

District I  
1625 N. French Dr., Hobbs, NM 88240  
District II  
1301 W. Grand Avenue, 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 October 10, 2003

Submit 2 Copies to appropriate  
District Office in accordance  
with Rule 116 on back  
side of form

### Release Notification and Corrective Action

#### OPERATOR

☒ Initial Report ☐ Final Report

Name of Company	<b>ConocoPhillips Company</b>	Contact	<b>Kelsi Gurvitz</b>
Address	<b>3401 E. 30<sup>th</sup> St., Farmington, NM 87402</b>	Telephone No.	<b>505-599-3403</b>
Facility Name	<b>San Juan 29-6 Unit #87</b>	Facility Type	<b>Gas Well</b>
Surface Owner	<b>Federal</b>	Mineral Owner	<b>Federal</b>
		Lease No.	<b>NM-03471-A</b>
		<b>API # 300-39-07492</b>	

#### LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
<b>H</b>	<b>33</b>	<b>T29N</b>	<b>R06W</b>	<b>1500'</b>	<b>North</b>	<b>880'</b>	<b>East</b>	<b>Rio Arriba</b>

Latitude **36.68523° N** Longitude **107.4618° W**

#### NATURE OF RELEASE

Type of Release - <b>Produced Water &amp; Condensate</b>	Volume of Release - <b>112 BBLS</b>	Volume Recovered - <b>0 BBLS</b>
Source of Release: <b>Production Tank at the Drain Valve</b>	Date and Hour of Occurrence <b>11/30/09 - unknown</b>	Date and Hour of Discovery <b>11/30/09 - 10:30 a.m.</b>
Was Immediate Notice Given? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom? <b>Brandon Powell: NMOCD (via phone message and follow-up email)</b> <b>Kevin Schneider: BLM (via phone message and follow-up email)</b> <b>RCVD DEC 16 '09</b>	
By Whom? <b>Kelsi Gurvitz</b>	Date and Hour - <b>11/30/09 4:00 p.m.</b>	<b>OIL CONS. DIV.</b>
Was a Watercourse Reached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse. <b>DIST. 3</b>	

If a Watercourse was Impacted, Describe Fully.\*

Describe Cause of Problem and Remedial Action Taken.\* **On November 30, 2009, the production tank began to release fluids as the drain valve was broken due to a freeze. Upon discovery, the well was shut in.**

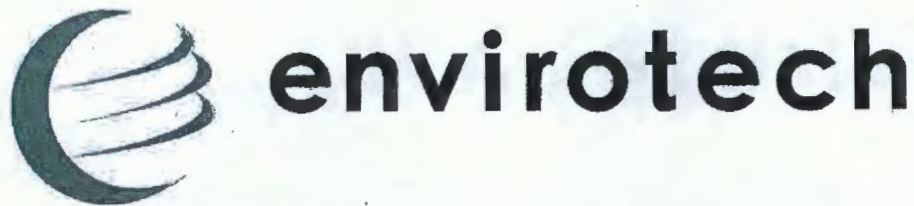
Describe Area Affected and Cleanup Action Taken.\* **All fluid was contained within the berm. No fluid was recovered. COPC will excavate impacted soil and complete confirmation sampling.**

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: <i>Kelsi Gurvitz</i>	<b>OIL CONSERVATION DIVISION</b>	
Printed Name: <b>Kelsi Gurvitz</b>	Approved by District Supervisor: <i>Bob Bell</i> For: <i>CP</i>	
Title: <b>Environmental Consultant</b>	Approval Date: <i>1-6-10</i>	Expiration Date:
E-mail Address: <b>kelsi.m.gurvitz@conocophillips.com</b>	Conditions of Approval:	Attached <input type="checkbox"/>
Date: <b>12/14/09</b> Phone: <b>505-599-3403</b>		

\* Attach Additional Sheets If Necessary

*N Rnd 1000734695*



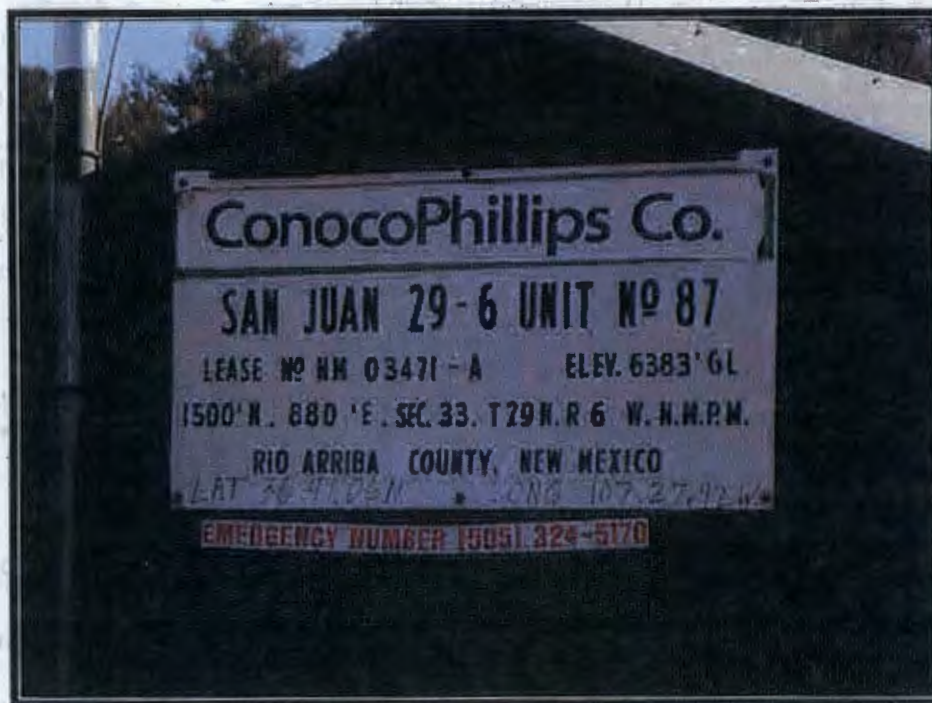
## SPILL CLOSURE REPORT

LOCATED AT:

CONOCOPHILLIPS  
SAN JUAN 29-6 #87 WELL SITE  
SECTION 33, TOWNSHIP 29N, RANGE 6W  
RIO ARriba COUNTY, NEW MEXICO

CONTRACTED BY:

CONOCOPHILLIPS  
MS. KELSIE GURVITZ  
3401 EAST 30<sup>TH</sup> STREET  
FARMINGTON, NM 87401



PROJECT NO. 96052-1631  
DECEMBER 2009



# envirotech

January 28, 2010

Project No. 96052-1631

Ms. Kelsi Gurvitz  
ConocoPhillips  
3401 East 30<sup>th</sup> Street  
Farmington, NM 87401

Phone: (505) 599-3403

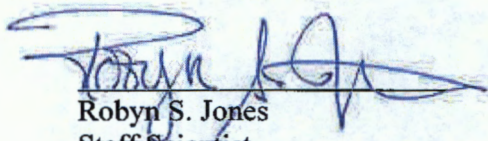
**RE: SPILL CLOSURE REPORT FOR THE SAN JUAN 29-6 #87 WELL SITE  
SECTION 33, TOWNSHIP 29N, RANGE 6W, RIO ARriba COUNTY, NEW MEXICO**

Dear Ms. Gurvitz,

Enclosed please find the *Spill Closure Report* detailing closure activities conducted for a condensate spill located at the San Juan 29-6 #87 well site located in Section 33, Township 29N, Range 6W, Rio Arriba 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.**



Robyn S. Jones  
Staff Scientist  
[rjones@envirotech-inc.com](mailto:rjones@envirotech-inc.com)

Enclosures: Spill Closure Report

Cc: Client File No. 96052

**CONOCOPHILLIPS  
SPILL CLOSURE REPORT  
SAN JUAN 29-6 #87 WELL SITE  
SECTION 33, TOWNSHIP 29N, RANGE 6W  
RIO ARIBBA COUNTY, NEW MEXICO**

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## INTRODUCTION

Envirotech, Inc. of Farmington, New Mexico, was contracted by ConocoPhillips to assess a condensate spill located at the San Juan 29-6 #87 well site located in Section 33, Township 29N, Range 6W, Rio Arriba County, New Mexico; see Figure 1, Vicinity Map. Approximately 97 barrels of condensate was released from an above ground storage tank (AST) on location; see Figure 2, Site Map. The scope of work included sample collection, field and laboratory analysis, documentation and reporting.

## ACTIVITIES PERFORMED

On November 30, 2009, Envirotech, Inc. arrived on-site to assess the spill and collect samples for spill delineation. Upon arrival, a brief site assessment was conducted. Due to a wash being located within 200 feet of the well site and a depth to groundwater between 50 and 100 feet below ground surface, the cleanup standard for the site was determined to be 100 ppm total petroleum hydrocarbons (TPH) and 100 ppm organic vapors, pursuant to New Mexico Oil Conservation Division (NMOCD) Guidelines for Remediation of Leaks, Spills, and Releases.

Envirotech, Inc. personnel collected five (5), five (5)-point composite soil samples from the spill area; see enclosed **Figure 2, Site Map – Spill Assessment**. One (1) composite sample was collected from the surface within the below grade tank (BGT) berm, one (1) composite sample was collected from within the AST #1 berm, one (1) composite sample was collected from within the AST #2 berm, one (1) composite sample was collected from the suspected contaminated area outside of the bermed area, and one (1) composite sample was collected from outside of the visually contaminated area. The samples were analyzed in the field for total petroleum hydrocarbons (TPH) via USEPA Method 418.1 and for organic vapors using a Photo-Ionization Detector (PID). The sample outside of the visually contaminated area returned results below the NMOCD regulatory standards of 100 ppm TPH and 100 ppm organic vapors; however, all other samples returned results above 100 ppm TPH and 100 ppm organic vapors; see **Appendix A, Analytical Results** and **Table 1, Summary of Analytical Results**. An additional four (4) samples were collected from the spill area using a hand auger. One (1) sample was collected from the center at 5' below ground surface (BGS) (Center 1) where auger refusal was encountered, one (1) sample was collected from the center at 10' BGS (Center 2) where auger refusal was encountered, one (1) sample was collected from beneath the BGT at 1' BGS, and one (1) sample was collected from beneath the AST #2 at 1' BGS; see enclosed **Figure 2, Site Map – Spill Assessment**. The samples collected were analyzed in the field for TPH via USEPA Method 418.1 and for organic vapors using a PID. The Center 1 sample returned results above 100 ppm organic vapors. Center 1 sample was not analyzed for TPH because of a high organic vapors reading and the collection of Center 2 sample at a greater depth. All other samples collected returned results above 100 ppm organic vapors. The sample collected from beneath the BGT returned results below 100 ppm TPH; however all other samples returned results above 100 ppm TPH; see **Appendix A, Analytical Results** and **Table 1, Summary of Analytical Results**. The area of contamination was determined to be approximately 70' x 60' x 1'-10' deep. Envirotech, Inc. recommended that approximately two (2) feet of contaminated soil be excavated from around the BGT, AST #2, and the contaminated area outside of the berm.

On December 16, 2009, Envirotech, Inc. personnel returned to site to perform confirmation sampling activities. Prior to Envirotech's arrival, M&M Trucking excavated the area of release to approximately 99' x 50' x 5'-13' deep, where sandstone was encountered at the bottom of the excavation. Five (5) samples were collected from the main excavation; see **Figure 3, Site Map-Confirmation Sampling**. One (1) composite sample was collected from each of the four (4) walls, and one (1) composite sample was collected from the sandstone floor of the excavation at approximately 13 feet BGS. The samples were analyzed in the field for TPH using USEPA Method 418.1 and for organic vapors using a PID. The samples collected from each of the four (4) walls were all below the regulatory standard of 100 ppm TPH and 100 ppm organic vapors; see **Table 1, Analytical Results** and **Appendix A, Analytical Results**. The sample collected from the sandstone bottom was above the regulatory standards of 100 ppm TPH and 100 ppm organic vapors; see **Table 1, Analytical Results** and **Appendix A, Analytical Results**. The sample collected from the sandstone bottom was placed into a four (4)-ounce glass jar, capped headspace free, and transported on ice under chain of custody to Envirotech's laboratory for analysis for benzene and BTEX using USEPA Method 8021 and TPH via USEPA Method 8015. The sample returned results below the regulatory standard of 10 ppm benzene, but above regulatory standard of 100 ppm TPH, 100 ppm organic vapor, and 50 ppm BTEX; however, due to the reach of maximum reasonable extents, further excavation could not continue; see **Table 1, Analytical Results** and **Appendix A, Analytical Results**. Soil was also excavated around an existing below ground storage tank (BGT). At the request of Kelsi Gurvitz, with ConocoPhillips, additional samples were collected to confirm removal of contamination around the BGT. Two (2) composite samples were collected from the excavation surrounding the BGT; see **Figure 3, Site Map - Confirmation Sampling**. One (1) composite sample was collected from the walls around the BGT and one (1) composite sample was collected from the bottom around the BGT; see **Figure 3, Site Map-Confirmation Sampling**. Both samples returned results below the regulatory standards of 100 ppm TPH and 100 ppm OV. Therefore, no further excavation was required.

Approximately 2,000 cubic yards of contaminated soil was transported to IEI's NMOCD permitted landfarm remediation facility.

#### **SUMMARY AND CONCLUSIONS**

Impacted soil was excavated from a release of condensate at the San Juan 29-6 #87 well site located in Section 33, Township 29N, Range 6W, Rio Arriba County, New Mexico. Approximately 2,000 cubic yards of contaminated soil was removed and transported to IEI's NMOCD permitted landfarm remediation facility. Envirotech, Inc. recommends no further action in regards to this incident.

### **STATEMENT OF LIMITATIONS**

Envirotech has completed spill closure activities for contaminated soil from the San Juan 29-6 #87 well site. The work and services provided by Envirotech were in accordance with NMOCD standards. All observations and conclusions provided here are based on the information and current site conditions found at the site of the incident.

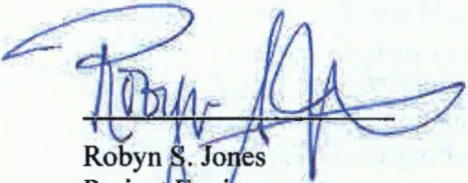
The undersigned has conducted this service at the above referenced site. This work has been conducted and reported in accordance with generally accepted professional practices in geology, engineering, environmental chemistry and hydrogeology.

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

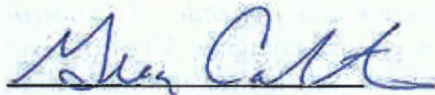
Respectfully Submitted,

Reviewed by:

**ENVIROTECH, INC.**



Robyn S. Jones  
Project Engineer  
[rjones@envirotech-inc.com](mailto:rjones@envirotech-inc.com)



Greg Crabtree, EIT  
Project Engineer/Manager  
[gcrabtree@envirotech-inc.com](mailto:gcrabtree@envirotech-inc.com)

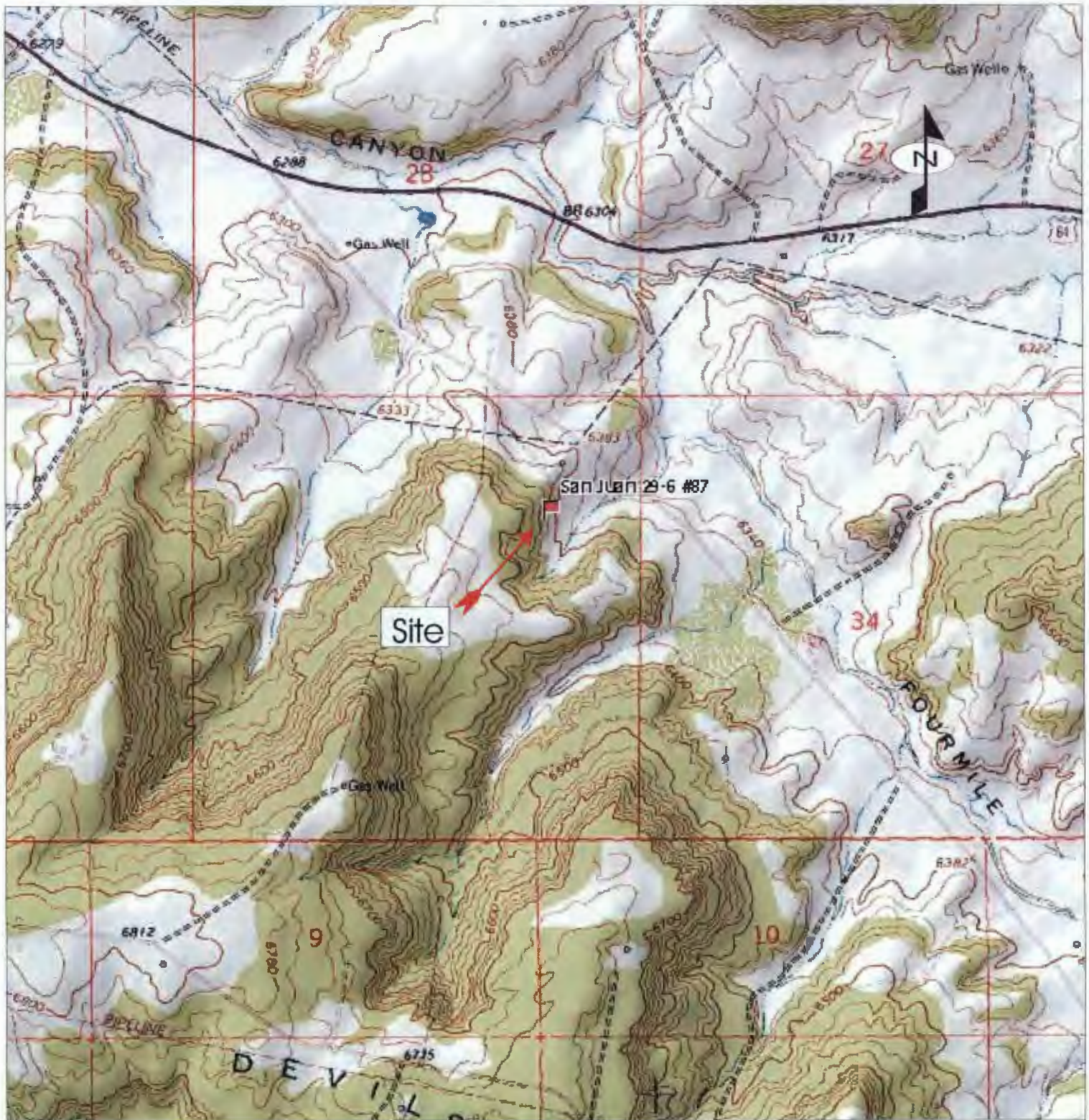
## **FIGURES**

**Figure 1, Vicinity Map**

**Figure 2, Site Map – Spill Assessment**

**Figure 3, Site Map – Confirmation Sampling**

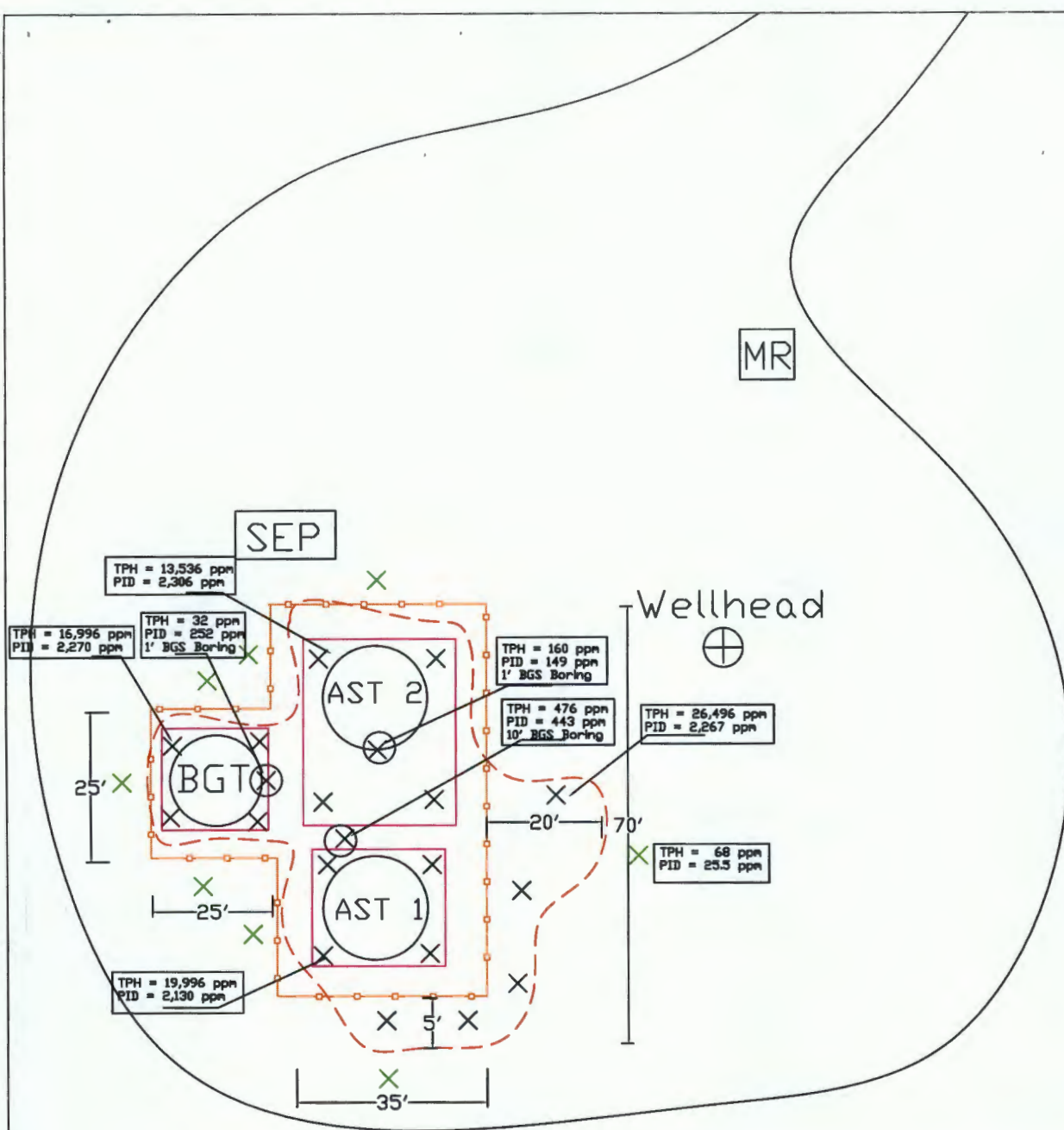




Source: Bloomfield, New Mexico 7.5 Minute U.S.G.S. Topographic Quadrangle Map  
 Scale: 1:24,000 1" = 2000'

<p>ConocoPhillips          San Juan 29-6 #87          Sec. 33, Twp. 29N, Rng. 6W          Rio Arriba County, NM</p>	<p><b>ENVIROTECH INC.</b>          ENVIRONMENTAL SCIENTISTS &amp; ENGINEERS          5796 U.S. HIGHWAY 64          FARMINGTON, NEW MEXICO 87401          PHONE (505) 632-0615</p>	<p>Vicinity Map</p>	
<p>PROJECT No 96052-1631    Date Drawn: 1/11/10</p>		<p>Figure 1</p> <p>DRAWN BY:          Robyn S. Jones</p>	<p>PROJECT MANAGER:          Greg Crabtree</p>





## LEGEND

- Spill Area
- Fence
- x Surface Composite Samples
- ⊗ Boring Samples
- x Clean Area Samples
- Berm

### ConocoPhillips Spill Assessment

San Juan 29-6 #87  
Sec 33 - Twn 29N - Rge 6W  
Rio Arriba, NM

SCALE: NTS

PROJECT NO. 96052-1631

FIGURE NO. 2

REV

#### REVISIONS

NO.	DATE	BY	DESCRIPTION
MAP DRWN	TLM	12-01-09	BASE DRWN



# envirotech

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



MR

SEP

12.5-13' Deep

Wellhead



5' Deep

BGT

13'

13'

99'

50'

# LEGEND

- - - Spill Area
- o - Fence
- x Sample Points

ConocoPhillips  
Confirmation Sampling  
San Juan 29-6 #87  
Sec 33 - Twn 29N - Rge 6W  
Rio Arriba, NM

SCALE: NTS

PROJECT N096052-1631

FIGURE NO. 3

REV

## REVISIONS

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

MAP DRWN	RJ	1-11-09	BASE DRWN
----------	----	---------	-----------



envirotech

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

**TABLE 1**

**Summary of Analytical Results**

**Table 1, Summary of Analytical Results**

ConocoPhillips  
Spill Closure Report  
San Juan 29-6 #87 Well Site  
Project No. 96052-1631

Sample Number	Sample Description	Date	OVM (ppm)	TPH (ppm) USEPA Method 418.1	TPH (ppm) USEPA Method 8015	Benzene (ppm) USEPA Method 8021	BTEX (ppm) USEPA Method 8021
NA	NMOCD Standards	NA	100	100	100	10	50
1	BGT Surface Composite	11/30/09	2,270	17,000	NS	NS	NS
2	AST 1 - Surface Composite	11/30/09	2,130	20,000	NS	NS	NS
3	AST 2 - Surface Composite	11/30/09	2,306	13,600	NS	NS	NS
4	Outside Berm - Surface Composite	11/30/09	2,267	26,500	NS	NS	NS
5	Clean Composite	11/30/09	25.5	68	NS	NS	NS
6	1' BGS - Under BGT	11/30/09	252	32	NS	NS	NS
7	1' BGS - Under AST 2	11/30/09	149	160	NS	NS	NS
8	Center 2 - 10' BGS	11/30/09	443	476	NS	NS	NS
9	Center 1 - 5' BGS	11/30/09	1,336	NS	NS	NS	NS
1	Sandstone Bottom	12/16/09	2,762	19,900	17,300	7.38	159
2	East Wall	12/16/09	36.6	216	NS	NS	NS
3	South Wall	12/16/09	12.7	40	NS	NS	NS
4	North Wall	12/16/09	10.8	36	NS	NS	NS
5	West Wall	12/16/09	6.5	28	NS	NS	NS
6	Walls Around BGT	12/16/09	26.8	64	NS	NS	NS
7	Bottom Around BGT	12/16/09	1.6	44	NS	NS	NS



## **APPENDIX A**

### **Analytical Results**



EPA METHOD 418.1  
TOTAL PETROLEUM  
HYDROCARBONS

Client:	ConocoPhillips	Project #:	96052-1631
Sample No.:	1	Date Reported:	12/1/2009
Sample ID:	BGT Surface Composite	Date Sampled:	11/30/2009
Sample Matrix:	Soil	Date Analyzed:	11/30/2009
Preservative:	Cool	Analysis Needed:	TPH-418.1
Condition:	Cool and Intact		

Parameter	Concentration (mg/kg)	Det. Limit (mg/kg)
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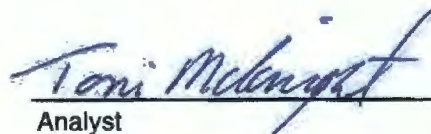
Total Petroleum Hydrocarbons	17,000	5.0
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ND = Parameter not detected at the stated detection limit.

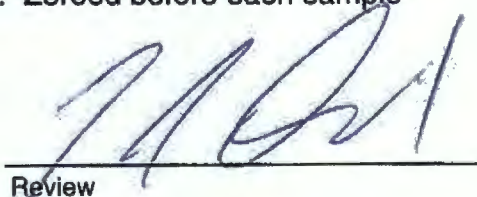
References: Method 418.1, Petroleum Hydrocarbons, Total Recoverable, Chemical Analysis of Water and Waste, USEPA Storet No. 4551, 1978.

Comments: **San Juan 29-6 #87**

Instrument calibrated to 200 ppm standard. Zeroed before each sample

  
\_\_\_\_\_  
Analyst

**Toni McKnight**  
\_\_\_\_\_  
Printed

  
\_\_\_\_\_  
Review

**James McDaniel**  
\_\_\_\_\_  
Printed



EPA METHOD 418.1  
TOTAL PETROLEUM  
HYDROCARBONS

Client:	ConocoPhillips	Project #:	96052-1631
Sample No.:	2	Date Reported:	12/1/2009
Sample ID:	AST 1 - Surface Composite	Date Sampled:	11/30/2009
Sample Matrix:	Soil	Date Analyzed:	11/30/2009
Preservative:	Cool	Analysis Needed:	TPH-418.1
Condition:	Cool and Intact		

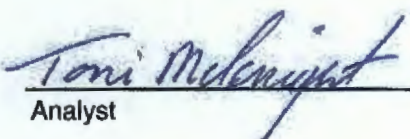
Parameter	Concentration (mg/kg)	Det. Limit (mg/kg)
Total Petroleum Hydrocarbons	20,000	5.0

ND = Parameter not detected at the stated detection limit.

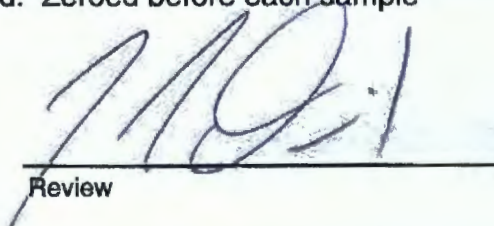
References: Method 418.1, Petroleum Hydrocarbons, Total Recoverable, Chemical Analysis of Water and Waste, USEPA Storet No. 4551, 1978.

Comments: **San Juan 29-6 #87**

Instrument calibrated to 200 ppm standard. Zeroed before each sample

  
Analyst

**Toni McKnight**  
Printed

  
Review

**James McDaniel**  
Printed



EPA METHOD 418.1  
TOTAL PETROLEUM  
HYDROCARBONS

Client:	ConocoPhillips	Project #:	96052-1631
Sample No.:	3	Date Reported:	12/1/2009
Sample ID:	AST 2 - Surface Composite	Date Sampled:	11/30/2009
Sample Matrix:	Soil	Date Analyzed:	11/30/2009
Preservative:	Cool	Analysis Needed:	TPH-418.1
Condition:	Cool and Intact		

Parameter	Concentration (mg/kg)	Det. Limit (mg/kg)
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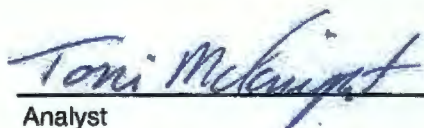
Total Petroleum Hydrocarbons	13,600	5.0
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ND = Parameter not detected at the stated detection limit.

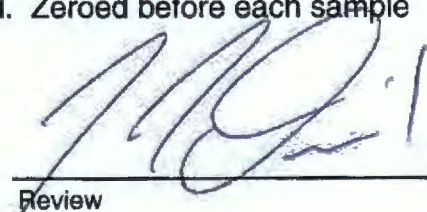
References: Method 418.1, Petroleum Hydrocarbons, Total Recoverable, Chemical Analysis of Water and Waste, USEPA Storet No. 4551, 1978.

Comments: San Juan 29-6 #87

Instrument calibrated to 200 ppm standard. Zeroed before each sample

  
Analyst

Toni McKnight  
Printed

  
Review

James McDaniel  
Printed





**EPA METHOD 418.1  
TOTAL PETROLEUM  
HYDROCARBONS**

Client:	ConocoPhillips	Project #:	96052-1631
Sample No.:	4	Date Reported:	12/1/2009
Sample ID:	Outside Berm - Surface Composite	Date Sampled:	11/30/2009
Sample Matrix:	Soil	Date Analyzed:	11/30/2009
Preservative:	Cool	Analysis Needed:	TPH-418.1
Condition:	Cool and Intact		

Parameter	Concentration (mg/kg)	Det. Limit (mg/kg)
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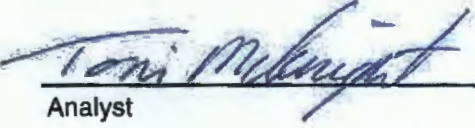
<b>Total Petroleum Hydrocarbons</b>	<b>26,500</b>	<b>5.0</b>
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ND = Parameter not detected at the stated detection limit.

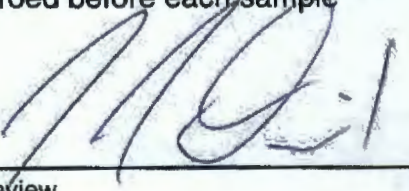
References: Method 418.1, Petroleum Hydrocarbons, Total Recoverable, Chemical Analysis of Water and Waste, USEPA Storet No. 4551, 1978.

Comments: **San Juan 29-6 #87**

Instrument calibrated to 200 ppm standard. Zeroed before each sample

  
\_\_\_\_\_  
Analyst

**Toni McKnight**  
\_\_\_\_\_  
Printed

  
\_\_\_\_\_  
Review

**James McDaniel**  
\_\_\_\_\_  
Printed





EPA METHOD 418.1  
TOTAL PETROLEUM  
HYDROCARBONS

Client:	ConocoPhillips	Project #:	96052-1631
Sample No.:	5	Date Reported:	12/1/2009
Sample ID:	Clean Surface Composite	Date Sampled:	11/30/2009
Sample Matrix:	Soil	Date Analyzed:	11/30/2009
Preservative:	Cool	Analysis Needed:	TPH-418.1
Condition:	Cool and Intact		

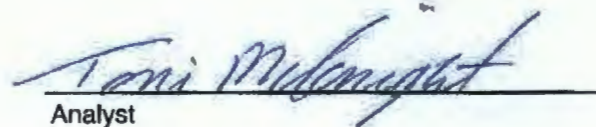
Parameter	Concentration (mg/kg)	Det. Limit (mg/kg)
Total Petroleum Hydrocarbons	68	5.0

ND = Parameter not detected at the stated detection limit.

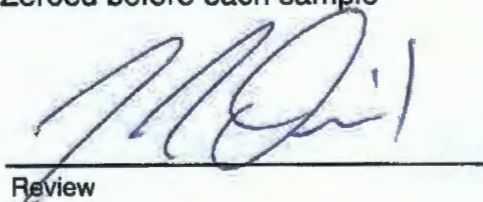
References: Method 418.1, Petroleum Hydrocarbons, Total Recoverable, Chemical Analysis of Water and Waste, USEPA Storet No. 4551, 1978.

Comments: **San Juan 29-6 #87**

Instrument calibrated to 200 ppm standard. Zeroed before each sample

  
Analyst

Toni McKnight  
Printed

  
Review

James McDaniel  
Printed



EPA METHOD 418.1  
TOTAL PETROLEUM  
HYDROCARBONS

Client: ConocoPhillips  
Sample No.: 6  
Sample ID: 1' BGS under BGT  
Sample Matrix: Soil  
Preservative: Cool  
Condition: Cool and Intact

Project #: 96052-1631  
Date Reported: 12/1/2009  
Date Sampled: 11/30/2009  
Date Analyzed: 11/30/2009  
Analysis Needed: TPH-418.1

Parameter	Concentration (mg/kg)	Det. Limit (mg/kg)
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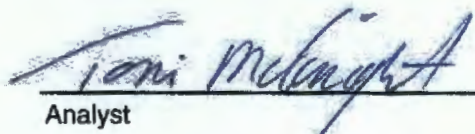
Total Petroleum Hydrocarbons	32	5.0
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ND = Parameter not detected at the stated detection limit.

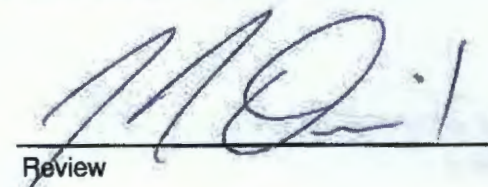
References: Method 418.1, Petroleum Hydrocarbons, Total Recoverable, Chemical Analysis of Water and Waste, USEPA Storet No. 4551, 1978.

Comments: San Juan 29-6 #87

Instrument calibrated to 200 ppm standard. Zeroed before each sample

  
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Analyst

Toni McKnight  
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Printed

  
\_\_\_\_\_  
Review

James McDaniel  
\_\_\_\_\_  
Printed



EPA METHOD 418.1  
TOTAL PETROLEUM  
HYDROCARBONS

Client: ConocoPhillips  
Sample No.: 7  
Sample ID: 1' BGS under AST 2  
Sample Matrix: Soil  
Preservative: Cool  
Condition: Cool and Intact

Project #: 96052-1631  
Date Reported: 12/1/2009  
Date Sampled: 11/30/2009  
Date Analyzed: 11/30/2009  
Analysis Needed: TPH-418.1

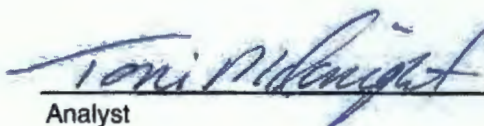
Parameter	Concentration (mg/kg)	Det. Limit (mg/kg)
Total Petroleum Hydrocarbons	160	5.0

ND = Parameter not detected at the stated detection limit.

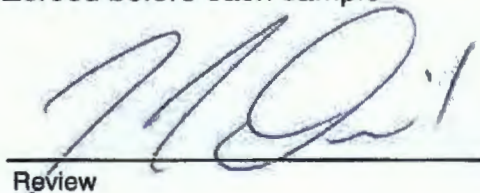
References: Method 418.1, Petroleum Hydrocarbons, Total Recoverable, Chemical Analysis of Water and Waste, USEPA Storet No. 4551, 1978.

Comments: **San Juan 29-6 #87**

Instrument calibrated to 200 ppm standard. Zeroed before each sample

  
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Analyst

**Toni McKnight**  
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\_\_\_\_\_  
Review

**James McDaniel**  
\_\_\_\_\_  
Printed





EPA METHOD 418.1  
TOTAL PETROLEUM  
HYDROCARBONS

Client: ConocoPhillips  
Sample No.: 8  
Sample ID: Center 2 - 10' BGS  
Sample Matrix: Soil  
Preservative: Cool  
Condition: Cool and Intact

Project #: 96052-1631  
Date Reported: 12/1/2009  
Date Sampled: 11/30/2009  
Date Analyzed: 11/30/2009  
Analysis Needed: TPH-418.1

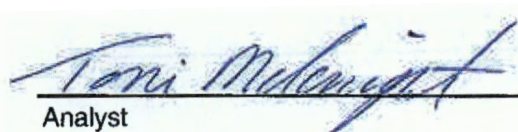
Parameter	Concentration (mg/kg)	Det. Limit (mg/kg)
Total Petroleum Hydrocarbons	476	5.0

ND = Parameter not detected at the stated detection limit.

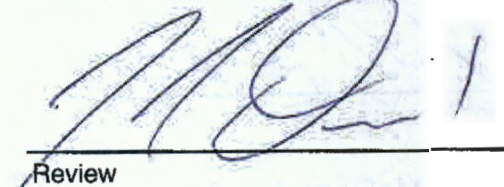
References: Method 418.1, Petroleum Hydrocarbons, Total Recoverable, Chemical Analysis of Water and Waste, USEPA Storet No. 4551, 1978.

Comments: **San Juan 29-6 #87**

Instrument calibrated to 200 ppm standard. Zeroed before each sample

  
Analyst

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James McDaniel  
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CONTINUOUS CALIBRATION  
EPA METHOD 418.1  
TOTAL PETROLEUM  
HYDROCARBONS

Cal. Date: 30-Nov-09

Parameter	Standard Concentration mg/L	Concentration Reading mg/L
TPH	100	193
	200	
	500	
	1000	

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

Toni McKnight  
Analyst

12-1-09  
Date

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[Signature]  
Review

12/1/09  
Date

James McDaniel  
Printed





**EPA METHOD 418.1  
TOTAL PETROLEUM  
HYDROCARBONS**

Client:	ConocoPhillips	Project #:	96052-1631
Sample No.:	1	Date Reported:	1/11/2010
Sample ID:	Sandstone Bottom	Date Sampled:	12/16/2009
Sample Matrix:	Soil	Date Analyzed:	12/16/2009
Preservative:	Cool	Analysis Needed:	TPH-418.1
Condition:	Cool and Intact		

Parameter	Concentration (mg/kg)	Det. Limit (mg/kg)
Total Petroleum Hydrocarbons	19,900	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: **San Juan 29-6 #87**

Instrument calibrated to 200 ppm standard. Zeroed before each sample

Analyst

**Robyn S. Jones**

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Review

**Sherry Auckland**

Printed



EPA METHOD 418.1  
TOTAL PETROLEUM  
HYDROCARBONS

Client: ConocoPhillips  
Sample No.: 2  
Sample ID: East Wall  
Sample Matrix: Soil  
Preservative: Cool  
Condition: Cool and Intact

Project #: 96052-1631  
Date Reported: 1/11/2010  
Date Sampled: 12/16/2009  
Date Analyzed: 12/16/2009  
Analysis Needed: TPH-418.1

Parameter	Concentration (mg/kg)	Det. Limit (mg/kg)
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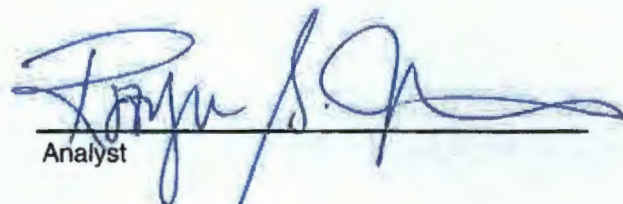
Total Petroleum Hydrocarbons	216	5.0
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ND = Parameter not detected at the stated detection limit.

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

Comments: **San Juan 29-6 #87**

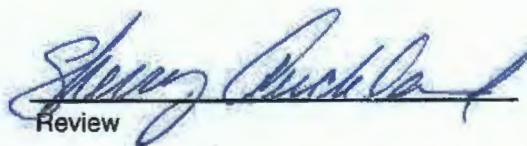
Instrument calibrated to 200 ppm standard. Zeroed before each sample



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**EPA METHOD 418.1  
TOTAL PETROLEUM  
HYDROCARBONS**

Client: ConocoPhillips  
Sample No.: 3  
Sample ID: South Wall  
Sample Matrix: Soil  
Preservative: Cool  
Condition: Cool and Intact

Project #: 96052-1631  
Date Reported: 1/11/2010  
Date Sampled: 12/16/2009  
Date Analyzed: 12/16/2009  
Analysis Needed: TPH-418.1

Parameter	Concentration (mg/kg)	Det. Limit (mg/kg)
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<b>Total Petroleum Hydrocarbons</b>	<b>40</b>	<b>5.0</b>
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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: **San Juan 29-6 #87**

*Instrument calibrated to 200 ppm standard. Zeroed before each sample*

  
Analyst

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EPA METHOD 418.1  
TOTAL PETROLEUM  
HYDROCARBONS

Client: ConocoPhillips  
Sample No.: 4  
Sample ID: North Wall  
Sample Matrix: Soil  
Preservative: Cool  
Condition: Cool and Intact

Project #: 96052-1631  
Date Reported: 1/11/2010  
Date Sampled: 12/16/2009  
Date Analyzed: 12/16/2009  
Analysis Needed: TPH-418.1

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

**36**

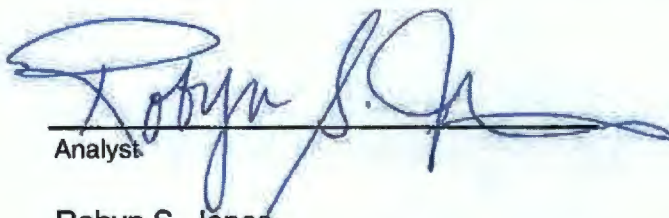
**5.0**

ND = Parameter not detected at the stated detection limit.

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

Comments: **San Juan 29-6 #87**

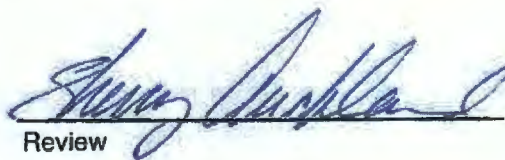
Instrument calibrated to 200 ppm standard. Zeroed before each sample



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**Robyn S. Jones**

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EPA METHOD 418.1  
TOTAL PETROLEUM  
HYDROCARBONS

Client: ConocoPhillips  
Sample No.: 5  
Sample ID: West Wall  
Sample Matrix: Soil  
Preservative: Cool  
Condition: Cool and Intact

Project #: 96052-1631  
Date Reported: 1/11/2010  
Date Sampled: 12/16/2009  
Date Analyzed: 12/16/2009  
Analysis Needed: TPH-418.1

Parameter	Concentration (mg/kg)	Det. Limit (mg/kg)
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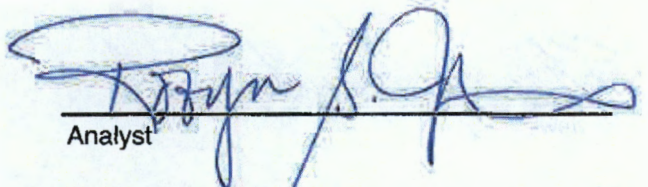
Total Petroleum Hydrocarbons	28	5.0
------------------------------	----	-----

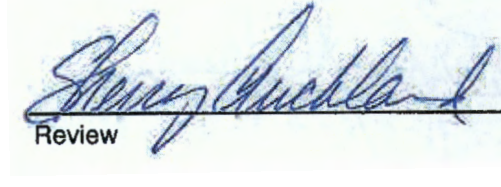
ND = Parameter not detected at the stated detection limit.

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

Comments: **San Juan 29-6 #87**

Instrument calibrated to 200 ppm standard. Zeroed before each sample

  
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Analyst  
  
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Sherry Auckland  
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EPA METHOD 418.1  
TOTAL PETROLEUM  
HYDROCARBONS

Client:	ConocoPhillips	Project #:	96052-1631
Sample No.:	6	Date Reported:	1/11/2010
Sample ID:	Wall Comp Around BGT	Date Sampled:	12/16/2009
Sample Matrix:	Soil	Date Analyzed:	12/16/2009
Preservative:	Cool	Analysis Needed:	TPH-418.1
Condition:	Cool and Intact		

Parameter	Concentration (mg/kg)	Det. Limit (mg/kg)
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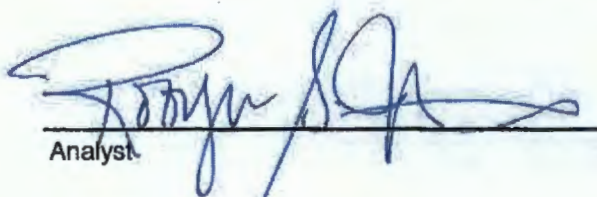
Total Petroleum Hydrocarbons	64	5.0
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ND = Parameter not detected at the stated detection limit.

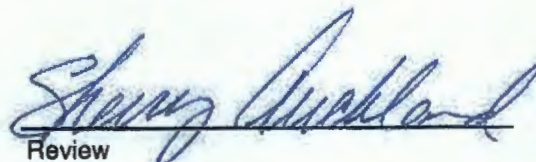
References: Method 418.1, Petroleum Hydrocarbons, Total Recoverable, Chemical Analysis of Water and Waste, USEPA Storet No. 4551, 1978.

Comments: San Juan 29-6 #87

Instrument calibrated to 200 ppm standard. Zeroed before each sample

  
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**EPA METHOD 418.1  
TOTAL PETROLEUM  
HYDROCARBONS**

Client:	ConocoPhillips	Project #:	96052-1631
Sample No.:	7	Date Reported:	1/11/2010
Sample ID:	Bottom Around BGT	Date Sampled:	12/16/2009
Sample Matrix:	Soil	Date Analyzed:	12/16/2009
Preservative:	Cool	Analysis Needed:	TPH-418.1
Condition:	Cool and Intact		

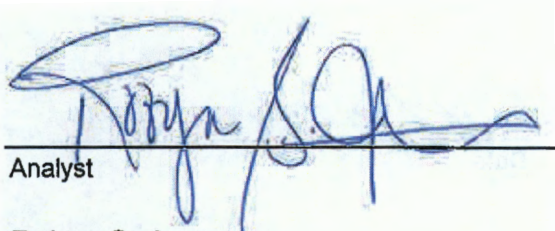
Parameter	Concentration (mg/kg)	Det. Limit (mg/kg)
Total Petroleum Hydrocarbons	44	5.0

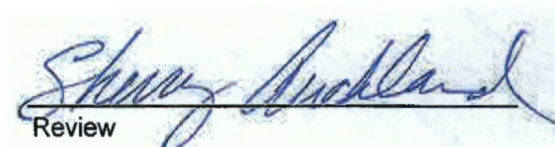
ND = Parameter not detected at the stated detection limit.

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

Comments: **San Juan 29-6 #87**

Instrument calibrated to 200 ppm standard. Zeroed before each sample

  
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Analyst  
**Robyn S. Jones**  
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\_\_\_\_\_  
Review  
**Sherry Auckland**  
\_\_\_\_\_  
Printed



CONTINUOUS CALIBRATION  
EPA METHOD 418.1  
TOTAL PETROLEUM  
HYDROCARBONS

Cal. Date: 16-Dec-09

Parameter	Standard Concentration mg/L	Concentration Reading mg/L
TPH	100	214
	200	
	500	
	1000	

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

Analyst

Robyn S. Jones

Print Name

Review

Sherry Auckland

Print Name

Date

Date



EPA METHOD 8021  
AROMATIC VOLATILE ORGANICS

Client:	ConocoPhillips	Project #:	96052-1631
Sample ID:	Sandstone Bottom	Date Reported:	12-17-09
Laboratory Number:	52734	Date Sampled:	12-16-09
Chain of Custody:	8559	Date Received:	12-16-09
Sample Matrix:	Soil	Date Analyzed:	12-17-09
Preservative:	Cool	Date Extracted:	12-16-09
Condition:	Intact	Analysis Requested:	BTEX

Parameter	Concentration (ug/Kg)	Det. Limit (ug/Kg)
Benzene	7,380	0.9
Toluene	18,900	1.0
Ethylbenzene	20,400	1.0
p,m-Xylene	105,000	1.2
o-Xylene	7,640	0.9
Total BTEX	159,000	

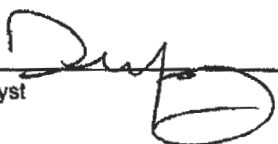
ND - Parameter not detected at the stated detection limit.

Surrogate Recoveries:	Parameter	Percent Recovery
	Fluorobenzene	92.1 %
	1,4-difluorobenzene	96.0 %
	Bromochlorobenzene	97.0 %

References: Method 5030B, Purge-and-Trap, Test Methods for Evaluating Solid Waste, SW-846, USEPA, December 1996.

Method 8021B, Aromatic Volatile Organics, Test Methods for Evaluating Solid Waste, SW-846, USEPA, December 1996.

Comments: San Juan 29-6 #87

Analyst 

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EPA METHOD 8021  
AROMATIC VOLATILE ORGANICS

Client:	N/A	Project #:	N/A
Sample ID:	12-17-BT QA/QC	Date Reported:	12-17-09
Laboratory Number:	52707	Date Sampled:	N/A
Sample Matrix:	Soil	Date Received:	N/A
Preservative:	N/A	Date Analyzed:	12-17-09
Condition:	N/A	Analysis:	BTEX

Calibration and Detection Limit (ug/L)	Cal RF	Cal RF	% Diff	Blank Conc	Detect Limit
		Accept Range 0 - 15%			
Benzene	9.1037E+005	9.1219E+005	0.2%	ND	0.1
Toluene	9.0849E+005	9.1031E+005	0.2%	ND	0.1
Ethylbenzene	8.0733E+005	8.0895E+005	0.2%	ND	0.1
p,m-Xylene	2.4966E+006	2.5018E+006	0.2%	ND	0.1
o-Xylene	8.3275E+005	8.3442E+005	0.2%	ND	0.1

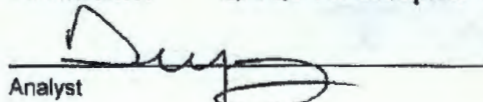
Duplicate Conc. (ug/Kg)	Sample	Duplicate	% Diff	Accept Range	Detect Limit
Benzene	22.2	22.2	0.0%	0 - 30%	0.9
Toluene	2,430	2,410	0.8%	0 - 30%	1.0
Ethylbenzene	1,530	1,490	2.6%	0 - 30%	1.0
p,m-Xylene	17,100	16,900	1.2%	0 - 30%	1.2
o-Xylene	4,340	4,300	0.9%	0 - 30%	0.9


Spike Conc. (ug/Kg)	Sample	Amount Spiked	Spiked Sample	% Recovery	Accept Range
Benzene	22.2	50.0	73.0	101%	39 - 150
Toluene	2,430	50.0	2,450	98.8%	46 - 148
Ethylbenzene	1,530	50.0	1,540	97.4%	32 - 160
p,m-Xylene	17,100	100	17,300	101%	46 - 148
o-Xylene	4,340	50.0	4,380	99.8%	46 - 148

ND - Parameter not detected at the stated detection limit.

References: Method 5030B, Purge-and-Trap, Test Methods for Evaluating Solid Waste, SW-846, USEPA, December 1996.  
Method 8021B, Aromatic and Halogenated Volatiles by Gas Chromatography Using Photolionization and/or Electrolytic Conductivity Detectors, SW-846, USEPA December 1996.

Comments: QA/QC for Samples 52707 - 52711, 52716 - 52719, and 52734.

Analyst 

Review 



**EPA METHOD 8015 Modified  
Nonhalogenated Volatile Organics  
Total Petroleum Hydrocarbons**

Client:	ConocoPhillips	Project #:	96052-1631
Sample ID:	Sandstone Bottom	Date Reported:	12-17-09
Laboratory Number:	52734	Date Sampled:	12-16-09
Chain of Custody No:	8559	Date Received:	12-16-09
Sample Matrix:	Soil	Date Extracted:	12-16-09
Preservative:	Cool	Date Analyzed:	12-17-09
Condition:	Intact	Analysis Requested:	8015 TPH

Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	13,700	0.2
Diesel Range (C10 - C28)	3,600	0.1
Total Petroleum Hydrocarbons	17,300	0.2

ND - Parameter not detected at the stated detection limit.

References: Method 8015B, Nonhalogenated Volatile Organics, Test Methods for Evaluating Solid Waste, SW-846, USEPA, December 1996.

Comments: **San Juan 29-6 #87**

Analyst

Review



EPA Method 8015 Modified  
Nonhalogenated Volatile Organics  
Total Petroleum Hydrocarbons

Quality Assurance Report

Client:	QA/QC	Project #:	N/A
Sample ID:	12-17-09 QA/QC	Date Reported:	12-17-09
Laboratory Number:	52707	Date Sampled:	N/A
Sample Matrix:	Methylene Chloride	Date Received:	N/A
Preservative:	N/A	Date Analyzed:	12-17-09
Condition:	N/A	Analysis Requested:	TPH

	Cal Data	Cal RF	Cal RF	% Difference	Accept. Range
Gasoline Range C5 - C10	05-07-07	1.1283E+003	1.1288E+003	0.04%	0 - 15%
Diesel Range C10 - C28	05-07-07	1.1138E+003	1.1143E+003	0.04%	0 - 15%

Blank Conc. (mg/L - mg/Kg)	Concentration	Detection Limit
Gasoline Range C5 - C10	ND	0.2
Diesel Range C10 - C28	ND	0.1
Total Petroleum Hydrocarbons	ND	0.2

Duplicate Conc. (mg/Kg)	Sample	Duplicate	% Difference	Accept. Range
Gasoline Range C5 - C10	198	196	0.6%	0 - 30%
Diesel Range C10 - C28	173	160	7.5%	0 - 30%

Spike Conc. (mg/Kg)	Sample	Spike Added	Spike Result	% Recovery	Accept. Range
Gasoline Range C5 - C10	198	250	470	105%	75 - 125%
Diesel Range C10 - C28	173	250	420	99.3%	75 - 125%

ND - Parameter not detected at the stated detection limit.

References: Method 8015B, Nonhalogenated Volatile Organics, Test Methods for Evaluating Solid Waste, SW-846, USEPA, December 1996.

Comments: QA/QC for Samples 52707 - 52711, 52716 - 52719, and 52734.

Analyst

Review



## 8559

Kush



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## **APPENDIX B**

### **Site Photography**

**SPILL CLOSURE REPORT  
CONOCOPHILLIPS  
SAN JUAN 29-6 #87 WELL SITE  
PROJECT NO. 96052-1631**



**Photo 1: Stained Area Around AST #1**



**Photo 2: Contaminated Area in the Center**

**SPILL CLOSURE REPORT  
CONOCOPHILLIPS  
SAN JUAN 29-6 #87 WELL SITE  
PROJECT NO. 96052-1631**



**Photo 3: Contaminated Area Around AST #2**



**Photo 4: Contaminated Area around BGT**