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

\* Attach Additional Sheets If Necessary

## 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

On with	- ~~	210	Rele	ase Notification	on and Co	rrective Ac	tion	
30-045	5-09	560		OP:	ERATOR		☐ Initial R	eport 🛛 Final Report
	bsidiary	of Conoco	Phillips		Contact	Kelsi H	arrington	
Address				gton, NM 87402	Telephone N			
Facility Nar	ne <b>Madd</b>	ox D Fedei	al Com	1	Facility Type	Gas Well	API #3	004509360
Surface Ow	ner <b>Fec</b>	leral		Mineral Owner	Federal		Leas	e No. NMNM-0546
				LOCATIO	ON OF REL	EASE		
Unit Letter <b>G</b>	Section 23	Township <b>30N</b>	Range 13W	Feet from the No	rth/South Line <b>North</b>	Feet from the 1680'	East/West Li <b>East</b>	ne   County   San Juan
	•		Latitu	de <u> 36.80101° N</u>	Longitude1	08.17108° W		
				NATURI	E OF RELE	EASE		
Type of Rele					<del> </del>	lease – 56 BBL		Volume Recovered - <b>0 BBL</b>
		duction Ta	ınk		Unknown	r of Occurrence		Date and Hour of Discovery <b>2/24/11 11:00 a.m.</b>
Was Immedia	ate Notice (	·	es 🗌 No	☐ Not Required	If YES, To WI Brandon Pe	hom? <mark>owell (NMOC</mark> I	D): Verbal a	nd Email
By Whom?						– 2/28/11 3:		The two or the two freeholds to be the Tar TE
Was a Water	course Read		Yes 🛛	No	If YES, Volun	ne Impacting the	Watercourse.	KUVU SEF 15 11
If a Watercou	ırse was Im	pacted, Descr			OIL CONS. DIV.			
Describe Cause of Problem and Remedial Action Taken.* This incident was originally reported as a theft. After tirther investigation, it was discovered that a release did occur. Upon discovery, immediate notification was given. The release is believed to be the result of a Production tank leak.  Describe Area Affected and Cleanup Action Taken.* All fluid remained within the berm and no fluid was recovered. The final extents of the excavation were measured at 60 feet by 37 feet by 18 feet deep, in which final extents were reached du to encountering sandstone. The four walls were sampled and returned analytical results were below the regulatory standards set forth in the NMOCD Guidelines for Remediation of Leaks, Spills and Releases; however the bottom at sandstone was sprayed with potassium permanganate solution to aid in the remediation of the remaining impact. The bottom was sampled after application of the solution and returned results over the regulatory standard for total				recovered. The final extents were reached due ere below the regulatory the however the bottom at the remaining impact.				
applicatio and total I backfill; th	petroleum hydrocarbons (TPH) but the concentration had decreased substantially from the sample collected before application of the potassium permanganate. The sample returned results below regulatory standards for benzene and total BTEX. Reasonable extents of excavation had been reached and NMOCD approved the excavation for backfill; therefore no further action required.					standards for benzene I the excavation for		
I hereby certify that the information given above is true and complete to the best of my knowledge and understand the regulations all operators are required to report and/or file certain release notifications and perform corrective actions public health or the environment. The acceptance of a C-141 report by the NMOCD marked as "Final Report" does a should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground or the environment. In addition, NMOCD acceptance of a C-141 report does not relieve the operator of responsibility federal, state, or local laws and/or regulations.					ive actions for port" does not at to ground we esponsibility fo	releases which may endanger relieve the operator of liability ater, surface water, human health or compliance with any other		
Signature:	Kelon	Harrington				OIL CONS	ERVATIO	N DIVISION
Printed Name: Kelsi Harrington			Approved by I	District Superviso	r: <i>Nd</i>	- Sall		
Title:	Env	vironmenta	l Consul	tant	Approval Date	: 10/11/1	Expirati	on Date:
E-mail Addre	ess: <b>kelsi.</b>	g.harringto	n@cono	cophillips.com	Conditions of	Approval:		Attached
Date: 9/14/	11		Phone: 5	05-599-3403				

District I
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#### State of New Mexico Energy Minerals and Natural Resources

Oil Conservation Division 1220 South St. Francis Dr. Santa Fe, NM 87505 Submit 2 Copies to appropriate District Office in accordance with Rule 116 on back side of form

Form C-141 Revised October 10, 2003

☐ Final Report

## Release Notification and Corrective Action OPERATOR

Name of Company Burlington Resources, a Wholly Owned Subsidiary of ConocoPhillips Company			Conta	act	Kelsi F	larrington				
Address	3401	E. 30 <sup>th</sup> St.	, Farming	gton, NM 8740	2 Teler	hone N	lo. <b>505-59</b>	9-3403		
Facility Nar		ox D Fede					e Gas Well	API#3	3004	509360
Surface Owner Federal Mineral Owner					ner <b>Fe</b> o	leral		Leas	se No	. NMNM-0546
				LOCAT	ION OI	FREI	LEASE			
Unit Letter <b>G</b>	Section 23	Township <b>30N</b>	Range 13W	Feet from the 1840'	North/Sout Nort		Feet from the 1680'	East/West L East	ine	County San Juan
			Latitu	de <u> 36.80101° N</u>	Longi	tude′	108.17108° W			
				NATU	RE OF	RELI	EASE			
Type of Rele				=-= <u>-</u>			lease - 56 BBI	_		ıme Recovered – <b>0 BBL</b>
Source of Re	lease: Pro	duction Ta	ınk			ınd Hou 1 <b>0WN</b>	r of Occurrence			e and Hour of Discovery 4/11 11:00 a.m.
Was Immedia	ate Notice (		es 🗌 No	☐ Not Require		S, To W I <b>don P</b>	hom? owell (NMOC	D): Verbal a	and E	Email
By Whom?	Kelsi Ha	rrington			Date a	Date and Hour – 2/28/11 3:35 p.m.				
Was a Water		hed?	Yes 🛛	No	If YE	If YES, Volume Impacting the Watercourse.				
If a Watercou	ırse was Im	pacted, Descr			I	***	····			
Describe Cau	ise of Proble	em and Reme	dial Action	Taken.* This in	cident w	as orio	inally report	ed as a thef	ft Δ·	fter further
investigat	ion, it wa	s discove	ed that a		cur. Up	on dis				on was given. The
							he berm and	no fluid was	s rec	overed. Excavation
		ampling w								
										ant to NMOCD rules and
										ses which may endanger to the operator of liability
										surface water, human health
										npliance with any other
federal, state		ws and/or regi								
Signature: Kelö Harrington				OIL CONSERVATION DIVISION			<u>DIVISION</u>			
Printed Name: Kelsi Harrington			Appro	oved by	District Supervise	or:				
Title:	Env	ironmenta	l Consul	tant	Appro	oval Dat	e:	Expirat	ion D	ate:
E-mail Addre	ess: <b>kelsi.</b> ç	g.harringto	n@cono	cophillips.com	Cond	tions of	Approval:			Attached
Date: <b>3/14/</b>	11		Phone: 5	05-599-3403						

<sup>\*</sup> Attach Additional Sheets If Necessary



May 2, 2011

Project Number 92115-1635

Phone: (505) 599-3403

(505) 320-2461

Cell:

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

RE: CONFIRMATION SAMPLING DOCUMENTATION FOR THE MADDOX D FEDERAL COM #1 (HBR), SAN JUAN COUNTY, NEW MEXICO

Dear Ms. Harrington,

Enclosed please find the field notes and analytical results for confirmation sampling activities performed at the Maddox D Federal Com #1 (hBr) well site located in Section 23, Township 30 North, Range 13 West, San Juan County, New Mexico. Upon arrival, a brief site assessment was conducted, and the regulatory standards for the site were determined to be 1000 parts per million (ppm) total petroleum hydrocarbons (TPH) and 100 ppm organic vapors due to a horizontal distance to surface water between 200 to 1000 feet, pursuant to New Mexico Oil Conservation Division (NMOCD) Guidelines for Remediation of Leaks, Spills, and Releases.

Prior to Envirotech personnel's arrival on March 10, 2011, the area of the release had been excavated to approximately 56 feet by 37 feet by 15 feet deep by M&M Trucking. Five (5) composite samples were collected from the excavation. One (1) sample was collected from the bottom and one (1) composite sample was collected from each of the four (4) walls designated as the north wall, south wall, east wall, and west wall samples; see enclosed Field Notes. All samples were analyzed in the field for TPH using USEPA Method 418.1 and for organic vapors using a photoionization detector (PID). The north and south wall samples returned results below the regulatory standards for all constituents analyzed. The east wall sample returned results below the regulatory standard for TPH, but above the regulatory standard for organic vapors. The west wall and bottom samples returned results above the regulatory standards for both TPH and organic vapors. The west wall was excavated an additional two (2) feet and a composite sample was collected (West Wall 2). The sample was analyzed in the field for TPH and organic vapors and returned results above the regulatory standards for both TPH and organic vapors. The west wall was excavated another two (2) feet and a composite sample was collected (West Wall 3). The sample was analyzed in the field for TPH and organic vapors and returned results below the regulatory standards for all constituents analyzed; see enclosed *Field Notes*. The east wall and bottom samples were then each collected into a four (4)-ounce glass jar, capped headspace free, and transported on ice, under chain of custody, to Envirotech's Analytical Laboratory for additional analysis. The east wall sample was analyzed for benzene and total BTEX using USEPA Method 8021. The bottom sample was analyzed for TPH using USEPA Method 8015 and for benzene and total BTEX using USEPA Method 8021. The east wall sample returned results below the regulatory standards for all constituents analyzed. The bottom sample returned results below the regulatory standard for benzene, but above the regulatory standards for total BTEX and TPH; see enclosed Analytical Results. Envirotech recommended further excavation of the bottom.

Envirotech personnel returned to the site on March 16, 2011, and the bottom was further excavated by M&M Trucking to approximately 18 feet BGS where sandstone was encountered. One (1) sample was collected from the sandstone bottom and analyzed 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 TPH and organic vapors; see enclosed *Field Notes*. The sample collected from the bottom of the excavation was then collected into a four (4)-ounce glass jar, capped headspace 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 total BTEX using USEPA Method 8021. The sample returned results below the regulatory standard for benzene, but above the regulatory standards for TPH and total BTEX; see enclosed *Analytical Results*. The reasonable extents of excavation had been reached due to encountering sandstone. The final excavation measured approximately 60 feet by 37 feet by 18 feet deep.

On March 18, 2011, Envirotech personnel returned to the site to spray a potassium permanganate solution on the bottom of the excavation to aid in the remediation of remaining contamination.

Envirotech personnel returned to the site on March 22, 2011, and collected one (1) sample from the bottom of the excavation. The sample was placed in 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 benzene and total BTEX using USEPA Method 8021. The sample returned results above the regulatory standard for TPH, but the concentration had decreased substantially from the sample collected on March 16, 2011. The sample returned results below regulatory standards for benzene and total BTEX; see enclosed Analytical Results. Reasonable extents of excavation had been reached; therefore Envirotech, Inc. recommends no further action in regards to this incident.

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

Respectfully submitted,

ENVIROTECH, INC.

Toni McKnight, EIT

Environmental Project Manager tmcknight@envirotech-inc.com

Enclosure(s): Field Notes

**Analytical Results** 

Cc: Client File 92115

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92115-1635			5796 L	J.S. Hvry 64, Fern	ington, NEI 87	7401	C.O.C. No:		
FIELD REPORT: S	PILL CLO	OSURE	VERIFIC	CATION			PAGE NO:		
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LOCATION: NAME: /	14000x D	PEDERAC	WELL #:					ISHED: 3/da/	//
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RAVEL NOTES:	CALLED OUT:	ONSITE:	11:00
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x = Samples



Client:

ConocoPhillips

92115-1635

Sample No.:

1

Project #: Date Reported:

4/7/2011

Sample ID:

North Wall

Sample Matrix:

Soil

Date Sampled: Date Analyzed: 3/10/2011 3/10/2011

Preservative:

Cool

Analysis Needed:

TPH-418.1

Condition:

Cool and Intact

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

Maddox D Federal Com #1 (hBr)

Instrument calibrated to 200 ppm standard. Zeroed before each sample

Toni McKnight, EIT

**Printed** 

Robyn Jones, EIT



Client:

ConocoPhillips

92115-1635

Sample No.:

2

Sample ID:

South Wall

4/7/2011

Sample Matrix:

Soil

Date Sampled: 3/10/2011

Project #:

Date Reported:

Preservative:

Cool

Date Analyzed: Analysis Needed:

3/10/2011 TPH-418.1

Condition:

Cool and Intact

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

**Total Petroleum Hydrocarbons** 

56

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:

Maddox D Federal Com #1 (hBr)

Instrument calibrated to 200 ppm standard. Zeroed before each sample

Analyst

Toni McKnight, EIT

**Printed** 

Robyn Jones, EIT



Client:

ConocoPhillips

92115-1635

Sample No.:

3

Project #: Date Reported:

Sample ID:

East Wall

Date Sampled:

4/7/2011 3/10/2011

Sample Matrix:

Soil

Date Analyzed:

3/10/2011

Preservative:

Cool

Analysis Needed:

TPH-418.1

Condition:

Cool and Intact

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

**Total Petroleum Hydrocarbons** 

80

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:

Maddox D Federal Com #1 (hBr)

Instrument calibrated to 200 ppm standard. Zeroed before each sample

Toni McKnight, EIT

**Printed** 

Robyn Jones, EIT



Client:

ConocoPhillips

92115-1635

Sample No.:

4

92113

Sample ID:

West Wall

4/7/2011

Sample Matrix:

Soil

3/10/2011

Preservative:

Cool

Date Analyzed:
Analysis Needed:

Date Reported:

Date Sampled:

Project #:

3/10/2011 TPH-418.1

Condition:

Cool and Intact

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

**Total Petroleum Hydrocarbons** 

10,000

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:

Maddox D Federal Com #1 (hBr)

Instrument calibrated to 200 ppm standard. Zeroed before each sample

Analyst

Toni McKnight, EIT

**Printed** 

Robyn Jones, EIT



Client:

ConocoPhillips

92115-1635

Sample No.:

5

Date Reported:

Sample ID:

**Bottom Composite** 

4/7/2011

Sample Matrix:

Soil

3/10/2011

Cool

Date Sampled: Date Analyzed:

Analysis Needed:

Project #:

3/10/2011 TPH-418.1

Preservative: Condition:

Cool and Intact

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

**Total Petroleum Hydrocarbons** 

2,400

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:

Maddox D Federal Com #1 (hBr)

Instrument calibrated to 200 ppm standard. Zeroed before each sample

Toni McKnight, EIT

**Printed** 

Robyn Joneš, EIT



Client:

ConocoPhillips

92115-1635

Sample No.:

6

Date Reported: 4

2115-1055

Sample ID:

West Wall 2

4/7/2011

Sample Matrix:

Soil

Date Sampled:

3/10/2011

Preservative:

Cool

Date Analyzed:
Analysis Needed:

Project #:

3/10/2011 TPH-418.1

Condition:

Cool and Intact

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

**Total Petroleum Hydrocarbons** 

1,840

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:

Maddox D Federal Com #1 (hBr)

Instrument calibrated to 200 ppm standard. Zeroed before each sample

**Analyst** 

Toni McKnight, EIT

**Printed** 

Review

Robyn Jones, EIT



Client:

ConocoPhillips

92115-1635

Sample No.:

7

Sample ID:

West Wall 3

4/7/2011

Sample Matrix:

Soil

3/10/2011

Preservative:

Cool

3/10/2011 Analysis Needed: TPH-418.1

Project #:

Date Reported:

Date Sampled:

Date Analyzed:

Condition:

Cool and Intact

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

**Total Petroleum Hydrocarbons** 

104

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:

Maddox D Federal Com #1 (hBr)

Instrument calibrated to 200 ppm standard. Zeroed before each sample

**Analyst** 

Toni McKnight, EIT

**Printed** 

Robyn Jones, EIT



# CONTINUOUS CALIBRATION EPA METHOD 418.1 TOTAL PETROLEUM HYDROCARBONS

Cal. Date:	10-Mar-11
Cal. Date:	10-Mar-1

Parameter	Standard Concentration mg/L	Concentration Reading mg/L	
TPH	100		
	200	207	
	500		
	1000		

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

Ini Milmore	4/7/2011
Analyst	Date
Toni McKnight, EIT	
Print Name	4/7/2011
Review	Date
Robyn Jones, EIT	

**Print Name** 



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

Client:	ConocoPhillips	Project #:	92115-1635
Sample ID:	Bottom Comp	Date Reported:	03-11-11
Laboratory Number:	57546	Date Sampled:	03-10-11
Chain of Custody No:	11324	Date Received:	03-10-11
Sample Matrix:	Soil	Date Extracted:	03-10-11
Preservative:	Cool	Date Analyzed:	03-10-11
Condition:	Intact	Analysis Requested:	8015 TPH

Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	1,530	0.2
Diesel Range (C10 - C28)	243	0.1
Total Petroleum Hydrocarbons	1,770	

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: Maddox D Federal Com #1 (hBr)

64

Analyst

Review

Ph (505) 632-0615 Fr (800) 362-1879 Fx (505) 632-1865 lab@envirotech-inc.com envirotech-inc.com



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

#### **Quality Assurance Report**

Client:	QA/QC		Project #:		N/A
Sample ID:	03-10-11 QA/C	C	Date Reported:		03-11-11
Laboratory Number:	57542		Date Sampled:		N/A
Sample Matrix:	Methylene Chlori	ide	Date Received:		N/A
Preservative:	N/A		Date Analyzed:		03-10-11
Condition:	N/A		Analysis Reques	sted:	TPH
Carlotte Land	I-Cal Date	I-Cal RF	C-Cal RF:	% Difference	Accept Range
Gasoline Range C5 - C10	03-10-11	9.9960E+002	1.0000E+003	0.04%	0 - 15%
Diesel Range C10 - C28	03-10-11	9.9960E+002	1.0000E+003	0.04%	0 - 15%
Blank Conc. (mg/L-; mg/Kg	No.	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	617	631	2.2%	0 - 30%	•
Diesel Range C10 - C28	4,180	4,350	4.0%	0 - 30%	
Spike Conc. (mg/Kg)	Sample	Spike Added	Spike Result	% Recovery	Accept Range
Gasoline Range C5 - C10	617	250	719	83.0%	75 - 125%

ND - Parameter not detected at the stated detection limit.

References:

Diesel Range C10 - C28

Method 8015B, Nonhalogenated Volatile Organics, Test Methods for Evaluating Solid Waste,

4,230

95.5%

75 - 125%

250

SW-846, USEPA, December 1996.

4,180

Comments:

QA/QC for Samples 57542, 57544, 57546

Analyst



Client:	ConocoPhillips		Project #:		92115-1635
Sample ID:	East Wall		Date Reported:		03-11-11
Laboratory Number:	57545		Date Sampled:		03-10-11
Chain of Custody:	11324		Date Received:		03-10-11
Sample Matrix	Soil		Date Analyzed:		03-10-11
Preservative:	Cool		Date Extracted:		03-10-11
Condition:	Intact		Analysis Requested:		BTEX
			Dilution:		10
				Det.	
_		Concentration		Limit	
Parameter		(ug/Kg)		(ug/Kg)	
Benzene		ND		0.9	
Toluene		ND		1.0	
Ethylbenzene		484		1.0	
p,m-Xylene		442		1.2	
o-Xylene		ND	1	0.9	

ND - Parameter not detected at the stated detection limit.

Surrogate Recoveries:	Parameter	Percent Recovery
The second secon	Fluorobenzene	106 %
	1,4-difluorobenzene	125 %
	Bromochlorobenzene	117 %

References:

**Total BTEX** 

Method 5030B, Purge-and-Trap, Test Methods for Evaluating Solid Waste, SW-846, USEPA,

926

December 1996.

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

USEPA, December 1996.

Comments:

Maddox D Federal Com #1 (hBr)

Analyst

Ph (505) 632-0615 Fr (800) 362-1879 Fx (505) 632-1865 lab@envirotech-inc.com envirotech-inc.com



0.9

Client:	ConocoPhillips	Project #:	92115-1635
Sample ID:	<b>Bottom Comp</b>	Date Reported:	03-11-11
Laboratory Number:	57546	Date Sampled:	03-10-11
Chain of Custody:	11324	Date Received:	03-10-11
Sample Matrix:	Soil	Date Analyzed:	03-10-11
Preservative:	Cool	Date Extracted:	03-10-11
Condition:	Intact	Analysis Requested:	BTEX
		Dilution:	10

Parameter	Concentration (ug/Kg)	Det. Limit (ug/Kg)	
_			
Benzene	188	0.9	
Toluene	33,900	1.0	
Ethylbenzene	14,400	1.0	
p,m-Xylene	103,000	1.2	

30,200

Total BTEX 182,000

ND - Parameter not detected at the stated detection limit.

Surrogate Recoveries:	Parameter	Percent Recovery
	Fluorobenzene	87.8 %
	1,4-difluorobenzene	98.9 %
	Bromochlorobenzene	106 %

References:

o-Xylene

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:** 

Maddox D Federal Com #1 (hBr)

Analyst

Review



Client	N/A	1	Project #:		N/A
Sample ID:	0310BBLK QA/QC	;	Date Reported:		03-11-11
Laboratory Number:	57543	1	Date Sampled:		N/A
Sample Matrix:	Soil		Date Received:		N/A
Preservative:	N/A		Date Analyzed:		03-10-11
Condition:	N/A		Analysis:		BTEX
			Dilution:		10
Calibration and	I-Cal RF:	C-Cal RF:	%Diff.	Blank	Detect.
Calibration and Detection Limits (ug/L)		C-Cal RF. Accept Rang		Blank Conc	Detect. Limit
And the second s		The state of the s			The state of the s
Detection Limits (ug/L)		Accept Rang	e 0 = 15%	Conc	Limit
Detection Limits (ug/L) Benzene Toluene	4.1282E+008	Accept Rang	e 0 = 15% (	Conc ND	Cimit 0.1
Detection Limits (ug/L)	4.1282E+006 1.2631E+006	Accept Rang 4.1365E+006 1.2656E+006	<u>e 0 =15%                                   </u>	Conc ND ND	0.1 0.1

Duplicate Conc. (ug/Kg)	Sample	plicate	%Diff.	Accept Range	Detect Limit
Benzene	ND	ND	0.0%	0 - 30%	0.9
Toluene	ND	ND	0.0%	0 - 30%	1.0
Ethylbenzene	ND	ND	0.0%	0 - 30%	1.0
p,m-Xylene	5.3	5.2	1.9%	0 - 30%	1.2
o-Xylene	4.0	3.7	7.5%	0 - 30%	0.9

Spike Conc. (ug/Kg)	Sample Amo	unt Spiked Spil	ked Sample %	Recovery	Accept Range
Benzene	ND	500	553	111%	39 - 150
Toluene	ND	500	593	119%	46 - 148
Ethylbenzene	ND	500	576	115%	32 - 160
p,m-Xylene	5.3	1000	1,140	113%	46 - 148
o-Xylene	4.0	500	550	109%	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.

1 11

Method 8021B, Aromatic and Halogenated Volatiles by Gas Chromatography Using Photolonization and/or Electrolytic Conductivity Detectors, SW-846, USEPA December 1996.

Comments:

\_QA/QC for Samples 57542-57546

Anályst

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## CHAIN OF CUSTODY RECORD

11524

Client:		P	Project Name / I	ocation:	· NEDA	(	٠	1 (1	RA					ANAL	YSIS	/ PAR	AME	ΓERS	<del></del>				
ConocoPHI	CLIA	5 1	IIHDDOX	U FE	DENT	- 011	1 13	·	7												,		
Client Address:		s	ampler Name:		,				2	21	6											}	,
			1. MICK.	nigh	it_				80	)8 p	1 82(	SE	_ ا		உ								*
Client Phone No.:		C	T. Mck.	- 1	635	No./Volume of Containers			Method	BTEX (Method 8021)	VOC (Method 8260)	RCRA 8 Metals	Cation / Anlon		TCLP with H/P		TPH (418.1)	RIDE				Sample Cool	Sample Intact
Sample No./ Identification	Sample Date	Sample Time	Lab No.	N	ample latrix	No./Volume of Containers	Prese	rvative	TPH (	втех	) 000 000	RCRA	Cation	ي اي	TCLP	PAH	ТРН (	CHLORIDE				Samp	Samp
EASTWALL	3/10/11	12:09	57545	Soil Solid	Sludge Aqueous	1402		<b>V</b>		$\checkmark$												4	4
BOTTOM COMP	3/10/11	12:36	57546	Soil Solid	Sludge Aqueous	1402		/	V	1/													
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Client: COFC 72/15-/635			(50	)5) 632-0615 ( J.S. Hwy 64, Fam	800) 362-187	9	C.O.C. No:	
FIELD REPORT: SP	ILL CLC	SURE VI	ERIFIC/	ATION			PAGE NO:	OF /
							4	ARTED: 5//6/11
	MAY FIL		WELL#:			/ 4/		ISHED: 3//6///
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LAND USE: Recreption				IMNN - o		LAND OW		
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200 Simler	5120	* #*********					187	
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ONSITE:

TRAVEL NOTES: CALLED OUT:



Client:

ConocoPhillips

Project #:

92115-1635

Sample No.:

1

Date Reported:

4/7/2011

Sample ID:

Bottom

Date Sampled:

3/16/2011

Sample Matrix: Preservative:

Soil Cool Date Analyzed:
Analysis Needed:

3/16/2011 TPH-418.1

Condition:

Cool and Intact

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

**Total Petroleum Hydrocarbons** 

4,660

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:

Maddox D Federal Com #1 (hBr)

Instrument calibrated to 200 ppm standard. Zeroed before each sample

Analyst

Toni McKnight, EIT

Printed

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Robyn Jones, EIT



## CONTINUOUS CALIBRATION EPA METHOD 418.1 TOTAL PETROLEUM HYDROCARBONS

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16-Mar-11

Parameter	Standard Concentration mg/L	Concentration Reading mg/L	
ТРН	100		
	200	187	
	500		
	1000		

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

Ini Milantos	4/7/2011
Analyst	Date
Toni McKnight, EIT	
Print Name	
Room	4/7/2011
Review	Date

5796 US Highway 64, Farmington, NM 87401

Robyn Jones, EIT



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

Client:	ConocoPhillips	Project #:	92115-1635
Sample ID:	Bottom	Date Reported:	03-17-11
Laboratory Number:	57590	Date Sampled:	03-16-11
Chain of Custody No:	11361	Date Received:	03-16-11
Sample Matrix:	Soil	Date Extracted:	03-16-11
Preservative:	Cool	Date Analyzed:	03-17-11
Condition:	Intact	Analysis Requested:	8015 TPH

Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	2,410	0.2
Diesel Range (C10 - C28)	662	0.1
Total Petroleum Hydrocarbons	3,070	

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:

Maddox D Fed Com #1 (hBr)

**Analyst** 



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

#### **Quality Assurance Report**

0 - 30%

Client:	QA/QC		Project #:		N/A
Sample ID:	03-16-11 QA/QC	;	Date Reported:		03-17-11
Laboratory Number:	57570		Date Sampled:		N/A
Sample Matrix:	Methylene Chloride	9	Date Received:		N/A
Preservative:	N/A		Date Analyzed:		03-16-11
Condition:	N/A		Analysis Reques	sted:	TPH
	- I-Cal Date	I-Cal RF	C-Cal RF:	% Difference	Accept Range
Gasoline Range C5 - C10	03-16-11	9.9960E+002	1.0000E+003	0.04%	0 - 15%
Diesel Range C10 - C28	03-16-11	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	15.2	14.6	3.9%	0 - 30%	

Spike Conc. (mg/Kg)	Sample	Spike Added	Spike Result	% Recovery	Accept Range
Gasoline Range C5 - C10	15.2	250	270	102%	75 - 125%
Diesel Range C10 - C28	ND	250	250	100%	75 - 125%

ND

0.0%

ND - Parameter not detected at the stated detection limit.

References:

Diesel Range C10 - C28

Method 8015B, Nonhalogenated Volatile Organics, Test Methods for Evaluating Solid Waste,

SW-846, USEPA, December 1996.

ND

Comments:

QA/QC for Samples 57566-57570, 57578-57584, 57586-57590

Analyst



Client:	ConocoPhillips	Project #:	92115-1635
Sample ID:	Bottom	Date Reported:	03-17-11
Laboratory Number:	57590	Date Sampled:	03-16-11
Chain of Custody:	11361	Date Received:	03-16-11
Sample Matrix:	Soil	Date Analyzed:	03-17-11
Preservative:	Cool	Date Extracted:	03-16-11
Condition:	Intact	Analysis Requested:	BTEX
		Dilution:	10

	Dilguoti.	
		Det.
	Concentration	Limit
Parameter	(ug/Kg)	(ug/Kg)

Benzene	174	0.9
Toluene	24,400	1.0
Ethylbenzene	13,300	1.0
p,m-Xylene	58,400	1.2
o-Xylene	23,400	0.9
Total BTEX	120,000	

ND - Parameter not detected at the stated detection limit.

Surrogate Recoveries:	Parameter	Percent Recovery
	Fluorobenzene	86.6 %
	1,4-difluorobenzene	91.4 %
	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:** 

Maddox D Fed Com #1 (hBr)

Analyst

Review



Client:	N/A		Project #:		N/A			
Sample ID:	0317BBLK QA/QC		Date Reported:		03-17-11			
Laboratory Number:	57590		Date Sampled:		N/A			
Sample Matrix:	Soil		Date Received:	N/A				
Preservative:	N/A		Date Analyzed:	03-17-11				
Condition:	N/A		Analysis:		BTEX			
			Dilution:		10			
Calibration (and	I-Cal RF:	C-Cal RF:	%Diff.	Blank	Detect.			
Detection Limits (ug/L)		Accept Rar	ng <u>e 0 - 15%</u>	Conc	Limit			
Benzene	4.4928E+006	4.5018E+006	0.2%	ND	0.1			
Toluene	1.4445E+006	1.4473E+006	0.2%	ND	0.1			
Ethylbenzene	1.1082E+006	1.1105E+008	0.2%	ND	0.1			
p,m-Xylene	2.4786E+006	2.4836E+006	0.2%	ND	0.1			
o-Xylene	9.1735E+005	9.1919E+005	0.2%	ND	0.1			

Duplicate Conc. (ug/Kg)	Sample	Duplicate	%Diff.	Accept Range	Detect. Limit
Benzene	174	171	1.6%	0 - 30%	0.9
Toluene	24,400	25,500	4.5%	0 - 30%	1.0
Ethylbenzene	13,300	12,700	4.5%	0 - 30%	1.0
p,m-Xylene	58,400	59,200	1.4%	0 - 30%	1.2
o-Xylene	23,400	22,700	3.0%	0 - 30%	0.9

Spike Conc. (ug/Kg)	Sample Amo	ount Spiked	Spiked Sample %	Recovery	Accept Range	3
Benzene	174	500	686	102%	39 - 150	
Toluene	24,400	500	24,800	99.6%	46 - 148	
Ethylbenzene	13,300	500	13,900	101%	32 - 160	
p,m-Xylene	58,400	1000	59,100	99.5%	46 - 148	
o-Xylene	23,400	500	23,800	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 57588-57591, 57600, 57602

Analyst

1 K	USHM.	
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## CHAIN OF CUSTODY RECURD

11561

Client:	lins		Project Name / MaJdux D	Location	n: #	1 (1)	Br	)						ANAL	YSIS	/ PAF	AME	TERS	3				
Conoco Phi/Colient Address:			Sampler Name: 多 TMC			<u> </u>	<i></i>	<i></i>	TPH (Method 8015)	BTEX (Method 8021)	VOC (Method 8260)	als	   c		Q.								*
Client Phone No.:			Client No.: 92/15	163	35				Methoc	(Metho	Methoc	RCRA 8 Metals	Cation / Anion		TCLP with H/P		TPH (418.1)	RIDE				Sample Cool	Sample Intact
Sample No./ Identification	Sample Date	Sampl	e Lab No.	3	Sample Matrix	No./Volume of Containers	Pres HgCl,	ervativ HCI	TPH (I	втех	) 000	RCRA	Cation	22	TCLP	PAH	ТРН (	CHLORIDE				Samp	Samp
Botain	3/16/11	9:39	57590	Solid Solid	Sludge Aqueous	40Z			V													<u>Y</u>	4
				Soil Solid	Sludge Aqueous				<u> </u>														
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5796 US Highway 64 • Farmington, NM 87401 • 505-632-0615 • lab@envirotech-inc.com



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

Client:	ConocoPhillips	Project #:	92115-1635
Sample ID:	Sprayed Pit Bottom	Date Reported:	03-22-11
Laboratory Number.	57665	Date Sampled:	03-22-11
Chain of Custody No:	11401	Date Received:	03-22-11
Sample Matrix:	Soil	Date Extracted:	03-22-11
Preservative:	Cool	Date Analyzed:	03-22-11
Condition:	Intact	Analysis Requested:	8015 TPH

Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	1,150	0.2
Diesel Range (C10 - C28)	205	0.1
Total Petroleum Hydrocarbons	1,350	

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:

Maddox Fed Com D #1

Analyst

Review

Ph (505) 632-0615 Fr (800) 362-1879 Fx (505) 632-1865 lab@envirotech-inc.com envirotech-inc.com



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

#### **Quality Assurance Report**

Client:	QA/QC		Project #:		N/A
Sample ID:	03-22-11 QA/Q	C	Date Reported:		03-22-11
Laboratory Number:	57663		Date Sampled:		N/A
Sample Matrix:	Methylene Chlori	de	Date Received:		N/A
Preservative:	N/A		Date Analyzed:		03-22-11
Condition:	N/A		Analysis Reques	sted:	TPH
	I-Cal Date	I-Ĉal RF:	C-Cal RF:	% Difference	Accept Range
Gasoline Range C5 - C10	03-22-11	9.9960E+002	1.0000E+003	0.04%	0 - 15%
Diesel Range C10 - C28	03-22-11	9.9960E+002	1.0000E+003	0.04%	0 - 15%
Blank Conc. (mg/L - mg/Kg		Concentration	No.	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	253	101%	75 - 125%
Diesel Range C10 - C28			244		

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 57625-57627, 57661-57663, 57665

Review

5796 US Highway 64, Farmington, NM 87401

Ph (505) 632-0615 Fr (800) 362-1879 Fx (505) 632-1865 lab@envirotech-inc.com envirotech-inc.com



Client:	ConocoPhillips	Project #:	92115-1635
Sample ID:	Sprayed Pit Bottom	Date Reported:	03-22-11
Laboratory Number:	57665	Date Sampled:	03-22-11
Chain of Custody:	11401	Date Received:	03-22-11
Sample Matrix:	Soil	Date Analyzed:	03-22-11
Preservative:	Cool	Date Extracted:	03-22-11
Condition:	Intact	Analysis Requested:	BTEX
		Dilution:	10

	Dilution:	10			
Parameter	Concentration (ug/Kg)	Det. Limit (ug/Kg)			
Benzene	16.9	0.9			
Toluene	3,840	1.0			
Ethylbenzene	2,630	1.0			
p,m-Xylene	31,000	1.2			
o-Xylene	6,350	0.9			

Total BTEX 43,800

ND - Parameter not detected at the stated detection limit.

Surrogate Recoveries:	Parameter	Percent Recovery
	Fluorobenzene	91.4 %
	1,4-difluorobenzene	83.1 %
	Bromochlorobenzene	100 %

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:** 

Maddox Fed Com D #1

Analyst

Review



Client:	N/A		Project#:		N/A					
Sample ID:	0322BBLK QA/QC	+	Date Reported:							
Laboratory Number:	ry Number: 57663				N/A					
Sample Matrix:		Date Received:								
Preservative:		Date Analyzed: 03-22-11								
Condition:	N/A		Analysis:	ysis: BTEX						
			Dilution:		10					
Callbration and	I-Cal RF:	C-Cal RF:	%Diff.	Blank	Detect.					
Detection Limits (ug/L)	· · · · · · · · · · · · · · · · · · ·	Accept Rang		Conc	Limit					
Benzene	1.4060E+005	1.4088E+005	0.2%	ND	0.1					
Toluene	1.5888E+005	1.5920E+005	0.2%	ND	0.1					
Ethylbenzene	1.3758E+005	1.3786E+005	0.2%	ND	0.1					
p,m-Xylene	3.1762E+005	3.1826E+005	0.2%	ND	0.1					
o-Xviene	1.3595E+005	1.3623E+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	ND	ND	0.0%	0 - 30%	1.0
Ethylbenzene	ND	ND	0.0%	0 - 30%	1.0
p,m-Xylene	ND	ND	0.0%	0 - 30%	1.2
o-Xylene	ND	ND	0.0%	0 - 30%	0.9

Spike Conc: (ug/Kg)	Sample	Amount Spiked	Spiked Sample	% Recovery	Accept Range
Benzene	ND	500	490	98.0%	39 - 150
Toluene	ND	500	492	98.3%	46 - 148
Ethylbenzene	ND	500	485	97.0%	32 - 160
p,m-Xylene	ND	1000	972	97.2%	46 - 148
o-Xylene	ND	500	503	101%	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 57661-57663, 57665, 57588-57589, 57566-57569

Review

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## CHAIN OF CUSTODY RECORD

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		j	92115-16	35					TPH (Method 8015)	BTEX (Method 8021)	VOC (Method 8260)	RCRA 8 Metals	Cation / Anion		TCLP with H/P		TPH (418.1)	CHLORIDE	,			Sample Cool	Sample Intact
Sample No./	Sample	Sample		5	Sample	No./Volume of			E    H    H 	Ä	2	SRA	ation	5	끍	PAH	) 뉴	무				amp	amp
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