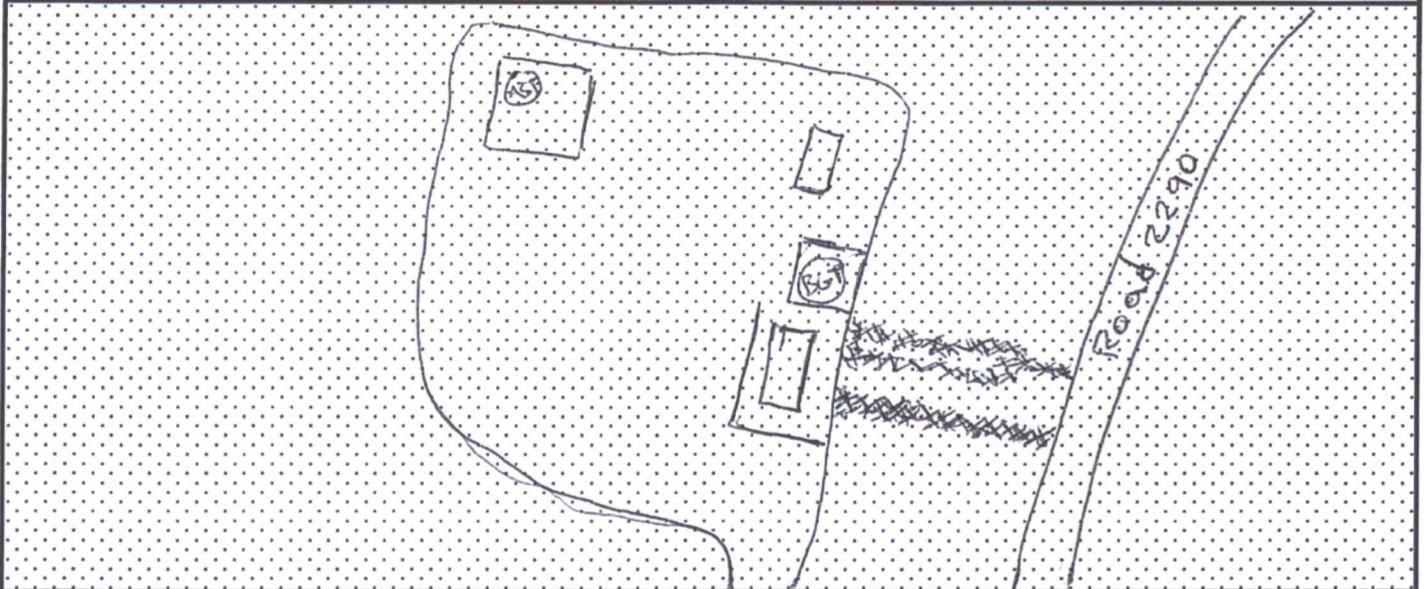
Nothing was read on the field due to lack of freon.

OVM Results

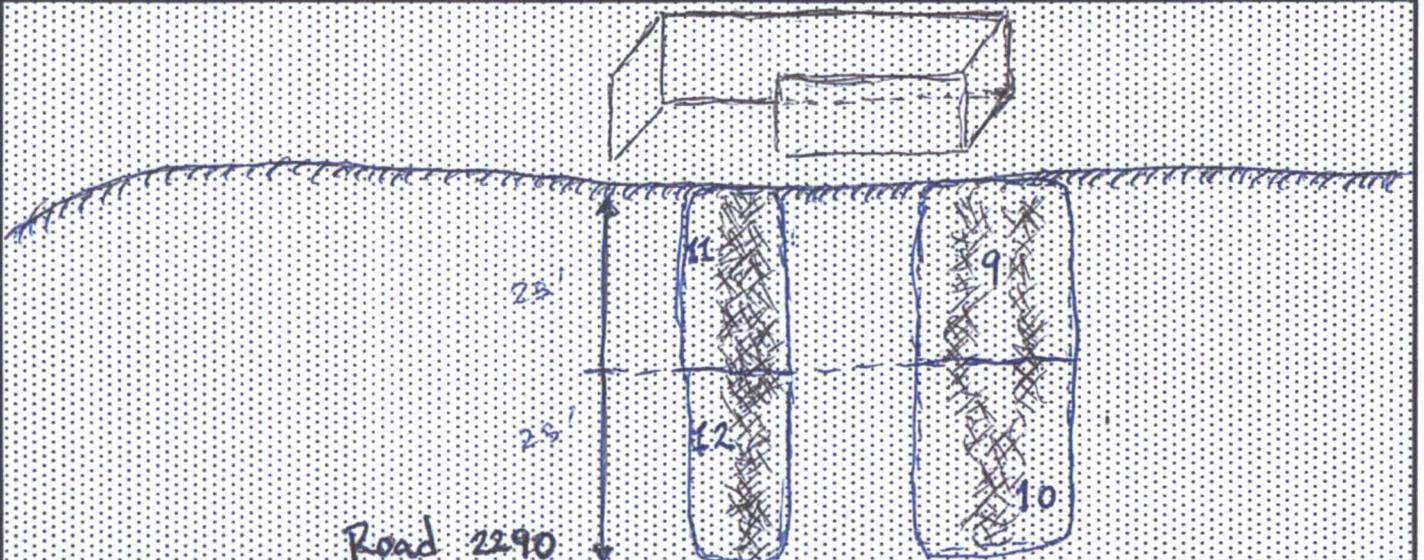
Lab Testing

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

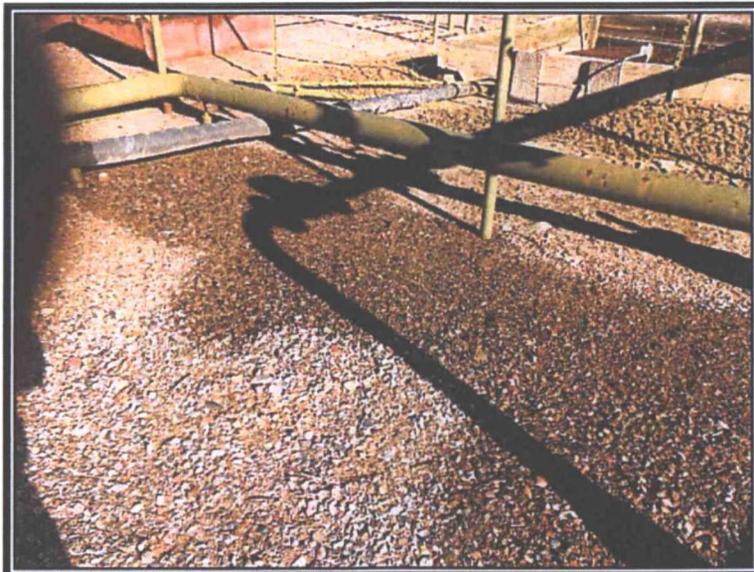
APPENDIX B

Site Photography

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

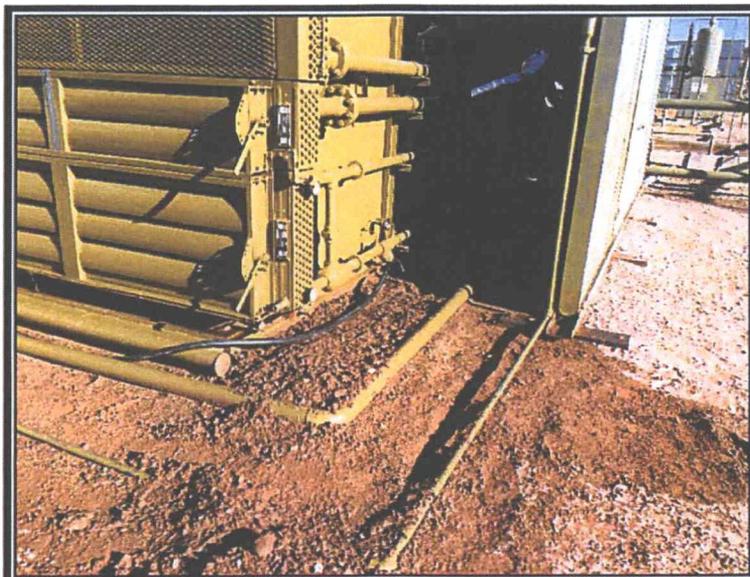


Picture 1: View of Area 2 and Area 3



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

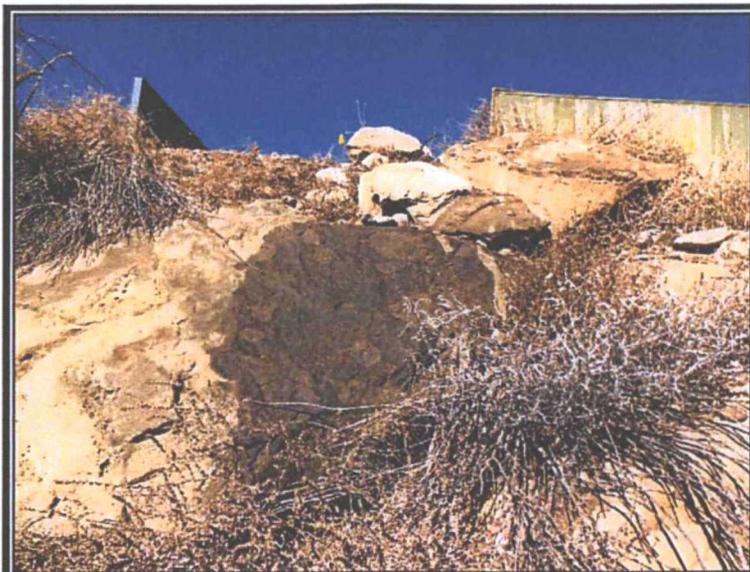


Picture 4: View of Area 8

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

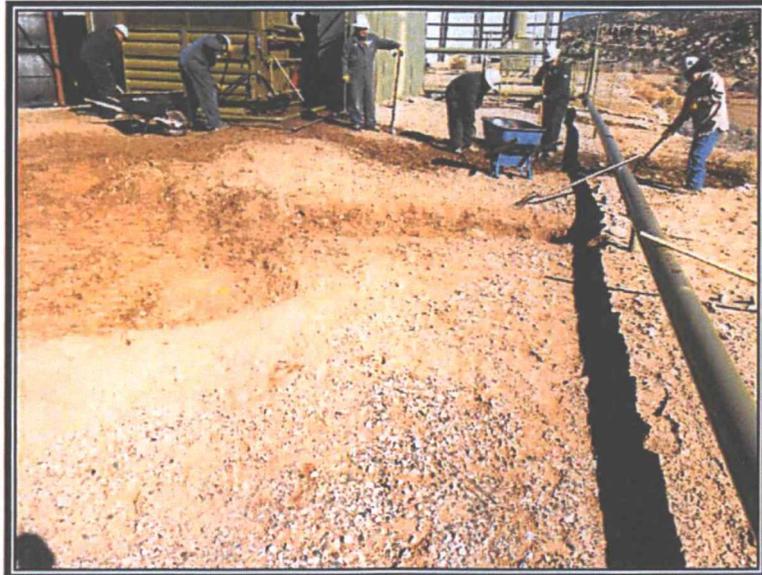


Picture 5: View of Area 9 and Area 10



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

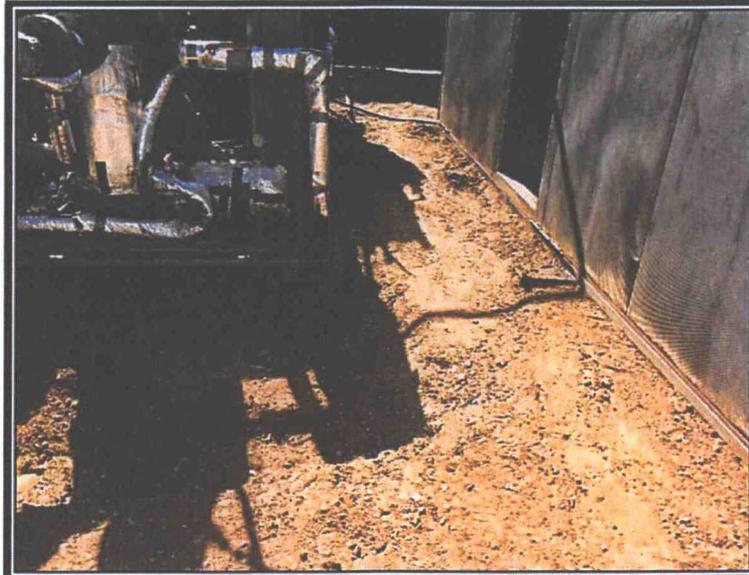


Picture 7: Cleanup Activities Area 2, Area 3, and Around Skid

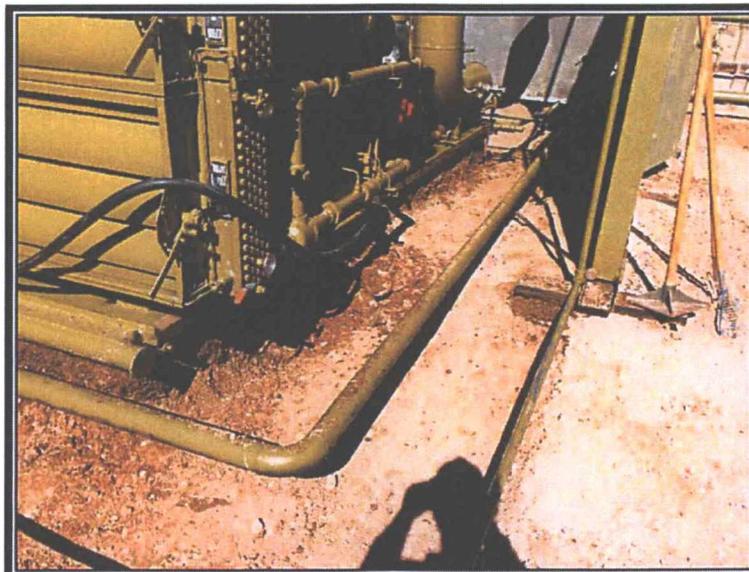


Picture 8: Cleanup of Area 4

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

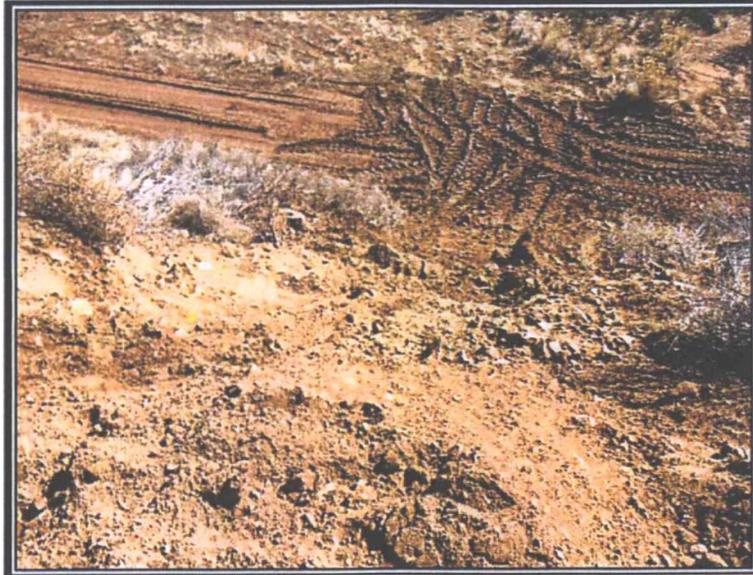


Picture 9: Cleanup of Area 6 and Area 7



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

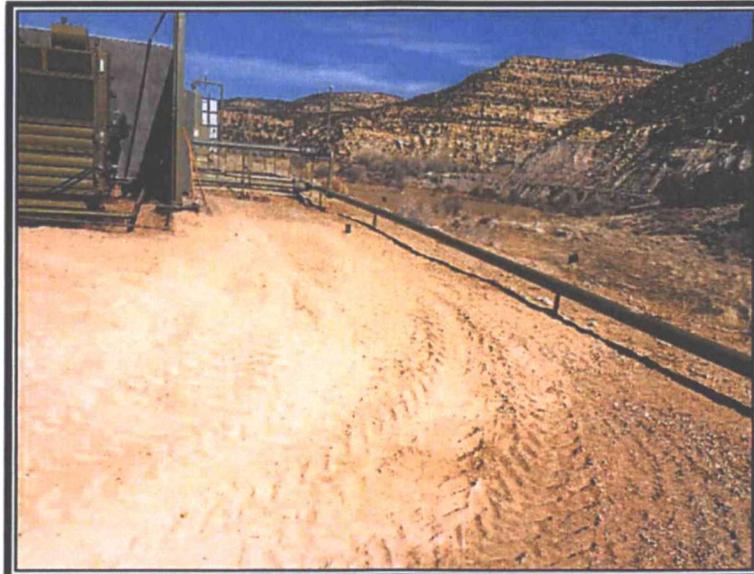


Picture 11: Cleanup of Area 9 and Area 10

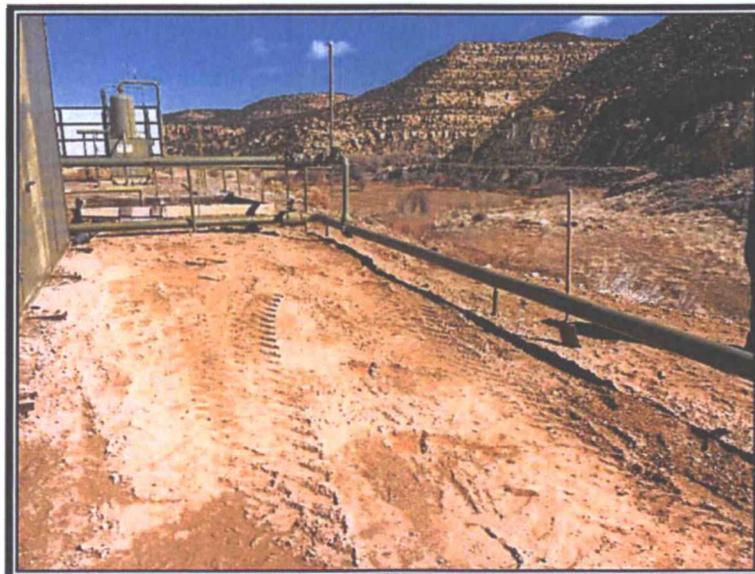


Picture 12: Cleanup of Area 11 and Area 12

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

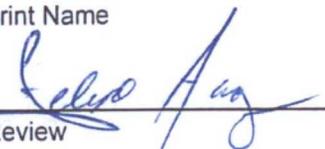
Parameter	Standard Concentration mg/L	Concentration Reading mg/L
TPH	100	209
	200	
	500	
	1000	
	5000	

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


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 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

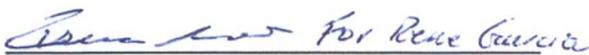
Parameter	Concentration (mg/kg)	Det. Limit (mg/kg)
Total Petroleum Hydrocarbons	4,830	5.0

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**

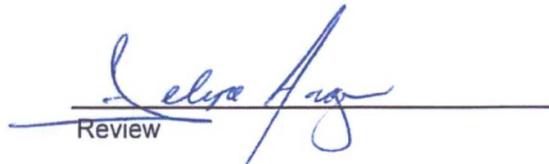
Instrument calibrated to 200 ppm standard and zeroed before each sample.



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)
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Total Petroleum Hydrocarbons	3,720	5.0
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ND = Parameter not detected at the stated detection limit.

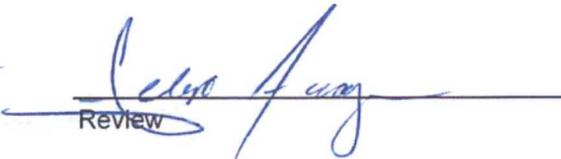
References: Method 418.1, Petroleum Hydrocarbons, Total Recoverable, Chemical Analysis of Water and Waste, USEPA Storet No. 4551, 1978.

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

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


 Analyst

Rene Garcia
 Printed


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Felipe Aragon, CES
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EPA METHOD 418.1
TOTAL PETROLEUM
HYDROCARBONS

Client: BP America Project #: 03143-1224
Sample No.: 3 Date Reported: 3/10/2017
Sample ID: Area 2 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)
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Total Petroleum Hydrocarbons	1,600	5.0
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ND = Parameter not detected at the stated detection limit.

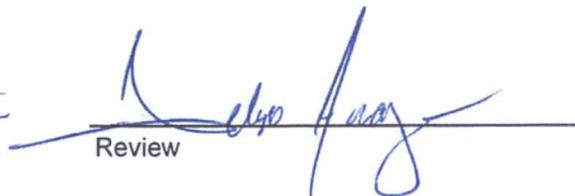
References: Method 418.1, Petroleum Hydrocarbons, Total Recoverable, Chemical Analysis of Water and Waste, USEPA Storet No. 4551, 1978.

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

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


Analyst

Rene Garcia
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EPA METHOD 418.1
TOTAL PETROLEUM
HYDROCARBONS

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

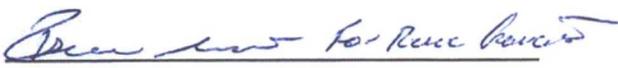
Parameter	Concentration (mg/kg)	Det. Limit (mg/kg)
Total Petroleum Hydrocarbons	732	5.0

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**

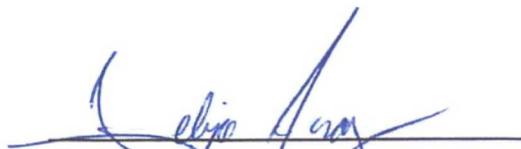
Instrument calibrated to 200 ppm standard and zeroed before each sample.



Analyst

Rene Garcia

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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)
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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
Rene Garcia
Printed


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Felipe Aragon, CES
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EPA METHOD 418.1
TOTAL PETROLEUM
HYDROCARBONS

Client: BP America Project #: 03143-1224
Sample No.: 6 Date Reported: 3/10/2017
Sample ID: Area 4 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	384	5.0

ND = Parameter not detected at the stated detection limit.

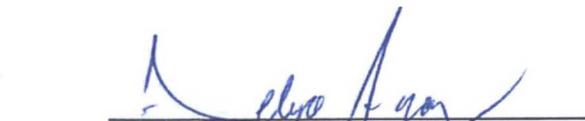
References: Method 418.1, Petroleum Hydrocarbons, Total Recoverable, Chemical Analysis of Water and Waste, USEPA Store No. 4551, 1978.

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

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


Analyst

Rene Garcia
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EPA METHOD 418.1
TOTAL PETROLEUM
HYDROCARBONS

Client: BP America Project #: 03143-1224
Sample No.: 7 Date Reported: 3/10/2017
Sample ID: Area 3A 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	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
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EPA METHOD 418.1
TOTAL PETROLEUM
HYDROCARBONS

Client: BP America Project #: 03143-1224
Sample No.: 8 Date Reported: 3/10/2017
Sample ID: Area 4A 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	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**

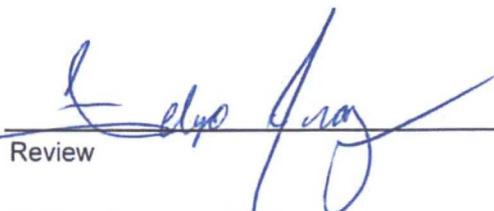
Instrument calibrated to 200 ppm standard and zeroed before each sample.



Analyst

Rene Garcia

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Review

Felipe Aragon, CES

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EPA METHOD 418.1
TOTAL PETROLEUM
HYDROCARBONS

Client: BP America Project #: 03143-1224
Sample No.: 9 Date Reported: 3/10/2017
Sample ID: Area 3B 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	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

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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.



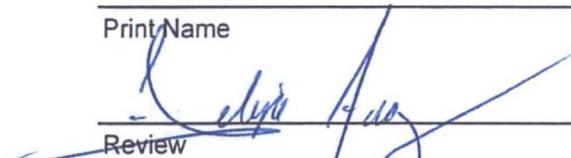
Analyst

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 Project #: 03143-1224
Sample No.: 1 Date Reported: 3/10/2017
Sample ID: Area 4B Date Sampled: 2/17/2017
Sample Matrix: Soil Date Analyzed: 2/17/2017
Preservative: Cool Analysis Needed: TPH-418.1
Condition: Cool and Intact

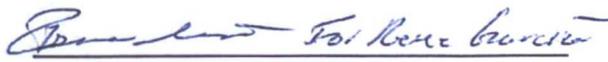
Parameter	Concentration (mg/kg)	Det. Limit (mg/kg)
Total Petroleum Hydrocarbons	1,160	5.0

ND = Parameter not detected at the stated detection limit.

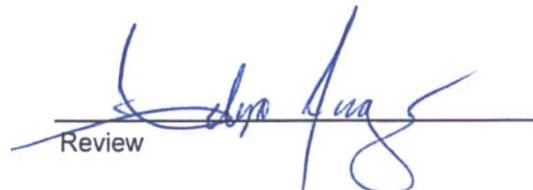
References: Method 418.1, Petroleum Hydrocarbons, Total Recoverable, Chemical Analysis of Water and Waste, USEPA Storet No. 4551, 1978.

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

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


Analyst

Rene Garcia
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Review

Felipe Aragon, CES
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EPA METHOD 418.1
TOTAL PETROLEUM
HYDROCARBONS

Client: BP America Project #: 03143-1224
Sample No.: 2 Date Reported: 3/10/2017
Sample ID: Area 5 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	1,490	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

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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

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EPA METHOD 418.1
TOTAL PETROLEUM
HYDROCARBONS

Client: BP America Project #: 03143-1224
Sample No.: 4 Date Reported: 3/10/2017
Sample ID: Area 7 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	1,440	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 Project #: 03143-1224
Sample No.: 5 Date Reported: 3/10/2017
Sample ID: Area 4C 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	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 Project #: 03143-1224
Sample No.: 6 Date Reported: 3/10/2017
Sample ID: Area 4D 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	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	Project #:	03143-1224
Sample No.:	7	Date Reported:	3/10/2017
Sample ID:	Area 8	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)
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Total Petroleum Hydrocarbons	36	5.0
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ND = Parameter not detected at the stated detection limit.

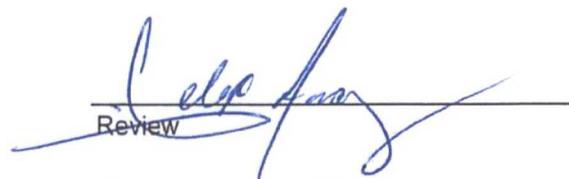
References: Method 418.1, Petroleum Hydrocarbons, Total Recoverable, Chemical Analysis of Water and Waste, USEPA Storet No. 4551, 1978.

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.: 8 Date Reported: 3/10/2017
Sample ID: Area 9 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	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 Store 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.:	9	Date Reported:	3/10/2017
Sample ID:	Area 4E	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)
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Total Petroleum Hydrocarbons	ND	5.0
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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:

Date: 2/22/17

Walter Hinchman, Laboratory Director

Date: 2/22/17

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: 22-Feb-17 15:27
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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.

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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
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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

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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
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**2a
P702026-02 (Solid)**

Analyte	Reporting								
	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	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>		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	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>		88.8 %		50-150	1707018	02/17/17	02/17/17	EPA 8015D	
<i>Surrogate: n-Nonane</i>		93.3 %		50-200	1708003	02/20/17	02/22/17	EPA 8015D	

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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
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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

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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
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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	"							
<i>Surrogate: 4-Bromochlorobenzene-PID</i>	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			
<i>Surrogate: 4-Bromochlorobenzene-PID</i>	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			
<i>Surrogate: 4-Bromochlorobenzene-PID</i>	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	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>	8.03		"	8.00		100	50-150			

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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
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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
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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			

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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
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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	"							
<i>Surrogate: n-Nonane</i>	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			
<i>Surrogate: n-Nonane</i>	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			
<i>Surrogate: n-Nonane</i>	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	
<i>Surrogate: n-Nonane</i>	43.9		"	50.0		87.7	50-200			

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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
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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

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

RUSH?
 1d
 3d

Lab Use Only		Analysis and Method							Lab Only		
Lab WO# <u>P702026</u>		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/Prsv (s) Y/N
Job Number <u>03143-1224</u>											

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	DRO by 8015	Lab Number	Correct Cont/Prsv (s) Y/N
<u>1</u>	<u>2/16/17</u>	<u>10:30</u>	<u>soil</u>	<u>1 x 4oz Jar</u>	<input checked="" type="checkbox"/>							<input checked="" type="checkbox"/>	<u>1</u>	<u>Y</u>
<u>2a</u>	<u>1</u>	<u>13:40</u>	<u>1</u>	<u>1</u>	<input checked="" type="checkbox"/>							<input checked="" type="checkbox"/>	<u>2</u>	<u>1</u>
<u>3b</u>	<u>1</u>	<u>16:00</u>	<u>1</u>	<u>1</u>	<input checked="" type="checkbox"/>							<input checked="" type="checkbox"/>	<u>3</u>	<u>1</u>

Relinquished by: (Signature) <u>[Signature]</u>	Date <u>2/16/17</u>	Time <u>17:30</u>	Received by: (Signature) <u>[Signature]</u>	Date <u>2/17/15</u>	Time <u>7:42 am</u>	Lab Use Only **Received on Ice Y / 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: Sample in refrigerator, in

Page 10 of 11

Per Rene 2/21/17 TC

Client: BP
 Project: Sullivan GC E#I Spill Assessment
 Sampler: Rene Garcia Rojas
 Phone: 505 947 5660
 Email(s): rgarcia@envirotech-inc.com
 Project Manager: FA/GWC

RUSH? 1d
 3d

Lab Use 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 Only	
													Lab Number	Correct Cont/Pres (s) Y/N
<u>1</u>	<u>2/16/17</u>	<u>10:30</u>	<u>soil</u>	<u>1 x 4oz Jar</u>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>						<input checked="" type="checkbox"/>	<u>1</u>	<u>Y</u>
<u>2a</u>	<u>1</u>	<u>13:40</u>	<u>1</u>	<u>1</u>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>						<input checked="" type="checkbox"/>	<u>2</u>	<u>1</u>
<u>3b</u>	<u>1</u>	<u>16:00</u>	<u>1</u>	<u>1</u>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>						<input checked="" type="checkbox"/>	<u>3</u>	<u>1</u>

Relinquished by: (Signature) <i>[Signature]</i>	Date <u>2/16/17</u>	Time <u>17:30</u>	Received by: (Signature) <i>[Signature]</i>	Date <u>2/17/15</u>	Time <u>7:42:00</u>	Lab Use Only **Received on Ice Y / N	
Relinquished by: (Signature) <i>[Signature]</i>	Date	Time	Received by: (Signature)	Date	Time	T1	T2
						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: Sample in refrigerator, in



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:

Date: 2/22/17

Walter Hinchman, Laboratory Director

Date: 2/22/17

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: 22-Feb-17 15:28
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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.

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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
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**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

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**Under
P702028-02 (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	02/21/17	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	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>		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	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>		117 %		50-150	1708008	02/21/17	02/21/17	EPA 8015D	
<i>Surrogate: n-Nonane</i>		85.8 %		50-200	1708010	02/21/17	02/22/17	EPA 8015D	

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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
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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

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8
P702028-04 (Solid)

Analyte	Reporting								Notes	
	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		
<i>Surrogate: 4-Bromochlorobenzene-PID</i>										
		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		
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>										
		114 %		50-150	1708008	02/21/17	02/21/17	EPA 8015D		
<i>Surrogate: n-Nonane</i>										
		95.9 %		50-200	1708010	02/21/17	02/22/17	EPA 8015D		

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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
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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
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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			

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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
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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			

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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
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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			

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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
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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

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Client: BP
 Project: Sullivan GC Eff Eff Spill 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# P702028		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
Job Number 03143-1224											

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	ORO by 8015	Lab Number	Correct Cont/Prsry(s) Y/N
Around skid	2/17/17	12:30	soil	4oz 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) <i>RGR</i>	Date 2/17/17	Time 16:40	Received by: (Signature) <i>[Signature]</i>	Date 2/17/17	Time 16:40	Lab Use Only **Received on Ice <input checked="" type="checkbox"/> / 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:

Client: BP
 Project: Sullivan GC Eff Spill Assessment
 Sampler: RCP
 Phone: 505 947 9660
 Email(s): rgarcia@envirotech-inc.com
 Project Manager: GC/FA

RUSH?
 1d
 3d

per Rene 2/21/17 TC

Lab Use Only		Analysis and Method						Lab Only
Lab WO#								Lab Number
PT02028								
Job Number		GRO/DRO by 8015	BTEX by 8021	TPH by 418.1	Chloride by 300.0	TCLP Metals	CO Table 910-1	Correct Cont/Prsn(s) Y/N
03143-1224								

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	ORO by 8015	Lab Number	Correct Cont/Prsn(s) Y/N
Around skid	2/17/17	12:30	soil	4oz Jar	X	X						X	1	Y
Under		2:40			X	X	<i>per Rene</i>					X	2	
4e		15:30			X	X	<i>2/21/17 TC</i>					X	3	
8		14:05			X	X						X	4	

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

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 12 of 12



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:

Date: 2/23/17

Walter Hinchman, Laboratory Director

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
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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.

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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
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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

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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
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10
P702030-02 (Solid)

Analyte	Result	Reporting			Batch	Prepared	Analyzed	Method	Notes
		Limit	Units	Dilution					
Volatile Organics by EPA 8021									
Benzene	ND	0.10	mg/kg	1	1708008	02/21/17	02/22/17	EPA 8021B	
Toluenc	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-Xylenc	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-FID		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	

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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
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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	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>		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	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>		118 %		50-150	1708008	02/21/17	02/22/17	EPA 8015D	
<i>Surrogate: n-Nonane</i>		98.9 %		50-200	1708010	02/21/17	02/22/17	EPA 8015D	

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12
P702030-04 (Solid)

Analyte	Reporting									
	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		
<i>Surrogate: 4-Bromochlorobenzene-PID</i>		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		
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>		115 %		50-150	1708008	02/21/17	02/22/17	EPA 8015D		
<i>Surrogate: n-Nonane</i>		108 %		50-200	1708010	02/21/17	02/22/17	EPA 8015D		

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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
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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			

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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
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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			

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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
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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			

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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
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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

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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		Analysis and Method							Lab Only	
Lab WO# P702030									Lab Number	Correct Cont/Prsry(s) Y/N
Job Number 03148-1224		GRO/DRO by 8015	BTEX by 8021	TPH by 418.1	Chloride by 300.0	TCLP Metals	CO Table 910-1	TDS		

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) <i>[Signature]</i>	Date 2/20/17	Time 13:15	Received by: (Signature) <i>[Signature]</i>	Date 2-20-17	Time 13:15	Lab Use Only		
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time	**Received on Ice <input checked="" type="checkbox"/> Y <input type="checkbox"/> N		
						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 5 °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

Client: BP
 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

per DMP 2/21/17 TC

Lab Use Only		Analysis and Method							Lab Only	
Lab WO# P702030									Lab Number	Correct Cont/Prs V (S) Y/N
Job Number 03148-1224		GRO/DRO by 8015	BTEX by 8021	TPH by 418.1	Chloride by 300.0	TCLP Metals	CO Table 910-1	TDS	ORO by 805	

Page 1 of 1

Sample ID	Sample Date	Sample Time	Matrix	Containers QTY - Vol/TYP/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 805	Lab Number	Correct Cont/Prs V (S) Y/N
9a	2/20/17	12:00	Soil	4oz Jar	✓	X						✓		✓
10		12:00			✓	X						✓		✓
11		12:30			✓	X						✓		✓
12		12:30			✓	X						✓		✓

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Relinquished by: (Signature) <i>[Signature]</i>	Date 2/20/17	Time 13:15	Received by: (Signature) <i>[Signature]</i>	Date 2.20.17	Time 13:15	Lab Use Only **Received on Ice Y / 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:

APPENDIX D

Bills of Lading



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Bill of Lading

MANIFEST # 56045
GENERATOR Arch Rock
POINT OF ORIGIN Sullivan Gas com El
TRANSPORTER CAUDER
DATE 2-14-17 JOB # 1506-001D

PHONE: (505) 632-0615 • 5796 U.S. HIGHWAY 64 • FARMINGTON, NEW MEXICO 87401

Table with columns: LOAD NO., COMPLETE DESCRIPTION OF SHIPMENT (DESTINATION, MATERIAL, GRID, YDS, BBLS), TRANSPORTING COMPANY (TKT#, TRK#, TIME, DRIVER SIGNATURE). Contains handwritten entries for two loads.

RESULTS section with fields for CHLORIDE TEST, PAINT FILTER TEST, LANDFARM EMPLOYEE signature, and NOTES.

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.

Generator Onsite Contact _____ Phone _____

Signatures required prior to distribution of the legal document. DISTRIBUTION: White - Company Records, Yellow - Billing, Pink - Customer, Goldenrod - LF Copy



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Bill of Lading

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

PHONE: (505) 632-0615 • 5796 U.S. HIGHWAY 64 • FARMINGTON, NEW MEXICO 87401

Table with columns: LOAD NO., COMPLETE DESCRIPTION OF SHIPMENT (DESTINATION, MATERIAL, GRID, YDS, BBLs), TRANSPORTING COMPANY (TKT#, TRK#, TIME, DRIVER SIGNATURE). Contains handwritten entries for two loads of LFII.5 material.

RESULTS section containing Chloride Test (< 323) and Paint Filter Test (1), Landfarm Employee signature (Gay Robinson EL), and Certification of above receipt & placement.

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.

Generator Onsite Contact _____ Phone _____

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Bill of Lading

MANIFEST # 56055
GENERATOR Archrock
POINT OF ORIGIN Sullivan Gas Com E 1
TRANSPORTER Calder service
DATE 2-20-17 JOB # 15096-0010

PHONE: (505) 632-0615 • 5796 U.S. HIGHWAY 64 • FARMINGTON, NEW MEXICO 87401

LOAD NO.	COMPLETE DESCRIPTION OF SHIPMENT					TRANSPORTING COMPANY			
	DESTINATION	MATERIAL	GRID	YDS	BBLs	TKT#	TRK#	TIME	DRIVER SIGNATURE
1	LF II.5-	Cont soil	J-18	6.			329	8:38	<i>[Signature]</i>
2	" "	" "	J-18	10			329	12:55	<i>[Signature]</i>
3.	LF II.5	Cont. Soil	J-18	10			329	15:35	<i>[Signature]</i>
				<u>26</u>					
RESULTS		LANDFARM EMPLOYEE		NOTES					
< 303	CHLORIDE TEST	1	<i>Cecily Robinson</i> ^{EL}						
	PAINT FILTER TEST	1	Certification of above receipt & placement						

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.

Generator Onsite Contact _____ Phone _____

Signatures required prior to distribution of the legal document. DISTRIBUTION: White - Company Records, Yellow - Billing, Pink - Customer, Goldenrod - LF Copy