

District I  
1625 E. 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>Burlington Resources, a Wholly Owned Subsidiary of ConocoPhillips Company</b>	Contact	<b>Kelsi Harrington</b>
Address	<b>3401 E. 30<sup>th</sup> St., Farmington, NM 87402</b>	Telephone No.	<b>505-599-3403</b>
Facility Name	<b>McGrath 4 SWD</b>	Facility Type	<b>Gas Well API #3004525923</b>
Surface Owner	<b>Private</b>	Mineral Owner	<b>Federal</b>
		Lease No.	<b>NMSF-077922</b>

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
<b>B</b>	<b>34</b>	<b>30N</b>	<b>12W</b>	<b>800'</b>	<b>North</b>	<b>1730'</b>	<b>East</b>	<b>San Juan</b>

Latitude 36.77417° N Longitude -108.08192° W

NATURE OF RELEASE

Type of Release – <b>Produced Water (PW) &amp; Slop Oil</b>	Volume of Release – <b>90 BBL (50 BBL Slop Oil &amp; 40 BBL PW)</b>	Volume Recovered – <b>85 BBL (47 BBL Slop Oil &amp; 38 BBL PW)</b>
Source of Release: <b>API Separator</b>	Date and Hour of Occurrence <b>2/4/2011</b>	Date and Hour of Discovery <b>2/5/2011 6:30 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): Verbal &amp; email</b>	
By Whom? <b>Kelsi Harrington</b>	Date and Hour – <b>2/8/2011 11:15 a.m.</b>	
Was a Watercourse Reached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse. <b>PROD OCT 11/11 OIL CONS. DIV. DIST. 3</b>	

If a Watercourse was Impacted, Describe Fully.\*

Describe Cause of Problem and Remedial Action Taken.\* **A partially frozen pneumatic isolation valve between the three SWD inlet surge tanks and the API separator tanks failed. This allowed the surge tanks to flow into the API Separator tanks causing the tanks to overflow. Upon discovery, all valves on the surge tanks were closed and a vacuum truck was called to location.**

Describe Area Affected and Cleanup Action Taken.\* **All fluid was contained within the berm and approximately 85 BBL of fluid was recovered. The impacted area was excavated and confirmation sampling occurred. Flow path samples returned results under regulatory standards for TPH, benzene and BTEX; however the excavation pit composite sample returned results above the regulatory standard for TPH (under for benzene and BTEX). NMOCD approved backfill due to the excavations close proximity to a power pole and the remaining impact posing no significant risk to the environment; therefore no further action required.**

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 Harrington</i>	<b>OIL CONSERVATION DIVISION</b>	
Printed Name: <b>Kelsi Harrington</b>	Approved by District Supervisor: <i>[Signature]</i>	
Title: <b>Environmental Consultant</b>	Approval Date: <b>10/29/11</b>	Expiration Date:
E-mail Address: <b>kelsi.g.harrington@conocophillips.com</b>	Conditions of Approval:	Attached <input type="checkbox"/>
Date: <b>9/14/2011</b> Phone: <b>505-599-3403</b>		

\* Attach Additional Sheets If Necessary

nJK1129853009



# **SPILL ASSESSMENT AND CONFIRMATION SAMPLING REPORT**

**LOCATION:  
CONOCOPHILLIPS  
MCGRATH #4 SWD (HBR)  
SECTION 34, TOWNSHIP 30 NORTH, RANGE 12 WEST  
SAN JUAN COUNTY, NEW MEXICO**

**CONTRACTED BY:  
CONOCOPHILLIPS  
MS. KELSI HARRINGTON  
3401 EAST 30<sup>TH</sup> STREET  
FARMINGTON, NEW MEXICO 87401**

**PROJECT NUMBER 92115-1598  
FEBRUARY 2011**



April 7, 2011

Project Number 92115-1598

Ms. Kelsi Harrington  
ConocoPhillips  
3401 East 30<sup>th</sup> Street  
Farmington, New Mexico 87401

Phone: (505) 599-3403

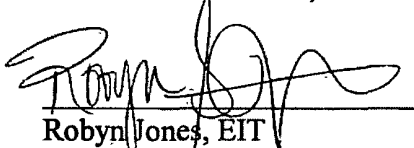
**RE: SPILL ASSESSMENT AND CONFIRMATION SAMPLING REPORT FOR THE  
McGRATH #4 SWD (hBr), SAN JUAN COUNTY, NEW MEXICO**

Dear Ms. Harrington,

Enclosed please find the *Spill Assessment and Confirmation Sampling Report* detailing activities conducted at the McGrath #4 SWD (hBr) located in Section 34, Township 30 North, Range 12 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.**



Robyn Jones, EIT  
Staff Engineer  
[rjone@envirotech-inc.com](mailto:rjone@envirotech-inc.com)

Enclosures: *Spill Assessment and Confirmation Sampling Report*

Cc: Client File 92115

**CONOCOPhillips**  
**SPILL ASSESSMENT AND CONFIRMATION SAMPLING REPORT**  
**McGrath #4 SWD (hBr)**  
**SECTION 34, TOWNSHIP 30 NORTH, RANGE 12 WEST**  
**SAN JUAN COUNTY, NEW MEXICO**

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## **INTRODUCTION**

Envirotech, Inc. of Farmington, New Mexico, was contracted by ConocoPhillips to provide spill assessment and confirmation sampling activities for a release of produced water and oil from the McGrath #4 SWD located in Section 34, Township 30 North, Range 12 West, San Juan County, New Mexico; see enclosed **Figure 1, Vicinity Map**. An unknown amount of oil and water was reported to have been released from an overflow at the API separator. Activities included sample collection and analysis, documentation and reporting.

## **ACTIVITIES PERFORMED**

Envirotech, Inc. was contacted on February 18, 2011, with a request to respond to a release that occurred at the above-referenced location. Upon arrival, a brief site assessment was conducted. Because distance to surface water is between 200 and 1000 feet from the well site and depth to ground water was less than 100 feet, the regulatory standards for the site were determined to be 100 parts per million (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.

Prior to Envirotech personnel's arrival on February 18, 2011, the CF&M crew had excavated the area of release southwest of the separator to the extents of 15 feet by 15 feet by 6-7 feet deep. Five (5) composite samples were collected from the area and flow path of the spill. One (1) sample was collected from the surface on the northwest side of the API separator. One (1) sample was collected from the surface on the northeast side of the separator. One (1) sample was collected from the surface southeast of the separator. One (1) sample was collected from the surface south of the separator. One (1) sample was collected from the surface southwest of the separator. Two (2) samples were collected from the excavation pit southwest of the separator. One (1) composite sample was taken from the walls and bottom of the excavated pit. One (1) grab sample was taken from one (1) foot BGS of the bottom of the pit. All samples were screened in the field for TPH using USEPA Method 418.1 and for organic vapors using a photoionization detector (PID). All samples returned results above the regulatory standards for TPH and organic vapors. The northeast, south, and excavation composite samples were placed into four (4)-ounce glass jars, capped head space free, and transported on ice, under chain of custody, to Envirotech's Analytical Laboratory to be analyzed for TPH using USEPA Method 8015 and for benzene and BTEX using USEPA Method 8021; see enclosed **Table 1, Summary of Analytical Results**. The south sample returned results below regulatory standards for all constituents analyzed. The excavation sample returned results below the regulatory standards for benzene and BTEX, but above the regulatory standard for TPH. The northeast sample returned results below the regulatory standard for benzene, but above the regulatory standards for TPH and BTEX.

Envirotech personnel returned to the site on February 24, 2011. Prior to arrival, the flow path had been excavated by the CF&M crew approximately one (1) to two (2) feet deep and 20 feet wide. Five (5) composite samples were collected from the excavated flow path. One (1) sample was

collected from the northwest side of the separator at one (1) foot BGS. One (1) sample was collected from the northeast side of the separator at two (2) feet BGS. One (1) sample was collected from southeast of the separator at two (2) feet BGS. One (1) sample was collected from south of the separator at two (2) feet BGS. One (1) sample was collected from southwest of the separator at two (2) feet BGS. All samples were screened in the field for TPH using USEPA Method 418.1 and for organic vapors using a PID. All samples returned results above the regulatory standard for TPH. The northwest and the southeast samples returned results below the regulatory standard for organic vapors. The northeast, south, and southwest samples returned results above the regulatory standard for organic vapors. Additionally, all five (5) samples were each placed into a four (4)-ounce glass jar, capped head space free, and transported on ice, under chain of custody, to Envirotech's Analytical Laboratory to be analyzed for TPH using USEPA Method 8015. The northeast, south, and southwest samples were also analyzed for benzene and BTEX using USEPA Method 8021; see enclosed ***Table 1, Summary of Analytical Results***. All samples, except the south sample, returned results below the regulatory standard for TPH. All samples returned results below the regulatory standards for benzene and BTEX.

Upon Envirotech's return on March 4, 2011, the CF&M crew had excavated the southern extent of the flow path to a final depth of approximately three (3) to four (4) feet in depth. One (1) composite sample was collected from this newly excavated area. The sample was screened in the field for TPH using USEPA Method 418.1 and for organic vapors using a PID. The sample returned results above the regulatory standards for all constituents analyzed. Additionally, the sample was placed into a four (4)-ounce glass jar, capped head space free, and transported on ice, under chain of custody, to Envirotech's Analytical Laboratory to be analyzed for TPH using USEPA Method 8015 and for benzene and BTEX using USEPA Method 8021; see enclosed ***Table 1, Summary of Analytical Results***. The sample returned results below the regulatory standards for TPH and benzene and BTEX.

All excavated soil was transported to IEI's New Mexico Oil Conservation Division (NMOCD) permitted soil remediation facility.

### **SUMMARY AND CONCLUSIONS**

Spill assessment and confirmation sampling activities were performed for a release of oil and water from a separator on site at the McGrath #4 SWD located in Section 34, Township 30 North, Range 12 West, San Juan County, New Mexico. Contaminated soil was transported to IEI's NMOCD permitted soil remediation facility. The excavation pit composite sample collected on February 18, 2011, returned results above the regulatory standard for TPH, however Brandon Powell with the NMOCD gave permission to backfill due to the excavation's close proximity to a power pole and the remaining contamination posing no significant threat to life or human health. Envirotech, Inc. recommends no further action in regards to this incident.

**STATEMENT OF LIMITATIONS**

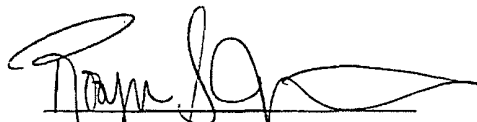
Envirotech, Inc. has completed spill assessment and confirmation sampling activities for a release of oil and water from a separator on site at the McGrath #4 SWD located in Section 34, Township 30 North, Range 12 West, San Juan County, New Mexico. The work and services provided by Envirotech, Inc. were 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.

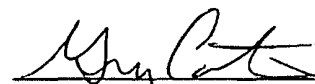
Respectfully Submitted,

**ENVIROTECH, INC.**



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

Reviewed by:



Greg Crabtree, PE  
Environmental Manager  
[gcrabtree@envirotech-inc.com](mailto:gcrabtree@envirotech-inc.com)

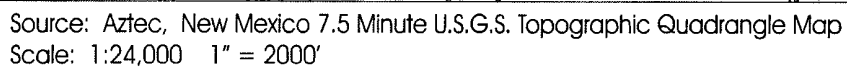


## **FIGURES**

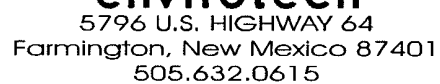
Figure 1, Vicinity Map

Figure 2, Site Map – Confirmation Sampling



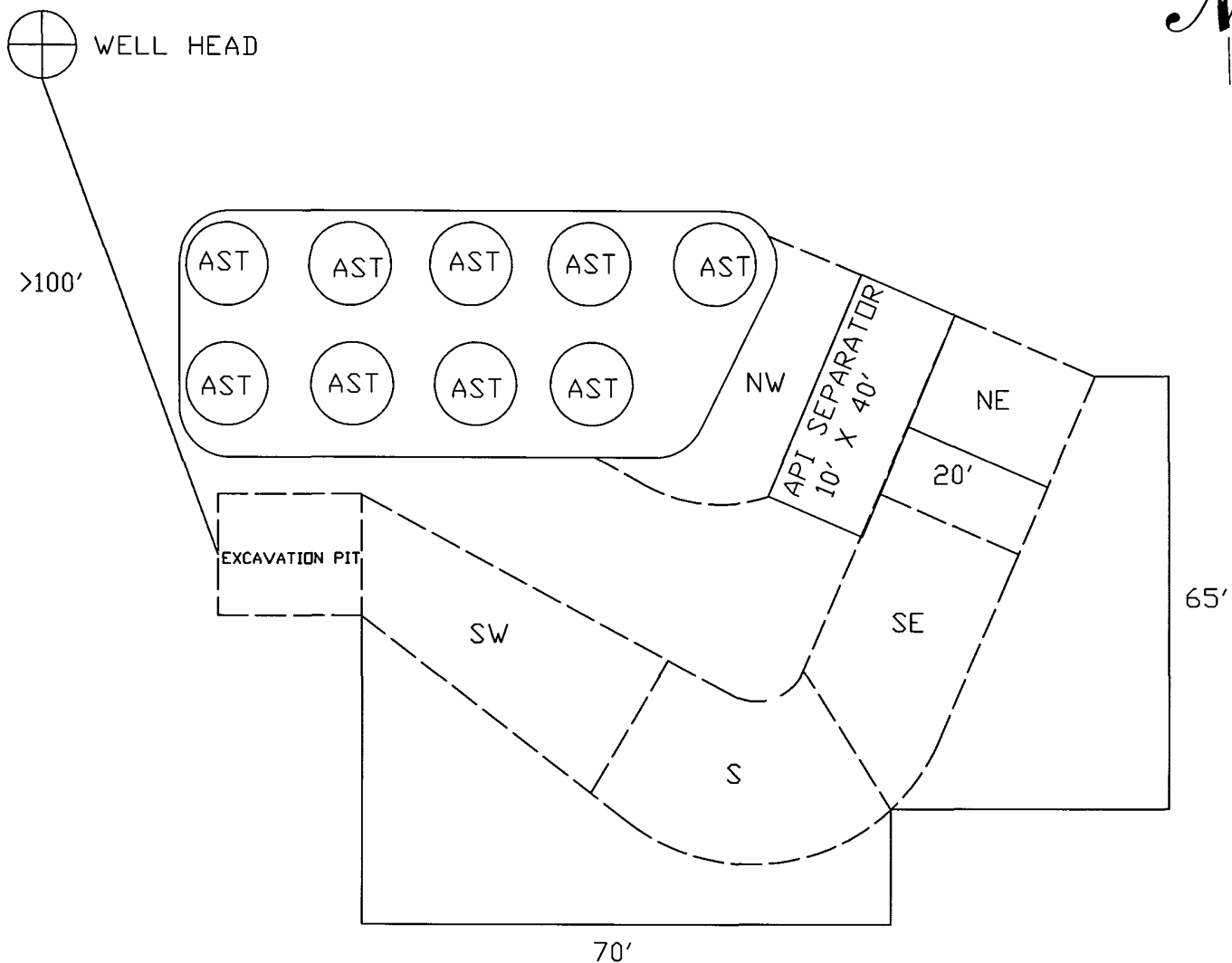


PROJECT No 92115-1598      Date Drawn: 03/31/11



DRAWN BY:  
Evan Crawford

PROJECT MANAGER:  
Greg Crabtree



**SITE MAP  
MCGRATH #4 SWD (HBR)  
CONOCOPHILLIPS  
CONFIRMATION SAMPLING**

SCALE: NTS		FIGURE NO. 2	REV
PROJECT NO92115-1598			
REVISIONS			
NO.	DATE	BY	DESCRIPTION
MAP DRWN	EHC	4/4/11	BASE DRWN EHC 4/4/11



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

1  
2  
3

**TABLES**

Table 1, Summary of Analytical Results

**Table 1, Summary of Analytical Results**  
ConocoPhillips  
McGrath SWD #4  
Spill Assessment and Confirmation Sampling Report  
Project Number 92115-1598

Date	Sample Description	Sample Number	PID OV (ppm)	USEPA Method 418.1 TPH (ppm)	USEPA Method 8015 TPH (ppm)	USEPA Method 8021	
						Benzene (ppm)	BTEX (ppm)
NA	New Mexico Oil Conservation Division Standards	NA	100	100	100	10.0	50.0
2/18/2011	Excavation Pit Composite	1	<b>2,270</b>	<b>4,740</b>	<b>1,540</b>	0.016	31.8
2/18/2011	NW Sep. Composite	2	<b>2,140</b>	<b>5,812</b>	NS	NS	NS
2/18/2011	NE Sep. Composite	3	<b>2,150</b>	<b>7,020</b>	<b>3,710</b>	NS	NS
2/18/2011	SE Sep. Composite	4	<b>1,440</b>	<b>4,940</b>	NS	NS	NS
2/18/2011	S Sep. Composite	5	<b>1,940</b>	<b>3,310</b>	631	0.013	14.4
2/18/2011	SW Sep. Composite	6	<b>2,150</b>	<b>6,380</b>	NS	NS	NS
2/18/2011	Bottom 8' BGS	7	<b>1,150</b>	NS	NS	NS	NS
2/24/2011	NW 1' BGS	1	72.9	<b>5,490</b>	575	NS	NS
2/24/2011	NE 2' BGS	2	<b>209</b>	<b>2,640</b>	323	ND	1.59
2/24/2011	SE 2' BGS	3	75.4	<b>3,200</b>	203	NS	NS
2/24/2011	S 2' BGS	4	<b>484</b>	<b>5,504</b>	<b>1,500</b>	0.003	10.8
2/24/2011	SW 2' BGS	5	<b>158</b>	<b>3,780</b>	460	ND	1.66
3/4/2011	S 5 Point Composite	1	<b>270</b>	<b>14,800</b>	591	ND	1.61

\*Values in **BOLD** above regulatory limits

\*NS - Parameter not sampled

\*ND - Parameter not detected

## **APPENDIX A**

### *Analytical Results*



**EPA METHOD 418.1  
TOTAL PETROLEUM  
HYDROCARBONS**

Client:	ConocoPhillips	Project #:	92115-1598
Sample No.:	1	Date Reported:	4/6/2011
Sample ID:	Excavation Pit Composite	Date Sampled:	2/18/2011
Sample Matrix:	Soil	Date Analyzed:	2/18/2011
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>4,740</b>	<b>5.0</b>
-------------------------------------	--------------	------------

ND = Parameter not detected at the stated detection limit.

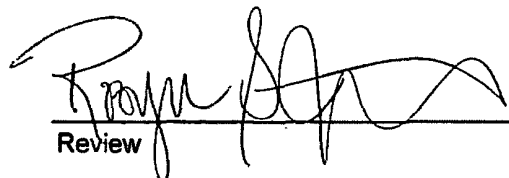
References: Method 418.1, Petroleum Hydrocarbons, Total Recoverable, Chemical Analysis of Water and Waste, USEPA Storet No. 4551, 1978.

Comments: **McGrath #4 SWD (hBr)**

Instrument calibrated to 200 ppm standard. Zeroed before each sample

  
\_\_\_\_\_  
Analyst

**Rene Garcia Reyes**  
\_\_\_\_\_  
Printed

  
\_\_\_\_\_  
Review

**Robyn Jones, EIT**  
\_\_\_\_\_  
Printed



**EPA METHOD 418.1  
TOTAL PETROLEUM  
HYDROCARBONS**

Client:	ConocoPhillips	Project #:	92115-1598
Sample No.:	2	Date Reported:	4/6/2011
Sample ID:	NW Sep. Composite	Date Sampled:	2/18/2011
Sample Matrix:	Soil	Date Analyzed:	2/18/2011
Preservative:	Cool	Analysis Needed:	TPH-418.1
Condition:	Cool and Intact		

Parameter	Concentration (mg/kg)	Det. Limit (mg/kg)
Total Petroleum Hydrocarbons	5,810	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: **McGrath #4 SWD (hBr)**

Instrument calibrated to 200 ppm standard. Zeroed before each sample

Analyst

Rene Garcia Reyes

Printed

Review

Robyn Jones, EIT

Printed



**EPA METHOD 418.1  
TOTAL PETROLEUM  
HYDROCARBONS**

Client:	ConocoPhillips	Project #:	92115-1598
Sample No.:	3	Date Reported:	4/6/2011
Sample ID:	NE Sep. Composite	Date Sampled:	2/18/2011
Sample Matrix:	Soil	Date Analyzed:	2/18/2011
Preservative:	Cool	Analysis Needed:	TPH-418.1
Condition:	Cool and Intact		

Parameter	Concentration (mg/kg)	Det. Limit (mg/kg)
Total Petroleum Hydrocarbons	7,020	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: **McGrath #4 SWD (hBr)**

Instrument calibrated to 200 ppm standard. Zeroed before each sample

Analyst

Rene Garcia Reyes

Printed

Review

Robyn Jones, EIT

Printed





**EPA METHOD 418.1  
TOTAL PETROLEUM  
HYDROCARBONS**

Client:	ConocoPhillips	Project #:	92115-1598
Sample No.:	4	Date Reported:	4/6/2011
Sample ID:	SE Sep. Composite	Date Sampled:	2/18/2011
Sample Matrix:	Soil	Date Analyzed:	2/18/2011
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>4,940</b>	<b>5.0</b>
-------------------------------------	--------------	------------

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: **McGrath #4 SWD (hBr)**

Instrument calibrated to 200 ppm standard. Zeroed before each sample

Analyst

**Rene Garcia Reyes**

Printed

Review

**Robyn Jones, EIT**

Printed



**EPA METHOD 418.1  
TOTAL PETROLEUM  
HYDROCARBONS**

Client:	ConocoPhillips	Project #:	92115-1598
Sample No.:	5	Date Reported:	4/6/2011
Sample ID:	S Sep. Composite	Date Sampled:	2/18/2011
Sample Matrix:	Soil	Date Analyzed:	2/18/2011
Preservative:	Cool	Analysis Needed:	TPH-418.1
Condition:	Cool and Intact		

Parameter	Concentration (mg/kg)	Det. Limit (mg/kg)
Total Petroleum Hydrocarbons	3,310	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: **McGrath #4 SWD (hBr)**

Instrument calibrated to 200 ppm standard. Zeroed before each sample

Analyst

Rene Garcia Reyes  
Printed

Review

Robyn Jones, EIT  
Printed



**EPA METHOD 418.1  
TOTAL PETROLEUM  
HYDROCARBONS**

Client:	ConocoPhillips	Project #:	92115-1598
Sample No.:	6	Date Reported:	4/6/2011
Sample ID:	SW Sep. Composite	Date Sampled:	2/18/2011
Sample Matrix:	Soil	Date Analyzed:	2/18/2011
Preservative:	Cool	Analysis Needed:	TPH-418.1
Condition:	Cool and Intact		

Parameter	Concentration (mg/kg)	Det. Limit (mg/kg)
Total Petroleum Hydrocarbons	6,380	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: **McGrath #4 SWD (hBr)**

Instrument calibrated to 200 ppm standard. Zeroed before each sample

Analyst

**Rene Garcia Reyes**

Printed

Review

**Robyn Jones, EIT**

Printed




CONTINUOUS CALIBRATION  
EPA METHOD 418.1  
TOTAL PETROLEUM  
HYDROCARBONS

Cal. Date: 18-Feb-11

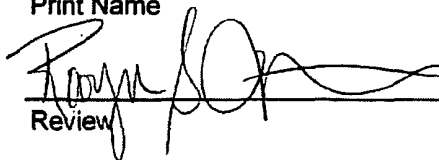
Parameter	Standard Concentration mg/L	Concentration Reading mg/L
TPH	100	197
	200	
	500	
	1000	

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

  
\_\_\_\_\_  
Analyst

\_\_\_\_\_  
4/6/2011  
Date

**Rene Garcia Reyes**  
\_\_\_\_\_  
Print Name

  
\_\_\_\_\_  
Review

\_\_\_\_\_  
4/6/2011  
Date

**Robyn Jones, EIT**  
\_\_\_\_\_  
Print Name

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

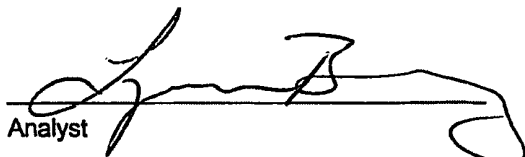
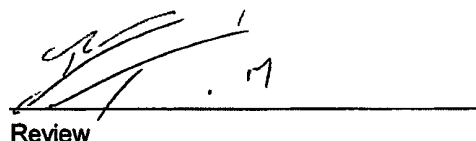
Client:	ConocoPhillips	Project #:	92115-1598
Sample ID:	Excavation	Date Reported:	02-21-11
Laboratory Number:	57263	Date Sampled:	02-18-11
Chain of Custody No:	11168	Date Received:	02-18-11
Sample Matrix:	Soil	Date Extracted:	02-18-11
Preservative:	Cool	Date Analyzed:	02-21-11
Condition:	Intact	Analysis Requested:	8015 TPH

Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	1,100	0.2
Diesel Range (C10 - C28)	439	0.1
Total Petroleum Hydrocarbons	1,540	

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: **McGrath #4 SWD**

  
Analyst  
Review



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

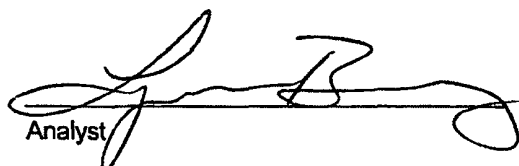
Client:	ConocoPhillips	Project #:	92115-1598
Sample ID:	NE SEP	Date Reported:	02-21-11
Laboratory Number:	57264	Date Sampled:	02-18-11
Chain of Custody No:	11168	Date Received:	02-18-11
Sample Matrix:	Soil	Date Extracted:	02-18-11
Preservative:	Cool	Date Analyzed:	02-21-11
Condition:	Intact	Analysis Requested:	8015 TPH

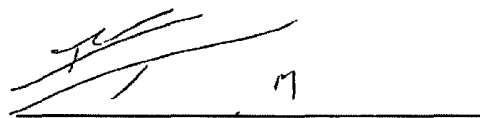
Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	2,540	0.2
Diesel Range (C10 - C28)	1,170	0.1
Total Petroleum Hydrocarbons	3,710	

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: McGrath #4 SWD

  
Analyst

  
Review



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Analytical Laboratory

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

Client:	ConocoPhillips	Project #:	92115-1598
Sample ID:	S SEP	Date Reported:	02-21-11
Laboratory Number:	57265	Date Sampled:	02-18-11
Chain of Custody No:	11168	Date Received:	02-18-11
Sample Matrix:	Soil	Date Extracted:	02-18-11
Preservative:	Cool	Date Analyzed:	02-21-11
Condition:	Intact	Analysis Requested:	8015 TPH

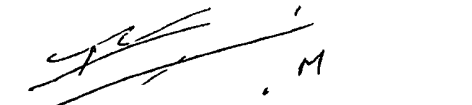
Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	379	0.2
Diesel Range (C10 - C28)	252	0.1
Total Petroleum Hydrocarbons	631	

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: **McGrath #4 SWD**

  
Analyst

  
Review

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

**Quality Assurance Report**

Client:	QA/QC	Project #:	N/A
Sample ID:	02-21-11 QA/QC	Date Reported:	02-21-11
Laboratory Number:	57263	Date Sampled:	N/A
Sample Matrix:	Methylene Chloride	Date Received:	N/A
Preservative:	N/A	Date Analyzed:	02-21-11
Condition:	N/A	Analysis Requested:	TPH

	I-Cal Date	I-Cal RF	C-Cal RF	% Difference	Accept Range
Gasoline Range C5 - C10	02-21-11	9.9960E+002	1.0000E+003	0.04%	0 - 15%
Diesel Range C10 - C28	02-21-11	9.9960E+002	1.0000E+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

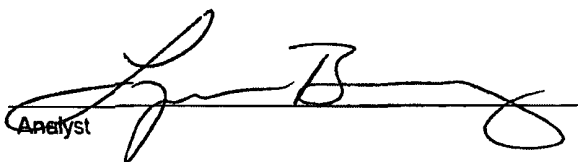
Duplicate Conc. (mg/Kg)	Sample	Duplicate	% Difference	Accept Range
Gasoline Range C5 - C10	1,100	1,120	1.9%	0 - 30%
Diesel Range C10 - C28	439	431	2.0%	0 - 30%

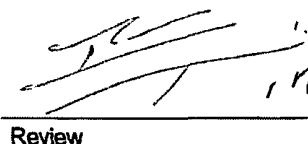
Spike Conc. (mg/Kg)	Sample	Spike Added	Spike Result	% Recovery	Accept Range
Gasoline Range C5 - C10	1,100	250	1,340	99%	75 - 125%
Diesel Range C10 - C28	439	250	691	100%	75 - 125%

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 57263-57265

  
 Analyst

  
 Review





Client:	ConocoPhillips	Project #:	92115-1598
Sample ID:	Excavation	Date Reported:	02-21-11
Laboratory Number:	57263	Date Sampled:	02-18-11
Chain of Custody:	11168	Date Received:	02-18-11
Sample Matrix:	Soil	Date Analyzed:	02-21-11
Preservative:	Cool	Date Extracted:	02-18-11
Condition:	Intact	Analysis Requested:	BTEX
		Dilution:	10

Parameter	Concentration (ug/Kg)	Det. Limit (ug/Kg)
Benzene	16.0	0.9
Toluene	2,160	1.0
Ethylbenzene	1,130	1.0
p,m-Xylene	24,200	1.2
o-Xylene	4,260	0.9
Total BTEX	31,800	

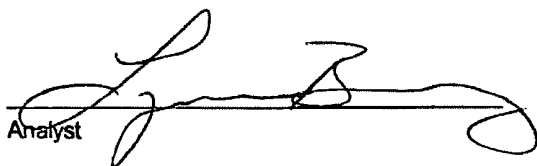
ND - Parameter not detected at the stated detection limit.

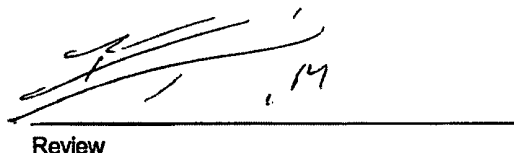
Surrogate Recoveries:	Parameter	Percent Recovery
	Fluorobenzene	101 %
	1,4-difluorobenzene	90.3 %
	Bromochlorobenzene	97.5 %

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: McGrath #4 SWD

  
Analyst

  
Review

Client:	ConocoPhillips	Project #:	92115-1598
Sample ID:	NE SEP	Date Reported:	02-21-11
Laboratory Number:	57264	Date Sampled:	02-18-11
Chain of Custody:	11168	Date Received:	02-18-11
Sample Matrix:	Soil	Date Analyzed:	02-21-11
Preservative:	Cool	Date Extracted:	02-18-11
Condition:	Intact	Analysis Requested:	BTEX
		Dilution:	10

Parameter	Concentration (ug/Kg)	Det. Limit (ug/Kg)
Benzene	169	0.9
Toluene	5,580	1.0
Ethylbenzene	2,640	1.0
p,m-Xylene	39,200	1.2
o-Xylene	7,580	0.9
Total BTEX	55,100	

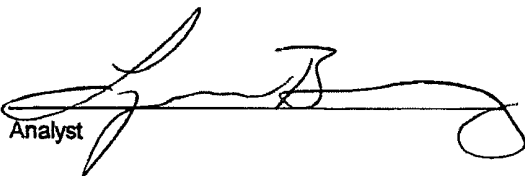
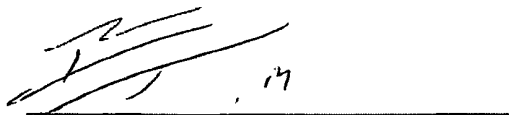
ND - Parameter not detected at the stated detection limit.

Surrogate Recoveries:	Parameter	Percent Recovery
	Fluorobenzene	98.6 %
	1,4-difluorobenzene	82.7 %
	Bromochlorobenzene	98.1 %

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: McGrath #4 SWD

  
Analyst  
Review

Client:	ConocoPhillips	Project #:	92115-1598
Sample ID:	S SEP	Date Reported:	02-21-11
Laboratory Number:	57265	Date Sampled:	02-18-11
Chain of Custody:	11168	Date Received:	02-18-11
Sample Matrix:	Soil	Date Analyzed:	02-21-11
Preservative:	Cool	Date Extracted:	02-18-11
Condition:	Intact	Analysis Requested:	BTEX
		Dilution:	10

Parameter	Concentration (ug/Kg)	Det. Limit (ug/Kg)
Benzene	12.9	0.9
Toluene	794	1.0
Ethylbenzene	599	1.0
p,m-Xylene	10,800	1.2
o-Xylene	2,170	0.9
<b>Total BTEX</b>	<b>14,400</b>	

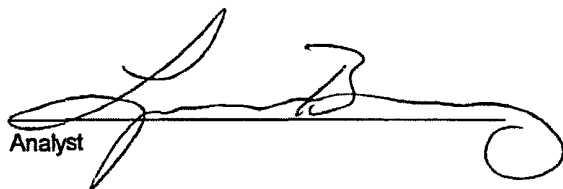
ND - Parameter not detected at the stated detection limit.

Surrogate Recoveries:	Parameter	Percent Recovery
	Fluorobenzene	92.3 %
	1,4-difluorobenzene	88.3 %
	Bromochlorobenzene	104 %

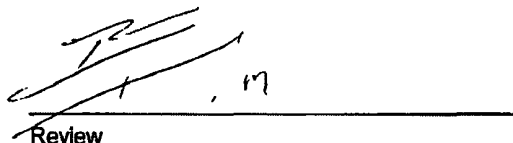
References: Method 5030B, Purge-and-Trap, Test Methods for Evaluating Solid Waste, SW-846, USEPA, December 1996.

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

Comments: McGrath #4 SWD



Analyst



Review

Client:	N/A	Project #:	N/A
Sample ID:	0221BBLK QA/QC	Date Reported:	02-21-11
Laboratory Number:	57263	Date Sampled:	N/A
Sample Matrix:	Soil	Date Received:	N/A
Preservative:	N/A	Date Analyzed:	02-21-11
Condition:	N/A	Analysis:	BTEX
		Dilution:	10

Calibration and Detection Limits (ug/L)	I-Cal RF	C-Cal RF	%Diff	Blank Conc	Detect Limit
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Benzene	1.3494E+005	1.3521E+005	0.2%	ND	0.1
Toluene	1.3995E+005	1.4023E+005	0.2%	ND	0.1
Ethylbenzene	1.2620E+005	1.2645E+005	0.2%	ND	0.1
p,m-Xylene	2.9150E+005	2.9209E+005	0.2%	ND	0.1
o-Xylene	1.1908E+005	1.1930E+005	0.2%	ND	0.1

Duplicate Conc: (ug/Kg)	Sample	Duplicate	%Diff	Accept Range	Detect Limit
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Benzene	16.0	15.2	5.0%	0 - 30%	0.9
Toluene	2,160	2,230	3.3%	0 - 30%	1.0
Ethylbenzene	1,130	955	15.4%	0 - 30%	1.0
p,m-Xylene	24,200	23,900	1.2%	0 - 30%	1.2
o-Xylene	4,260	4,790	12.4%	0 - 30%	0.9

Spike Conc. (ug/Kg)	Sample	Amount Spiked	Spiked Sample	% Recovery	Accept Range
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Benzene	16.0	500	538	104%	39 - 150
Toluene	2,160	500	2,650	99.6%	46 - 148
Ethylbenzene	1,130	500	1,650	101%	32 - 160
p,m-Xylene	24,200	1000	24,800	98.4%	46 - 148
o-Xylene	4,260	500	4,770	100%	46 - 148

ND - Parameter not detected at the stated detection limit.

Dilution: Spike and spiked sample concentration represent a dilution proportional to sample dilution.

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 Photoionization and/or Electrolytic Conductivity Detectors, SW-846, USEPA December 1996.

Comments: QA/QC for Samples 57263-57265

Analyst

Review

# CHAIN OF CUSTODY RECORD

11168

Client: <b>COPE</b>			Project Name / Location: <b>McGrath #4 SWD</b>			ANALYSIS / PARAMETERS															
Client Address:			Sampler Name: <b>Rene Garcia Reyes</b>			<div style="display: flex; justify-content: space-between;"> <div> TPH (Method 8015) <b>X</b>  BTEX (Method 8021) <b>X</b>  VOC (Method 8260)  RCRA 8 Metals  Cation / Anion  RCI  TCLP with H/P  PAH  TPH (418.1)  CHLORIDE </div> <div> Sample Cool  Sample Intact </div> </div>															
Client Phone No.:			Client No.: <b>92115-1598</b>																		
Sample No./ Identification	Sample Date	Sample Time	Lab No.	Sample Matrix	No./Volume of Containers	Preservative			TPH (Method 8015)	BTEX (Method 8021)	VOC (Method 8260)	RCRA 8 Metals	Cation / Anion	RCI	TCLP with H/P	PAH	TPH (418.1)	CHLORIDE	Sample Cool	Sample Intact	
Excavation	2-18-11	11:35	57263	Soil Solid	402				X	X	X									X	X
NE SEP		11:45	57264	Soil Solid					X	X	X									X	X
S SEP		11:55	57265	Soil Solid					X	X	X									X	X
				Soil Solid																	
				Soil Solid																	
				Soil Solid																	
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Relinquished by: (Signature) <i>[Signature]</i>			Date	Time	Received by: (Signature) <i>[Signature]</i>			Date			Time										
Relinquished by: (Signature)					Received by: (Signature)																
Relinquished by: (Signature)					Received by: (Signature)																

RUSH



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**EPA METHOD 418.1  
TOTAL PETROLEUM  
HYDROCARBONS**

Client:	ConocoPhillips	Project #:	92115-1598
Sample No.:	1	Date Reported:	4/6/2011
Sample ID:	NW 1' BGS	Date Sampled:	2/24/2011
Sample Matrix:	Soil	Date Analyzed:	2/24/2011
Preservative:	Cool	Analysis Needed:	TPH-418.1
Condition:	Cool and Intact		

Parameter	Concentration (mg/kg)	Det. Limit (mg/kg)
Total Petroleum Hydrocarbons	5,490	5.0

ND = Parameter not detected at the stated detection limit.

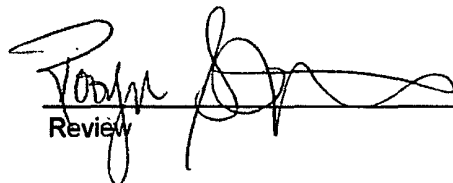
References: Method 418.1, Petroleum Hydrocarbons, Total Recoverable, Chemical Analysis of Water and Waste, USEPA Storet No. 4551, 1978.

Comments: **McGrath #4 SWD (hBr)**

Instrument calibrated to 200 ppm standard. Zeroed before each sample

Analyst 

**Rene Garcia Reyes**  
Printed

Review 

**Robyn Jones, EIT**  
Printed



**EPA METHOD 418.1  
TOTAL PETROLEUM  
HYDROCARBONS**

Client:	ConocoPhillips	Project #:	92115-1598
Sample No.:	2	Date Reported:	4/6/2011
Sample ID:	NE 2' BGS	Date Sampled:	2/24/2011
Sample Matrix:	Soil	Date Analyzed:	2/24/2011
Preservative:	Cool	Analysis Needed:	TPH-418.1
Condition:	Cool and Intact		

Parameter	Concentration (mg/kg)	Det. Limit (mg/kg)
Total Petroleum Hydrocarbons	2,640	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: **McGrath #4 SWD (hBr)**

Instrument calibrated to 200 ppm standard. Zeroed before each sample

Analyst

Rene Garcia Reyes

Printed

Review

Robyn Jones, EIT

Printed



**EPA METHOD 418.1  
TOTAL PETROLEUM  
HYDROCARBONS**

Client:	ConocoPhillips	Project #:	92115-1598
Sample No.:	3	Date Reported:	4/6/2011
Sample ID:	SE 2' BGS	Date Sampled:	2/24/2011
Sample Matrix:	Soil	Date Analyzed:	2/24/2011
Preservative:	Cool	Analysis Needed:	TPH-418.1
Condition:	Cool and Intact		

Parameter	Concentration (mg/kg)	Det. Limit (mg/kg)
Total Petroleum Hydrocarbons	3,200	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: **McGrath #4 SWD (hBr)**

Instrument calibrated to 200 ppm standard. Zeroed before each sample

Analyst

Rene Garcia Reyes  
Printed

Review

Robyn Jones, EIT  
Printed





**EPA METHOD 418.1  
TOTAL PETROLEUM  
HYDROCARBONS**

Client: ConocoPhillips  
Sample No.: 4  
Sample ID: S 2' BGS  
Sample Matrix: Soil  
Preservative: Cool  
Condition: Cool and Intact

Project #: 92115-1598  
Date Reported: 4/6/2011  
Date Sampled: 2/24/2011  
Date Analyzed: 2/24/2011  
Analysis Needed: TPH-418.1

Parameter	Concentration (mg/kg)	Det. Limit (mg/kg)
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<b>Total Petroleum Hydrocarbons</b>	<b>5,500</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.

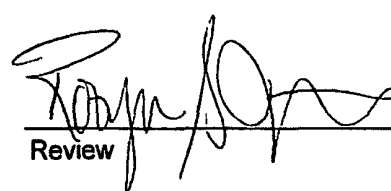
Comments: **McGrath #4 SWD (hBr)**

Instrument calibrated to 200 ppm standard. Zeroed before each sample

Analyst

  
**Rene Garcia Reyes**  
Printed

Review

  
**Robyn Jones, EIT**  
Printed



**EPA METHOD 418.1  
TOTAL PETROLEUM  
HYDROCARBONS**

Client: ConocoPhillips  
Sample No.: 5  
Sample ID: SW 2' BGS  
Sample Matrix: Soil  
Preservative: Cool  
Condition: Cool and Intact

Project #: 92115-1598  
Date Reported: 4/6/2011  
Date Sampled: 2/24/2011  
Date Analyzed: 2/24/2011  
Analysis Needed: TPH-418.1

Parameter	Concentration (mg/kg)	Det. Limit (mg/kg)
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Total Petroleum Hydrocarbons	3,780	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: **McGrath #4 SWD (hBr)**

Instrument calibrated to 200 ppm standard. Zeroed before each sample

Analyst

**Rene Garcia Reyes**

Printed

Review

**Robyn Jones, EIT**

Printed



CONTINUOUS CALIBRATION  
EPA METHOD 418.1  
TOTAL PETROLEUM  
HYDROCARBONS

Cal. Date: 24-Feb-11

Parameter	Standard Concentration mg/L	Concentration Reading mg/L
TPH	100	206
	200	
	500	
	1000	

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

Analyst

Rene Garcia Reyes

Print Name

Review

Robyn Jones, EIT

Print Name

4/6/2011

Date

4/6/2011

Date

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


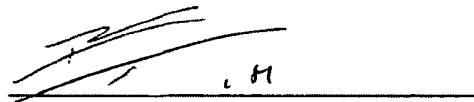
Client:	ConocoPhillips	Project #:	92115-1598
Sample ID:	N W 1'	Date Reported:	02-25-11
Laboratory Number:	57316	Date Sampled:	02-24-11
Chain of Custody No:	11234	Date Received:	02-24-11
Sample Matrix:	Soil	Date Extracted:	02-25-11
Preservative:	Cool	Date Analyzed:	02-25-11
Condition:	Intact	Analysis Requested:	8015 TPH

Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	169	0.2
Diesel Range (C10 - C28)	406	0.1
Total Petroleum Hydrocarbons	575	

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: **McGrath #4 SWD (hBr)**

  
Analyst  
Review

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


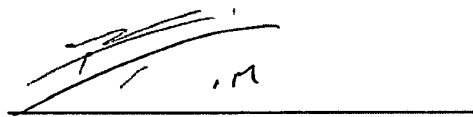
Client:	ConocoPhillips	Project #:	92115-1598
Sample ID:	N E 2'	Date Reported:	02-25-11
Laboratory Number:	57317	Date Sampled:	02-24-11
Chain of Custody No:	11234	Date Received:	02-24-11
Sample Matrix:	Soil	Date Extracted:	02-25-11
Preservative:	Cool	Date Analyzed:	02-25-11
Condition:	Intact	Analysis Requested:	8015 TPH

Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	107	0.2
Diesel Range (C10 - C28)	216	0.1
Total Petroleum Hydrocarbons	323	

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: **McGrath #4 SWD (hBr)**

  
Analyst  
Review

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

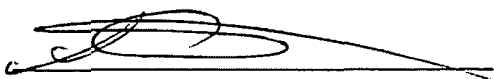
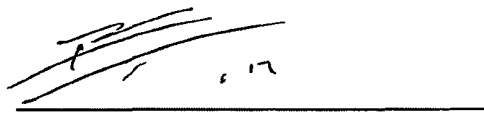
Client:	ConocoPhillips	Project #:	92115-1598
Sample ID:	S E 2'	Date Reported:	02-25-11
Laboratory Number:	57318	Date Sampled:	02-24-11
Chain of Custody No:	11234	Date Received:	02-24-11
Sample Matrix:	Soil	Date Extracted:	02-25-11
Preservative:	Cool	Date Analyzed:	02-25-11
Condition:	Intact	Analysis Requested:	8015 TPH

Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	31.3	0.2
Diesel Range (C10 - C28)	172	0.1
Total Petroleum Hydrocarbons	203	

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: McGrath #4 SWD (hBr)

  
Analyst  
Review

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

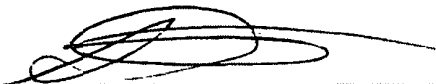
Client:	ConocoPhillips	Project #:	92115-1598
Sample ID:	S 2'	Date Reported:	02-25-11
Laboratory Number:	57319	Date Sampled:	02-24-11
Chain of Custody No:	11234	Date Received:	02-24-11
Sample Matrix:	Soil	Date Extracted:	02-25-11
Preservative:	Cool	Date Analyzed:	02-25-11
Condition:	Intact	Analysis Requested:	8015 TPH

Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	505	0.2
Diesel Range (C10 - C28)	996	0.1
Total Petroleum Hydrocarbons	1,500	


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: McGrath #4 SWD (hBr)



Analyst



Review



**envirotech**  
Analytical Laboratory

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


Client:	ConocoPhillips	Project #:	92115-1598
Sample ID:	S W 2'	Date Reported:	02-25-11
Laboratory Number:	57320	Date Sampled:	02-24-11
Chain of Custody No:	11234	Date Received:	02-24-11
Sample Matrix:	Soil	Date Extracted:	02-25-11
Preservative:	Cool	Date Analyzed:	02-25-11
Condition:	Intact	Analysis Requested:	8015 TPH

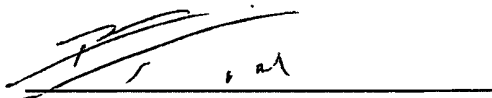
Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	53.3	0.2
Diesel Range (C10 - C28)	407	0.1
Total Petroleum Hydrocarbons	460	

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: **McGrath #4 SWD (hBr)**

  
Analyst

  
Review



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

**Quality Assurance Report**

Client:	QA/QC	Project #:	N/A
Sample ID:	02-25-11 QA/QC	Date Reported:	02-25-11
Laboratory Number:	57315	Date Sampled:	N/A
Sample Matrix:	Methylene Chloride	Date Received:	N/A
Preservative:	N/A	Date Analyzed:	02-25-11
Condition:	N/A	Analysis Requested:	TPH

	I-Cal Date	I-Cal RF	C-Cal RF	% Difference	Accept. Range
Gasoline Range C5 - C10	02-25-11	9.9960E+002	1.0000E+003	0.04%	0 - 15%
Diesel Range C10 - C28	02-25-11	9.9960E+002	1.0000E+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

Duplicate Conc. (mg/Kg)	Sample	Duplicate	% Difference	Accept. Range
Gasoline Range C5 - C10	ND	ND	0.0%	0 - 30%
Diesel Range C10 - C28	ND	ND	0.0%	0 - 30%


Spike Conc. (mg/Kg)	Sample	Spike Added	Spike Result	% Recovery	Accept. Range
Gasoline Range C5 - C10	ND	250	254	102%	75 - 125%
Diesel Range C10 - C28	ND	250	255	102%	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 57315-57328, 57291-57293

  
 Analyst

  
 Review

Client:	ConocoPhillips	Project #:	92115-1598
Sample ID:	N E 2'	Date Reported:	02-25-11
Laboratory Number:	57317	Date Sampled:	02-24-11
Chain of Custody:	11234	Date Received:	02-24-11
Sample Matrix:	Soil	Date Analyzed:	02-25-11
Preservative:	Cool	Date Extracted:	02-25-11
Condition:	Intact	Analysis Requested:	BTEX
		Dilution:	10

Parameter	Concentration (ug/Kg)	Det. Limit (ug/Kg)
Benzene	ND	0.9
Toluene	161	1.0
Ethylbenzene	14.9	1.0
p,m-Xylene	1,300	1.2
o-Xylene	111	0.9
<b>Total BTEX</b>	<b>1,590</b>	

ND - Parameter not detected at the stated detection limit.

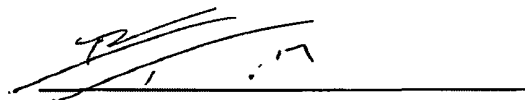
Surrogate Recoveries:	Parameter	Percent Recovery
	Fluorobenzene	114 %
	1,4-difluorobenzene	102 %
	Bromochlorobenzene	84.0 %

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: McGrath #4 SWD (hBr)

  
 Analyst

  
 Review

Client:	ConocoPhillips	Project #:	92115-1598
Sample ID:	S 2'	Date Reported:	02-25-11
Laboratory Number:	57319	Date Sampled:	02-24-11
Chain of Custody:	11234	Date Received:	02-24-11
Sample Matrix:	Soil	Date Analyzed:	02-25-11
Preservative:	Cool	Date Extracted:	02-25-11
Condition:	Intact	Analysis Requested:	BTEX
		Dilution:	10

Parameter	Concentration (ug/Kg)	Det. Limit (ug/Kg)
Benzene	3.0	0.9
Toluene	360	1.0
Ethylbenzene	153	1.0
p,m-Xylene	8,810	1.2
o-Xylene	1,520	0.9
<b>Total BTEX</b>	<b>10,800</b>	

ND - Parameter not detected at the stated detection limit.

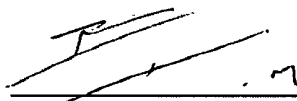
Surrogate Recoveries:	Parameter	Percent Recovery
	Fluorobenzene	109 %
	1,4-difluorobenzene	110 %
	Bromochlorobenzene	114 %

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: McGrath #4 SWD (hBr)

  
 Analyst

  
 Review

Client:	ConocoPhillips	Project #:	92115-1598
Sample ID:	S W 2'	Date Reported:	02-25-11
Laboratory Number:	57320	Date Sampled:	02-24-11
Chain of Custody:	11234	Date Received:	02-24-11
Sample Matrix:	Soil	Date Analyzed:	02-25-11
Preservative:	Cool	Date Extracted:	02-25-11
Condition:	Intact	Analysis Requested:	BTEX
		Dilution:	10

Parameter	Concentration (ug/Kg)	Det. Limit (ug/Kg)
Benzene	ND	0.9
Toluene	56.9	1.0
Ethylbenzene	56.7	1.0
p,m-Xylene	1,430	1.2
o-Xylene	114	0.9
<b>Total BTEX</b>	<b>1,660</b>	

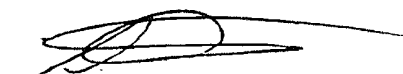
ND - Parameter not detected at the stated detection limit.


Surrogate Recoveries:	Parameter	Percent Recovery
	Fluorobenzene	114 %
	1,4-difluorobenzene	113 %
	Bromochlorobenzene	118 %

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: McGrath #4 SWD (hBr)

  
 Analyst

  
 Review

Client:	N/A	Project #:	N/A
Sample ID:	0225BBLK QA/QC	Date Reported:	02-25-11
Laboratory Number:	57317	Date Sampled:	N/A
Sample Matrix:	Soil	Date Received:	N/A
Preservative:	N/A	Date Analyzed:	02-25-11
Condition:	N/A	Analysis:	BTEX
		Dilution:	10

Calibration and Detection Limits (ug/L)	I-Cal RF:	C-Cal RF:	%Diff:	Blank Conc:	Detect. Limit
		Accept Range 0 - 15%			
Benzene	4.2789E+006	4.2875E+006	0.2%	ND	0.1
Toluene	1.2882E+006	1.2908E+006	0.2%	ND	0.1
Ethylbenzene	9.8101E+005	9.8298E+005	0.2%	ND	0.1
p,m-Xylene	2.1486E+006	2.1529E+006	0.2%	ND	0.1
o-Xylene	7.9345E+005	7.9504E+005	0.2%	ND	0.1

Duplicate Conc: (ug/Kg)	Sample	Duplicate	%Diff:	Accept Range	Detect. Limit
Benzene	ND	ND	0.0%	0 - 30%	0.9
Toluene	161	168	4.3%	0 - 30%	1.0
Ethylbenzene	14.9	14.4	3.4%	0 - 30%	1.0
p,m-Xylene	1,300	1,380	6.2%	0 - 30%	1.2
o-Xylene	111	116	4.2%	0 - 30%	0.9

Spike Conc: (ug/Kg)	Sample	Amount Spiked	Spiked Sample	% Recovery	Accept Range
Benzene	ND	500	528	106%	39 - 150
Toluene	161	500	682	103%	46 - 148
Ethylbenzene	14.9	500	512	99.5%	32 - 160
p,m-Xylene	1,300	1000	2,380	103%	46 - 148
o-Xylene	111	500	658	108%	46 - 148

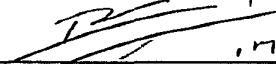
ND - Parameter not detected at the stated detection limit.

Dilution: Spike and spiked sample concentration represent a dilution proportional to sample dilution.

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 Photoionization and/or Electrolytic Conductivity Detectors, SW-846, USEPA December 1996.

**Comments: QA/QC for Samples 57317, 57319-57320, 57327-57328, 57275, 57277**

  
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Analyst

  
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Review

# CHAIN OF CUSTODY RECORD

11234

Client: <b>COPC</b>			Project Name / Location: <b>McGrath #4 SWD (hBr)</b>			ANALYSIS / PARAMETERS														
Client Address:			Sampler Name: <b>Rene Garcia Reyes</b>			<div style="display: flex; justify-content: space-between;"> <div> <b>X</b> TPH (Method 8015)  <b>X</b> BTEX (Method 8021)  VOC (Method 8260)  RCRA 8 Metals  Cation / Anion  RCI  TCLP with H/P  PAH  TPH (418.1)  CHLORIDE </div> <div> Sample Cool  Sample Intact </div> </div>														
Client Phone No.:			Client No.: <b>92115-1598</b>																	
Sample No./ Identification	Sample Date	Sample Time	Lab No.	Sample Matrix	No./Volume of Containers	Preservative			TPH (Method 8015)	BTEX (Method 8021)	VOC (Method 8260)	RCRA 8 Metals	Cation / Anion	RCI	TCLP with H/P	PAH	TPH (418.1)	CHLORIDE	Sample Cool	Sample Intact
NW 1'	2/24/11		57316	Soil Solid	402				X										X	X
NE 2'			57317	Soil Solid					X	X									X	X
SE 2'			57318	Soil Solid					X										X	X
S 2'			57319	Soil Solid					X	X									X	X
SW 2'			57320	Soil Solid					X	X									X	X
				Soil Solid																
				Soil Solid																
				Soil Solid																
				Soil Solid																
				Soil Solid																
				Soil Solid																

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
<i>[Signature]</i>	2/24/11	13:00	<i>[Signature]</i>	2/24/11	13:00
Relinquished by: (Signature)			Received by: (Signature)		
Relinquished by: (Signature)			Received by: (Signature)		

RUSA



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Analytical Laboratory



**EPA METHOD 418.1  
TOTAL PETROLEUM  
HYDROCARBONS**

Client:	ConocoPhillips	Project #:	92115-1598
Sample No.:	1	Date Reported:	4/6/2011
Sample ID:	S 5 Pt. Composite	Date Sampled:	3/4/2011
Sample Matrix:	Soil	Date Analyzed:	3/4/2011
Preservative:	Cool	Analysis Needed:	TPH-418.1
Condition:	Cool and Intact		

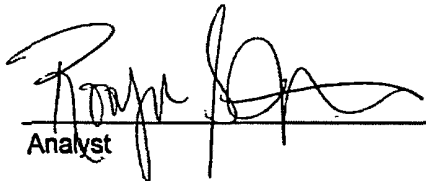
Parameter	Concentration (mg/kg)	Det. Limit (mg/kg)
Total Petroleum Hydrocarbons	14,800	5.0

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: **McGrath #4 SWD (hBr)**

Instrument calibrated to 200 ppm standard. Zeroed before each sample

  
\_\_\_\_\_  
Analyst

**Robyn Jones, EIT**  
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\_\_\_\_\_  
Review

**Greg Crabtree, PE**  
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Printed

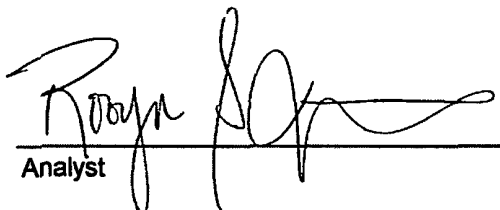


CONTINUOUS CALIBRATION  
EPA METHOD 418.1  
TOTAL PETROLEUM  
HYDROCARBONS

Cal. Date: 4-Mar-11


Parameter	Standard Concentration mg/L	Concentration Reading mg/L
TPH	100	
	200	205
	500	
	1000	

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

  
\_\_\_\_\_  
Analyst

Robyn Jones, EIT

\_\_\_\_\_  
Print Name

  
\_\_\_\_\_  
Review

Greg Crabtree, PE

\_\_\_\_\_  
Print Name

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4/6/2011

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Date

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4/6/2011

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Date



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

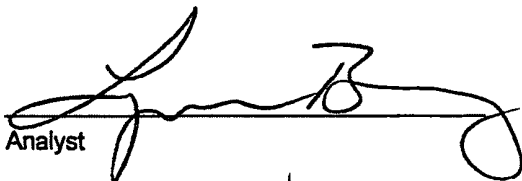

Client:	ConocoPhillips	Project #:	92115-1598
Sample ID:	5 Point Comp	Date Reported:	03-07-11
Laboratory Number:	57473	Date Sampled:	03-04-11
Chain of Custody No:	11300	Date Received:	03-04-11
Sample Matrix:	Soil	Date Extracted:	03-05-11
Preservative:	Cool	Date Analyzed:	03-07-11
Condition:	Intact	Analysis Requested:	8015 TPH

Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	202	0.2
Diesel Range (C10 - C28)	389	0.1
Total Petroleum Hydrocarbons	591	

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: **McGrath SWD (South Section)**

  
Analyst  
Review

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

**Quality Assurance Report**

Client:	QA/QC	Project #:	N/A
Sample ID:	03-07-11 QA/QC	Date Reported:	03-07-11
Laboratory Number:	57473	Date Sampled:	N/A
Sample Matrix:	Methylene Chloride	Date Received:	N/A
Preservative:	N/A	Date Analyzed:	03-07-11
Condition:	N/A	Analysis Requested:	TPH

	I-Cal Date	I-Cal RF:	C-Cal RF:	% Difference	Accept. Range
Gasoline Range C5 - C10	03-07-11	9.9960E+002	1.0000E+003	0.04%	0 - 15%
Diesel Range C10 - C28	03-07-11	9.9960E+002	1.0000E+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

Duplicate Conc. (mg/Kg)	Sample	Duplicate	% Difference	Accept. Range
Gasoline Range C5 - C10	202	191	5.5%	0 - 30%
Diesel Range C10 - C28	389	396	1.9%	0 - 30%


Spike Conc. (mg/Kg)	Sample	Spike Added	Spike Result	% Recovery	Accept. Range
Gasoline Range C5 - C10	202	250	456	101%	75 - 125%
Diesel Range C10 - C28	389	250	651	102%	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 57473-57475, 57479, 57482-57491

Analyst 

Review 

Client:	ConocoPhillips	Project #:	92115-1598
Sample ID:	5 Point Comp	Date Reported:	03-07-11
Laboratory Number:	57473	Date Sampled:	03-04-11
Chain of Custody:	11300	Date Received:	03-04-11
Sample Matrix:	Soil	Date Analyzed:	03-07-11
Preservative:	Cool	Date Extracted:	03-06-11
Condition:	Intact	Analysis Requested:	BTEX
		Dilution:	10

Parameter	Concentration (ug/Kg)	Det. Limit (ug/Kg)
Benzene	ND	0.9
Toluene	15.7	1.0
Ethylbenzene	78.5	1.0
p,m-Xylene	1,340	1.2
o-Xylene	179	0.9
<b>Total BTEX</b>	<b>1,610</b>	

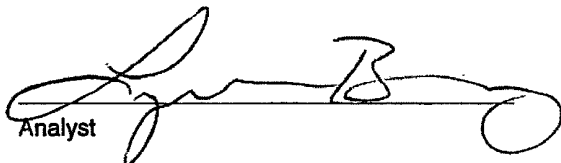
ND - Parameter not detected at the stated detection limit.

Surrogate Recoveries:	Parameter	Percent Recovery
	Fluorobenzene	105 %
	1,4-difluorobenzene	100 %
	Bromochlorobenzene	109 %

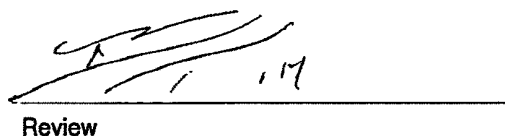
References: Method 5030B, Purge-and-Trap, Test Methods for Evaluating Solid Waste, SW-846, USEPA, December 1996.

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

Comments: McGrath SWD (South Section)



Analyst



Review

Client:	N/A	Project #:	N/A
Sample ID:	0307BBLK QA/QC	Date Reported:	03-07-11
Laboratory Number:	57473	Date Sampled:	N/A
Sample Matrix:	Soil	Date Received:	N/A
Preservative:	N/A	Date Analyzed:	03-07-11
Condition:	N/A	Analysis:	BTEX
		Dilution:	10

Calibration and Detection Limits (ug/L)	I-Cal RF:	C-Cal RF:	%Diff.	Blank Conc	Detect. Limit
		Accept Range 0 - 15%			
Benzene	1.2234E+005	1.2259E+005	0.2%	ND	0.1
Toluene	1.3226E+005	1.3253E+005	0.2%	ND	0.1
Ethylbenzene	1.1476E+005	1.1499E+005	0.2%	ND	0.1
p,m-Xylene	2.6387E+005	2.6440E+005	0.2%	ND	0.1
o-Xylene	1.0809E+005	1.0831E+005	0.2%	ND	0.1

Duplicate Conc. (ug/Kg)	Sample	Duplicate	%Diff.	Accept Range	Detect. Limit
Benzene	ND	ND	0.0%	0 - 30%	0.9
Toluene	15.7	15.8	0.6%	0 - 30%	1.0
Ethylbenzene	78.5	82.3	4.8%	0 - 30%	1.0
p,m-Xylene	1,340	1,320	1.5%	0 - 30%	1.2
o-Xylene	179	177	1.1%	0 - 30%	0.9

Spike Conc. (ug/Kg)	Sample	Amount Spiked	Spiked Sample	% Recovery	Accept Range
Benzene	ND	500	534	107%	39 - 150
Toluene	15.7	500	517	100%	46 - 148
Ethylbenzene	78.5	500	561	96.9%	32 - 160
p,m-Xylene	1,340	1000	2,360	101%	46 - 148
o-Xylene	179	500	666	98.0%	46 - 148

ND - Parameter not detected at the stated detection limit.

Dilution: Spike and spiked sample concentration represent a dilution proportional to sample dilution.

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 Photoionization and/or Electrolytic Conductivity Detectors, SW-846, USEPA December 1996.

**Comments:** QA/QC for Samples 57473-57475, 57479

Analyst

Review

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