

District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources
Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-141
Revised August 8, 2011

Submit 1 Copy to appropriate District Office to
accordance with 19.15.29 NMAC.

Release Notification and Corrective Action

OPERATOR

Initial Report Final Report

Name of Company Burlington Resources Oil & Gas Company	Contact Crystal Tafoya
Address 3401 East 30th St, Farmington, NM	Telephone No. (505) 326-9837
Facility Name: Howell K 4C	Facility Type: Gas Well

Surface Owner BLM	Mineral Owner BLM (SF-078578-A)	API No. 30-045-30939
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LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
D	17	30N	8W	660	North	705	West	San Juan

Latitude 36.81618 Longitude 107.70458

NATURE OF RELEASE

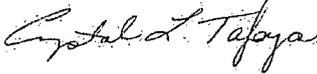
Type of Release Condensate/Produced Water	Volume of Release Condensate - 119bbls Produced Water - 17bbls	Volume Recovered None
Source of Release Production Tank	Date and Hour of Occurrence Unknown	Date and Hour of Discovery 1/24/2013 at 9:00am
Was Immediate Notice Given? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom? BLM (Mark Kelly) & OCD (Brandon Powell)	
By Whom? Crystal Tafoya	Date and Hour 1/24/2013 at 3:16pm	
Was a Watercourse Reached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse. RCVD APR 18 '13	

If a Watercourse was Impacted, Describe Fully.* N/A	OIL CONS. DIV. DIST. 3
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Describe Cause of Problem and Remedial Action Taken.*
The tank was being gauged when it was discovered no fluid was in the tank. A visual tank and seal inspection was done where a 2" hole on the bottom weld of the tank was discovered releasing 119bbls condensate and 17bbls of produced water. No free standing fluid was in the berm area and no amount of the release was recovered. The well was shut-in and is waiting on repair.

Describe Area Affected and Cleanup Action Taken.*
NMOCD action levels for releases are specified in NMOCD's Guidelines for Leaks, Spills and Releases and the release was assigned a ranking score of 0. Samples were collected and analytical results were above applicable NMOCD action levels. Excavation occurred and was 55' x 46' x 4.5' and 132 cubic yards of soil was transported to a third party landfarm. Confirmation sampling occurred. Analytical results for TPH was below the regulatory standards set forth in the NMOCD Guidelines for Remediation of Leaks, Spills and Release; therefore no further action is required. The final report is attached for review.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

Signature: 	OIL CONSERVATION DIVISION	
	Approved by Environmental Specialist: 	
Printed Name: Crystal Tafoya	Approval Date: 5/21/2013	Expiration Date:
Title: Field Environmental Specialist	Conditions of Approval:	Attached <input type="checkbox"/>
E-mail Address: crystal.tafoya@conocophillips.com		
Date: 4/16/13 Phone: (505) 326-9837		

* Attach Additional Sheets If Necessary

NSK1314142433



April 8, 2013

Project Number 92115-2406

Ms. Crystal Tafoya
ConocoPhillips
3401 East 30th Street
Farmington, New Mexico 87401

Phone: (505) 326-9837

RE: CONFIRMATION SAMPLING DOCUMENTATION FOR THE HOWELL K #4C (hBr) WELL SITE, SAN JUAN COUNTY, NEW MEXICO

Dear Ms. Tafoya:

Enclosed please find the field notes and analytical results for confirmation sampling activities performed at the Howell K #4C (hBr) well site located in Section 17, Township 30 North, Range 8 West, San Juan County, New Mexico. The regulatory standards for the site were determined to be 5000 parts per million (ppm) total petroleum hydrocarbons (TPH) and 100 ppm organic vapors due to a horizontal distance to surface water greater than 1000 feet from the location, a depth to groundwater greater than 100 feet, and the well site not being located within a well head protection area, pursuant to New Mexico Oil Conservation Division (NMOCD) Guidelines for Remediation of Leaks, Spills, and Releases.

Prior to Envirotech personnel's arrival on March 6, 2013, the area of the release had been excavated to approximately 33 feet by 46 feet by six (6) inches deep. Within the initial excavation, a second excavation was established. The dimensions of the second excavation was approximately 22 feet by 22 feet by 4.5 feet below ground surface (BGS); see enclosed *Field Notes* for details. Four (4) composite samples were collected from the second excavation. One (1) sample was collected from the initial excavation (Section 1). Three (3) samples were collected from the second excavation; one (1) from the north and east walls, one (1) from the south and west walls and one (1) from the bottom of the excavation; see enclosed *Field Notes* for sample locations. The samples were analyzed in the field for TPH using USEPA Method 418.1 and for organic vapors using a photoionization detector (PID). All samples, except the sample collected from the south and west walls returned results below the regulatory standards for TPH. All samples returned results above the regulatory standards for organic vapors; see enclosed *Field Notes, Summary of Analytical Results, and Analytical Results*.

All four (4) samples were collected into four (4)-ounce glass jars, capped headspace free, and transported on ice, under chain of custody, to Envirotech's Analytical Laboratory. The samples collected from Section 1, the north and east walls, and the bottom of the excavation were analyzed for benzene and total BTEX using USEPA Method 8021. The sample collected from the south and west walls was analyzed for TPH using USEPA Method 8015 and for benzene and total BTEX using USEPA Method 8021. All four (4) samples returned results that were below

the regulatory standard for benzene. The sample from the south and west walls returned results below regulatory standard for TPH, but above regulatory standard for total BTEX; see enclosed *Summary of Analytical Results* and *Analytical Results*. Due to sandstone, maximum extent of the excavation had been reached; Envirotech, Inc. recommended spraying potassium permanganate on the effected area, to remediate the contaminated sandstone, then re-sampling for closure. ConocoPhillips representative, Crystal Tafoya, determined that the best course of action was to allow the excavation to remain uncovered for approximately three (3) weeks to allow natural attenuation of the BTEX, and then re-sample for closure.

On March 28, 2013, Envirotech personnel returned to the Howell K #4C (hBr) well site to re-sample the excavation area. One (1) sample was collected from the south and west walls of the excavation; see enclosed *Field Notes*. The sample was collected in 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 benzene and total BTEX using USEPA Method 8021. The sample returned results below the regulatory standard for all constituents analyzed; see enclosed *Summary of Analytical Results* and *Analytical Results*. Based on the above mentioned analytical results, 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.


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

Enclosure(s): Field Notes
Summary of Analytical Results
Analytical Results

Cc: Client File Number 92115

Client: *ConocoPhillips*



APL 3004530939

Project No: *72115-2400*
COC No: *15265*

FIELD REPORT: SPILL CLOSURE VERIFICATION

PAGE NO: *1* OF *1*
DATE STARTED: *3-6-13*
DATE FINISHED: *3-6-13*
ENVIRONMENTAL SPECIALIST: *F. Aragon*

LOCATION: NAME: *Howell K* WELL #: *4C*
QUAD/UNIT: *D* SEC: *17* TWP: *B&N RINGW PM* CNTY: *ST*
QTR/FOOTAGE: _____ CONTRACTOR: *Montana*

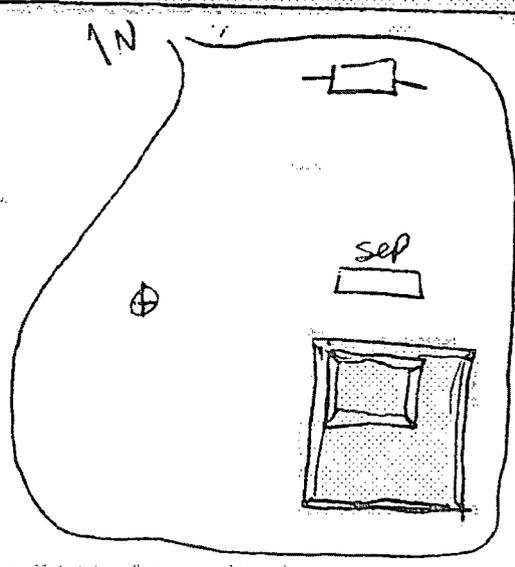
EXCAVATION APPROX: *22* FT. X *22* FT. X *45* FT. DEEP CUBIC YARDAGE:
DISPOSAL FACILITY: *IEI* REMEDIATION METHOD: *Landfill*
LAND USE: *Range* LEASE: _____ LAND OWNER: _____
CAUSE OF RELEASE: *Tank overflow* MATERIAL RELEASED: *Condensate / Reduced viscosity*
SPILL LOCATED APPROXIMATELY: *106°* FT. *190°* FROM *well*
DEPTH TO GROUNDWATER: _____ NEAREST WATER SOURCE: _____ NEAREST SURFACE WATER: _____
NMOCD RANKING SCORE: *0* NMOCD TPH CLOSURE STD: *5000* PPM

SOIL AND EXCAVATION DESCRIPTION:

S.W. = > 100'
GW = > 100'
No well head
Left crystal message w/ results @ 10:05
Relayed results to Eric onsite

SAMPLE DESCRIPTION	TIME	SAMPLE ID	LAB NO.	WEIGHT (g)	mL FREON	DILUTION	READING	CALC. ppm
<i>Top soil</i>	<i>9:05</i>							
<i>Area #1</i>	<i>9:15</i>	<i>1</i>	<i>-</i>	<i>5</i>	<i>20</i>	<i>4</i>	<i>203</i>	
<i>North 3 feet</i>	<i>9:20</i>	<i>2</i>	<i>-</i>	<i>5</i>	<i>20</i>	<i>4</i>	<i>103</i>	<i>948</i>
<i>South 3 feet</i>	<i>9:25</i>	<i>3</i>	<i>-</i>	<i>5</i>	<i>20</i>	<i>4</i>	<i>1624</i>	<i>6516</i>
<i>Bottom 2 feet</i>	<i>9:30</i>	<i>4</i>	<i>-</i>	<i>5</i>	<i>20</i>	<i>4</i>	<i>279</i>	<i>1116</i>

SPILL PERIMETER



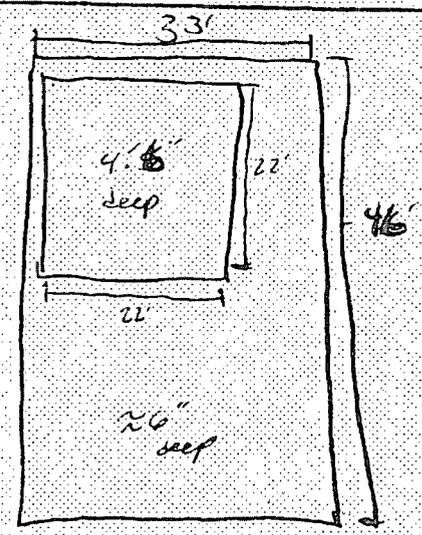
OVM RESULTS

SAMPLE ID	FIELD HEADSPACE PID (ppm)
<i>1</i>	<i>1294</i>
<i>2</i>	<i>1378</i>
<i>3</i>	<i>2286</i>
<i>4</i>	<i>1289</i>

LAB SAMPLES

SAMPLE ID	ANALYSIS	TIME
<i>1</i>	<i>8021</i>	
<i>2</i>	<i>8021</i>	
<i>3</i>	<i>8015/8021</i>	
<i>4</i>	<i>8021</i>	

SPILL PROFILE



TRAVEL NOTES: _____ CA. D

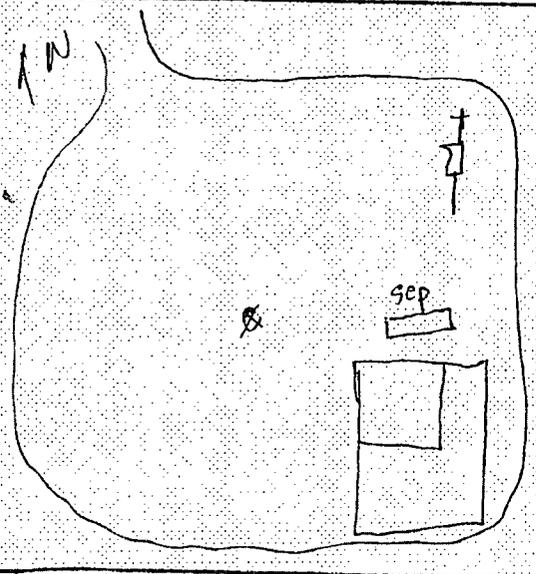
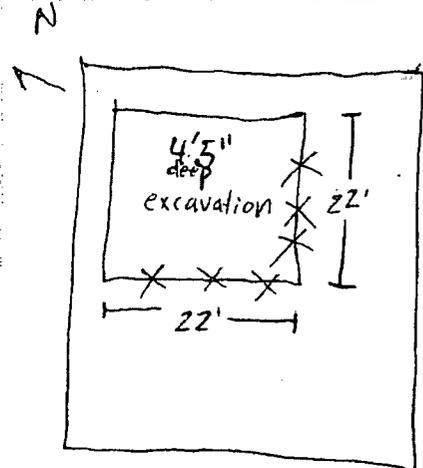
Client: <div style="font-size: 2em; font-family: cursive;">COPC (h.Br)</div>	 <div style="font-weight: bold; font-size: 1.2em;">envirotech</div> <small>(505) 632-0819 (800) 362-1679 5798 U.S. Hwy 64, Farmington, NE 67401</small>	Project No: <div style="font-size: 1.5em;">92115-2406</div> COC No: <div style="font-size: 1.5em;">15345</div>
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FIELD REPORT: SPILL CLOSURE VERIFICATION	PAGE NO: <u>1</u> OF <u>1</u>
LOCATION: NAME: <u>Howell K</u> WELL#: <u>4C</u> QUAD/UNIT: <u>D</u> SEC: <u>17</u> TWP: <u>30N</u> RNG: <u>8W</u> PM: CNTY: <u>SS</u> ST: QTR/FOOTAGE: CONTRACTOR:	DATE STARTED: <u>3/28/13</u> DATE FINISHED: <u>3/28/13</u> ENVIRONMENTAL SPECIALIST: <u>T. McIntosh</u>

EXCAVATION APPROX: <u>22</u> FT. X <u>22</u> FT. X <u>4.5</u> FT. DEEP CUBIC YARDAGE:
DISPOSAL FACILITY: _____ REMEDIATION METHOD: _____
LAND USE: _____ LEASE: _____ LAND OWNER: _____
CAUSE OF RELEASE: _____ MATERIAL RELEASED: _____
SPILL LOCATED APPROXIMATELY: _____ FT. FROM _____
DEPTH TO GROUNDWATER: _____ NEAREST WATER SOURCE: _____ NEAREST SURFACE WATER: _____
NMOCD RANKING SCORE: _____ NMOCD TPH CLOSURE STD: <u>5000</u> PPM

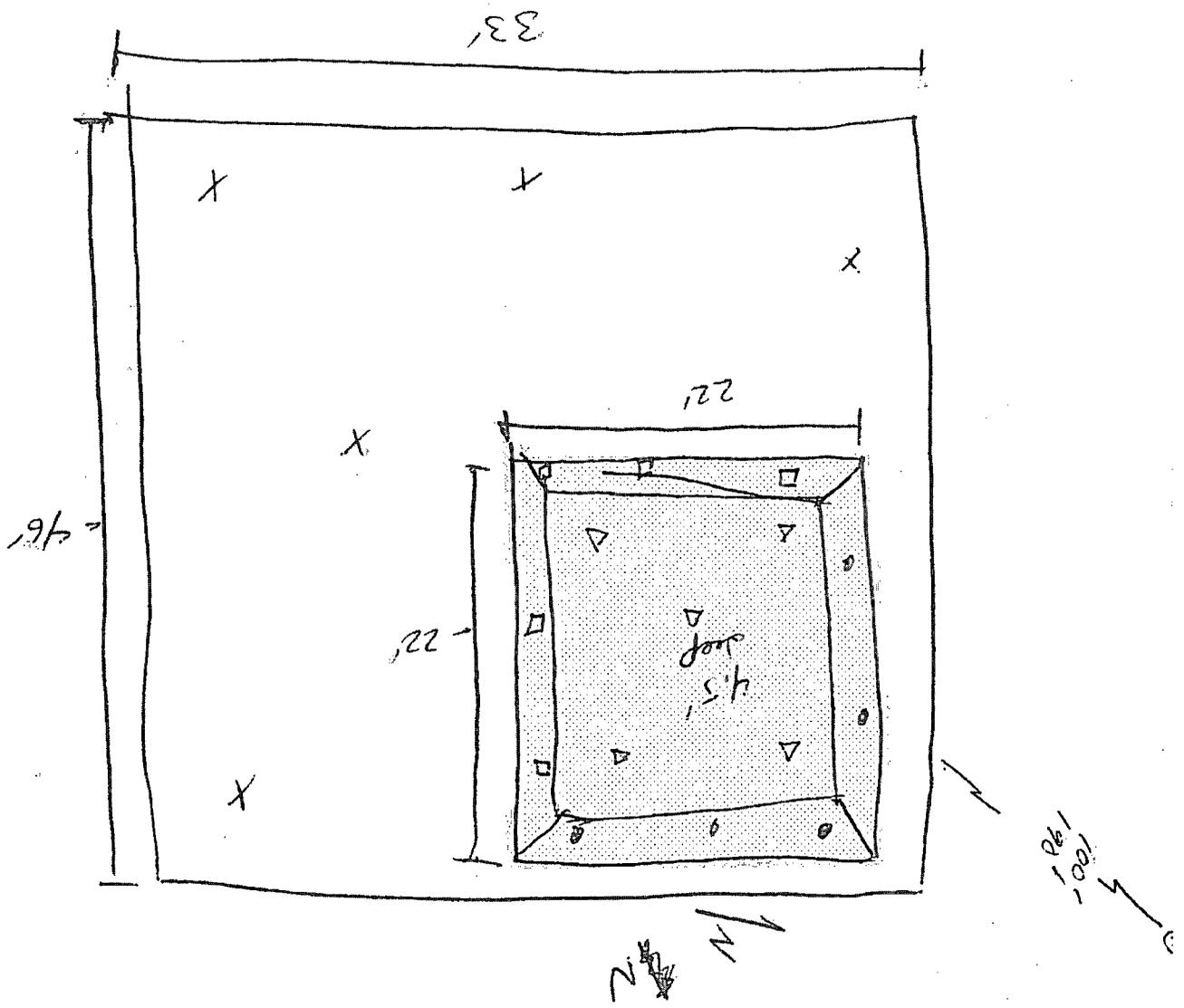
SOIL AND EXCAVATION DESCRIPTION:

SAMPLE DESCRIPTION	TIME	SAMPLE I.D.	LAB NO.	WEIGHT (g)	mL FREON	DILUTION	READING	CALC. ppm

SPILL PERIMETER 	OVM RESULTS <table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width:15%;">SAMPLE ID</th> <th style="width:85%;">FIELD HEADSPACE PID (ppm)</th> </tr> </thead> <tbody> <tr><td> </td><td> </td></tr> </tbody> </table> LAB SAMPLES <table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width:15%;">SAMPLE ID</th> <th style="width:45%;">ANALYSIS</th> <th style="width:40%;">TIME</th> </tr> </thead> <tbody> <tr> <td><u>71</u></td> <td><u>8021</u></td> <td> </td> </tr> <tr> <td><u>(South of West Units)</u></td> <td> </td> <td> </td> </tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> </tbody> </table>	SAMPLE ID	FIELD HEADSPACE PID (ppm)																					SAMPLE ID	ANALYSIS	TIME	<u>71</u>	<u>8021</u>		<u>(South of West Units)</u>															SPILL PROFILE  <p style="text-align: center;">x — sample location</p>
SAMPLE ID	FIELD HEADSPACE PID (ppm)																																												
SAMPLE ID	ANALYSIS	TIME																																											
<u>71</u>	<u>8021</u>																																												
<u>(South of West Units)</u>																																													

TRAVEL NOTES: _____ CALLED OUT: _____ ONSITE: _____

- X = Section #1 comp
- = North E cont
- = South 7 wall
- △ = Excav. bottom



galls - 2406
 Hammer K #44

Table 1, Summary of Analytical Results
 ConocoPhillips
 Howell K #4C (hBr)
 Confirmation Sampling
 Project Number 92115-2406

Date	Sample Description	Sample Number	PID OV (ppm)	USEPA Method 418.1 TPH (ppm)	USEPA Method 8015 TPH (ppm)	Chlorides (ppm)	USEPA Method 8021	
							Benzene (ppm)	BTEX (ppm)
NA	New Mexico Oil Conservation Division Standards	NA	100	5000	5000	NA	10	50
3/6/2013	Area #1	1	1944	948	NS	NS	0.0762	25.1
3/6/2013	North & East Walls	2	1378	412	NS	NS	ND	6.1
3/6/2013	South & West Walls	3	2286	6520	1430	NS	1.05	215
3/6/2013	Bottom of Excavation	4	1289	1120	NS	NS	0.184	34.1
3/28/2013	South & West Walls	1	NS	NS	NS	NS	ND	0.872

*Values in **BOLD** above regulatory limits

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



EPA METHOD 418.1
TOTAL PETROLEUM
HYDROCARBONS

Client: ConocoPhillips Project #: 92115-2406
Sample No.: 1 Date Reported: 3/11/2013
Sample ID: Section #1 Composite Date Sampled: 3/6/2013
Sample Matrix: Soil Date Analyzed: 3/6/2013
Preservative: Cool Analysis Needed: TPH-418.1
Condition: Cool and Intact

Parameter	Concentration (mg/kg)	Det. Limit (mg/kg)
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Total Petroleum Hydrocarbons	948	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: **Howell K #4C (hBr)**

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


Analyst

Felipe Aragon
Printed


Review

Kyle Cossum, Staff Scientist
Printed



EPA METHOD 418.1
TOTAL PETROLEUM
HYDROCARBONS

Client: ConocoPhillips Project #: 92115-2406
Sample No.: 2 Date Reported: 3/11/2013
Sample ID: North and East Date Sampled: 3/6/2013
Sample Matrix: Soil Date Analyzed: 3/6/2013
Preservative: Cool Analysis Needed: TPH-418.1
Condition: Cool and Intact

Parameter	Concentration (mg/kg)	Det. Limit (mg/kg)
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Total Petroleum Hydrocarbons	412	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: **Howell K #4C (hBr)**

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



Analyst

Felipe Aragon
Printed



Review

Kyle Cossum, Staff Scientist
Printed



**EPA METHOD 418.1
TOTAL PETROLEUM
HYDROCARBONS**

Client: ConocoPhillips Project #: 92115-2406
Sample No.: 3 Date Reported: 3/11/2013
Sample ID: South and West Date Sampled: 3/6/2013
Sample Matrix: Soil Date Analyzed: 3/6/2013
Preservative: Cool Analysis Needed: TPH-418.1
Condition: Cool and Intact

Parameter	Concentration (mg/kg)	Det. Limit (mg/kg)
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Total Petroleum Hydrocarbons 6,520 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: **Howell K #4C (hBr)**

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

Analyst

Felipe Aragon

Printed

Review

Kyle Cossum, Staff Scientist

Printed



**EPA METHOD 418.1
TOTAL PETROLEUM
HYDROCARBONS**

Client: ConocoPhillips Project #: 92115-2406
Sample No.: 4 Date Reported: 3/11/2013
Sample ID: Excavation Bottom Date Sampled: 3/6/2013
Sample Matrix: Soil Date Analyzed: 3/6/2013
Preservative: Cool Analysis Needed: TPH-418.1
Condition: Cool and Intact

Parameter	Concentration (mg/kg)	Det. Limit (mg/kg)
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Total Petroleum Hydrocarbons 1,120 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: **Howell K #4C (hBr)**

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

Analyst

Felipe Aragon

Printed

Review

Kyle Cossum, Staff Scientist

Printed

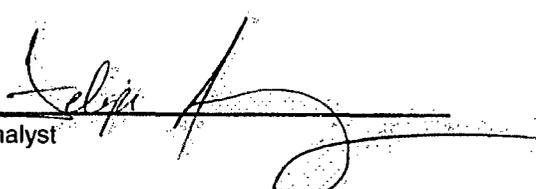


CONTINUOUS CALIBRATION
EPA METHOD 418.1
TOTAL PETROLEUM
HYDROCARBONS

Cal. Date: 6-Mar-13

Parameter	Standard Concentration mg/L	Concentration Reading mg/L
TPH	100	203
	200	
	500	
	1000	

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


Analyst

3/11/2013
Date

Felipe Aragon
Print Name


Review

3/11/2013
Date

Kyle Cossum, Staff Scientist
Print Name





Analytical Report

Report Summary

Client: ConocoPhillips
Chain Of Custody Number: 15265
Samples Received: 3/6/2013 11:55:00AM
Job Number: 92115-2406
Work Order: P303013
Project Name/Location: Confirmation
Sampling/Howell K #4C

Entire Report Reviewed By:

A handwritten signature in black ink, appearing to read 'Tim Cain', is written over a horizontal line.

Date: 3/8/13

Tim Cain, Laboratory Manager

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



ConocoPhillips PO Box 2200 Bartlesville OK, 74005	Project Name: Confirmation Sampling/Howell K #4C Project Number: 92115-2406 Project Manager: Felipe Aragon	Reported: 08-Mar-13 10:17
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Analytical Report for Samples

Client Sample ID	Lab Sample ID	Matrix	Sampled	Received	Container
Area #1	P303013-01A	Soil	03/06/13	03/06/13	Glass Jar, 4 oz.
North & East Walls	P303013-02A	Soil	03/06/13	03/06/13	Glass Jar, 4 oz.
South & West Walls	P303013-03A	Soil	03/06/13	03/06/13	Glass Jar, 4 oz.
Bottom of Excavation	P303013-04A	Soil	03/06/13	03/06/13	Glass Jar, 4 oz.

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5796 US Highway 64, Farmington, NM 87401

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

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

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





ConocoPhillips PO Box 2200 Bartlesville OK, 74005	Project Name: Confirmation Sampling/Howell K #4C Project Number: 92115-2406 Project Manager: Felipe Aragon	Reported: 08-Mar-13 10:17
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Area #1
P303013-01 (Solid)

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Volatile Organics by EPA 8021										
Benzene	76.2	50.0		ug/kg	50	1310016	07-Mar-13	07-Mar-13	EPA 8021B	
Toluene	2320	50.0		ug/kg	50	1310016	07-Mar-13	07-Mar-13	EPA 8021B	
Ethylbenzene	1520	50.0		ug/kg	50	1310016	07-Mar-13	07-Mar-13	EPA 8021B	
p,m-Xylene	17200	50.0		ug/kg	50	1310016	07-Mar-13	07-Mar-13	EPA 8021B	
o-Xylene	4010	50.0		ug/kg	50	1310016	07-Mar-13	07-Mar-13	EPA 8021B	
Total BTEX	25100	50.0		ug/kg	50	1310016	07-Mar-13	07-Mar-13	EPA 8021B	
<i>Surrogate: Bromochlorobenzene</i>		112 %			80-120	1310016	07-Mar-13	07-Mar-13	EPA 8021B	
<i>Surrogate: 1,4-Difluorobenzene</i>		93.4 %			80-120	1310016	07-Mar-13	07-Mar-13	EPA 8021B	
<i>Surrogate: Fluorobenzene</i>		101 %			80-120	1310016	07-Mar-13	07-Mar-13	EPA 8021B	

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

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





ConocoPhillips PO Box 2200 Bartlesville OK, 74005	Project Name: Confirmation Sampling/Howell K #4C Project Number: 92115-2406 Project Manager: Felipe Aragon	Reported: 08-Mar-13 10:17
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**North & East Walls
P303013-02 (Solid)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Volatiles Organics by EPA 8021									
Benzene	ND	50.0	ug/kg	50	1310016	07-Mar-13	07-Mar-13	EPA 8021B	
Toluene	535	50.0	ug/kg	50	1310016	07-Mar-13	07-Mar-13	EPA 8021B	
Ethylbenzene	366	50.0	ug/kg	50	1310016	07-Mar-13	07-Mar-13	EPA 8021B	
p,m-Xylene	4270	50.0	ug/kg	50	1310016	07-Mar-13	07-Mar-13	EPA 8021B	
o-Xylene	932	50.0	ug/kg	50	1310016	07-Mar-13	07-Mar-13	EPA 8021B	
Total BTEX	6100	50.0	ug/kg	50	1310016	07-Mar-13	07-Mar-13	EPA 8021B	
<i>Surrogate: Bromochlorobenzene</i>		<i>102 %</i>		<i>80-120</i>	<i>1310016</i>	<i>07-Mar-13</i>	<i>07-Mar-13</i>	<i>EPA 8021B</i>	
<i>Surrogate: 1,4-Difluorobenzene</i>		<i>94.3 %</i>		<i>80-120</i>	<i>1310016</i>	<i>07-Mar-13</i>	<i>07-Mar-13</i>	<i>EPA 8021B</i>	
<i>Surrogate: Fluorobenzene</i>		<i>96.6 %</i>		<i>80-120</i>	<i>1310016</i>	<i>07-Mar-13</i>	<i>07-Mar-13</i>	<i>EPA 8021B</i>	

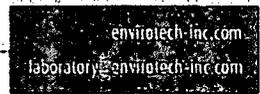
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ConocoPhillips PO Box 2200 Bartlesville OK, 74005	Project Name: Confirmation Sampling/Howell K #4C Project Number: 92115-2406 Project Manager: Felipe Aragon	Reported: 08-Mar-13 10:17
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**South & West Walls
P303013-03 (Solid)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Volatile Organics by EPA 8021									
Benzene	1050	50.0	ug/kg	50	1310016	07-Mar-13	07-Mar-13	EPA 8021B	
Toluene	42600	50.0	ug/kg	50	1310016	07-Mar-13	07-Mar-13	EPA 8021B	
Ethylbenzene	15100	50.0	ug/kg	50	1310016	07-Mar-13	07-Mar-13	EPA 8021B	
p,m-Xylene	128000	50.0	ug/kg	50	1310016	07-Mar-13	07-Mar-13	EPA 8021B	
o-Xylene	28700	50.0	ug/kg	50	1310016	07-Mar-13	07-Mar-13	EPA 8021B	
Total BTEX	215000	50.0	ug/kg	50	1310016	07-Mar-13	07-Mar-13	EPA 8021B	
Surrogate: Bromochlorobenzene		106 %	80-120		1310016	07-Mar-13	07-Mar-13	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		86.7 %	80-120		1310016	07-Mar-13	07-Mar-13	EPA 8021B	
Surrogate: Fluorobenzene		92.5 %	80-120		1310016	07-Mar-13	07-Mar-13	EPA 8021B	
Nonhalogenated Organics by 8015									
Gasoline Range Organics (C6-C10)	1290	5.0	mg/kg	1.000	1310014	06-Mar-13	07-Mar-13	EPA 8015D	
Diesel Range Organics (C10-C28)	138	5.0	mg/kg	1.000	1310014	06-Mar-13	07-Mar-13	EPA 8015D	
GRO and DRO Combined Fractions	1430	5.0	mg/kg	1.000	1310014	06-Mar-13	07-Mar-13	EPA 8015D	

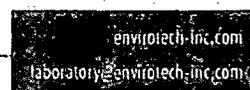
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ConocoPhillips PO Box 2200 Bartlesville OK, 74005	Project Name: Confirmation Sampling/Howell K #4C Project Number: 92115-2406 Project Manager: Felipe Aragon	Reported: 08-Mar-13 10:17
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**Bottom of Excavation
P303013-04 (Solid)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Volatile Organics by EPA 8021									
Benzene	184	50.0	ug/kg	50	1310016	07-Mar-13	07-Mar-13	EPA 8021B	
Toluene	3630	50.0	ug/kg	50	1310016	07-Mar-13	07-Mar-13	EPA 8021B	
Ethylbenzene	2060	50.0	ug/kg	50	1310016	07-Mar-13	07-Mar-13	EPA 8021B	
p,m-Xylene	23700	50.0	ug/kg	50	1310016	07-Mar-13	07-Mar-13	EPA 8021B	
o-Xylene	4590	50.0	ug/kg	50	1310016	07-Mar-13	07-Mar-13	EPA 8021B	
Total BTEX	34100	50.0	ug/kg	50	1310016	07-Mar-13	07-Mar-13	EPA 8021B	
<i>Surrogate: Bromochlorobenzene</i>		<i>112 %</i>		<i>80-120</i>	<i>1310016</i>	<i>07-Mar-13</i>	<i>07-Mar-13</i>	<i>EPA 8021B</i>	
<i>Surrogate: 1,4-Difluorobenzene</i>		<i>91.9 %</i>		<i>80-120</i>	<i>1310016</i>	<i>07-Mar-13</i>	<i>07-Mar-13</i>	<i>EPA 8021B</i>	
<i>Surrogate: Fluorobenzene</i>		<i>97.1 %</i>		<i>80-120</i>	<i>1310016</i>	<i>07-Mar-13</i>	<i>07-Mar-13</i>	<i>EPA 8021B</i>	

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Volatile Organics by EPA 8021 - Quality Control
Envirotech Analytical Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 1310016 - Purge and Trap EPA 5030A

Blank (1310016-BLK1)			Prepared & Analyzed: 07-Mar-13							
Benzene	ND	50.0	ug/kg							
Toluene	ND	50.0	"							
Ethylbenzene	ND	50.0	"							
p,m-Xylene	ND	50.0	"							
o-Xylene	ND	50.0	"							
Total BTEX	ND	50.0	"							
Surrogate: Bromochlorobenzene	2410		"	2500		96.3	80-120			
Surrogate: 1,4-Difluorobenzene	2470		"	2500		98.8	80-120			
Surrogate: Fluorobenzene	2460		"	2500		98.3	80-120			

Duplicate (1310016-DUP1)			Source: P303013-01 Prepared & Analyzed: 07-Mar-13							
Benzene	91.7	50.0	ug/kg		76.2			18.4	30	
Toluene	2400	50.0	"		2320			3.29	30	
Ethylbenzene	1570	50.0	"		1520			3.32	30	
p,m-Xylene	17700	50.0	"		17200			3.21	30	
o-Xylene	3850	50.0	"		4010			4.09	30	
Surrogate: Bromochlorobenzene	2830		"	2500		113	80-120			
Surrogate: 1,4-Difluorobenzene	2380		"	2500		95.3	80-120			
Surrogate: Fluorobenzene	2460		"	2500		98.4	80-120			

Matrix Spike (1310016-MS1)			Source: P303013-01 Prepared & Analyzed: 07-Mar-13							
Benzene	2600	50.0	ug/kg	2500	76.2	101	39-150			
Toluene	4760	50.0	"	2500	2320	97.6	46-148			
Ethylbenzene	4040	50.0	"	2500	1520	101	32-160			
p,m-Xylene	21400	50.0	"	5000	17200	84.8	46-148			
o-Xylene	6280	50.0	"	2500	4010	90.9	46-148			
Surrogate: Bromochlorobenzene	2850		"	2500		114	80-120			
Surrogate: 1,4-Difluorobenzene	2230		"	2500		89.2	80-120			
Surrogate: Fluorobenzene	2420		"	2500		96.8	80-120			

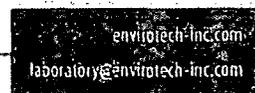
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Nonhalogenated Organics by 8015 - Quality Control

Envirotech Analytical Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1310014 - GRO/DRO Extraction EPA 3550C										
Blank (1310014-BLK1)				Prepared: 06-Mar-13 Analyzed: 07-Mar-13						
Gasoline Range Organics (C6-C10)	ND	5.0	mg/kg							
Diesel Range Organics (C10-C28)	ND	5.0	"							
GRO and DRO Combined Fractions	ND	5.0	"							
Duplicate (1310014-DUP1)				Source: P303013-03 Prepared: 06-Mar-13 Analyzed: 07-Mar-13						
Gasoline Range Organics (C6-C10)	1210	5.0	mg/kg		1290			6.15	30	
Diesel Range Organics (C10-C28)	122	5.0	"		138			12.6	30	
Matrix Spike (1310014-MS1)				Source: P303013-03 Prepared: 06-Mar-13 Analyzed: 07-Mar-13						
Gasoline Range Organics (C6-C10)	1560		mg/L	250	1290	106	75-125			
Diesel Range Organics (C10-C28)	352		"	250	138	85.6	75-125			

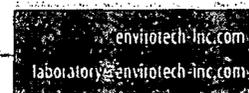
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ConocoPhillips
PO Box 2200
Bartlesville OK, 74005

Project Name: Confirmation Sampling/Howell K #4C
Project Number: 92115-2406
Project Manager: Felipe Aragon

Reported:
08-Mar-13 10:17

Notes and Definitions

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

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CHAIN OF CUSTODY RECORD

Rush

Client: <u>Conoco 11. ps</u>	Project Name / Location: <u>Conf. extraction Sampling / Howell K #4C</u>	ANALYSIS / PARAMETERS	
Email results to: <u>F. Aragon</u>	Sampler Name: <u>F. Aragon</u>	TPH (Method 8015)	BTEX (Method 8021)
Client Phone No.:	Client No. <u>92115-2406</u>		

Sample No./ Identification	Sample Date	Sample Time	Lab No.	No./Volume of Containers	Preservative			TPH (Method 8015)	BTEX (Method 8021)	VOC (Method 8260)	RCRA 8 Metals	Cation / Anion	RCI	TCLP with H/P	CO Table 910-1	TPH (418.1)	CHLORIDE	Sample Cool	Sample Intact
					HgCl ₂	HCl	(SO)												
<u>Area #1</u>	<u>3-6-13</u>	<u>9:15</u>	<u>P303013-01</u>	<u>1-402</u>			<u>X</u>	<u>X</u>										<u>✓</u>	<u>✓</u>
<u>North & East Walls</u>	<u> </u>	<u>9:20</u>	<u>P303013-02</u>	<u> </u>				<u> </u>										<u>✓</u>	<u>✓</u>
<u>South & West Walls</u>	<u> </u>	<u>9:25</u>	<u>P303013-03</u>	<u> </u>				<u>X</u>	<u> </u>									<u>✓</u>	<u>✓</u>
<u>Bottom of Excavation</u>	<u> </u>	<u>9:30</u>	<u>P303013-04</u>	<u> </u>				<u> </u>	<u> </u>									<u>✓</u>	<u>✓</u>

Relinquished by: (Signature) <u>[Signature]</u>	Date <u>3-6-13</u>	Time <u>11:55</u>	Received by: (Signature) <u>[Signature]</u>	Date <u>3/6/13</u>	Time <u>11:55</u>
Relinquished by: (Signature) <u>[Signature]</u>			Received by: (Signature) <u>[Signature]</u>		

Sample Matrix
 Soil Solid Sludge Aqueous Other

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

Rush





Analytical Report

Report Summary

Client: ConocoPhillips

Chain Of Custody Number: 15345

Samples Received: 3/28/2013 1:45:00PM

Job Number: 92115-2406

Work Order: P303101

Project Name/Location: Howell K-#4C

Confirmation Sampling

Entire Report Reviewed By:

A handwritten signature in black ink, appearing to read 'Tim Cain', is written over a horizontal line.

Date: 3/29/13

Tim Cain, Laboratory Manager

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



ConocoPhillips PO Box 2200 Bartlesville OK, 74005	Project Name: Howell K #4C Confirmation Sampling Project Number: 92115-2406 Project Manager: Tiffany McIntosh	Reported: 29-Mar-13 17:46
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Analytical Report for Samples

Client Sample ID	Lab Sample ID	Matrix	Sampled	Received	Container
South and West Walls	P303101-01A	Soil	03/28/13	03/28/13	Glass Jar, 4 oz.

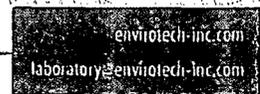
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ConocoPhillips PO Box 2200 Bartlesville OK, 74005	Project Name: Howell K #4C Confirmation Sampling Project Number: 92115-2406 Project Manager: Tiffany McIntosh	Reported: 29-Mar-13 17:46
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**South and West Walls
P303101-01 (Solid)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Volatile Organics by EPA 8021									
Benzene	ND	50.1	ug/L	1	1313036	28-Mar-13	29-Mar-13	EPA 8021B	
Toluene	95.0	50.1	ug/L	1	1313036	28-Mar-13	29-Mar-13	EPA 8021B	
Ethylbenzene	ND	50.1	ug/L	1	1313036	28-Mar-13	29-Mar-13	EPA 8021B	
p,m-Xylene	605	50.1	ug/L	1	1313036	28-Mar-13	29-Mar-13	EPA 8021B	
o-Xylene	172	50.1	ug/L	1	1313036	28-Mar-13	29-Mar-13	EPA 8021B	
Total BTEX	872	50.1	ug/L	1	1313036	28-Mar-13	29-Mar-13	EPA 8021B	
<i>Surrogate: Bromochlorobenzene</i>		<i>97.2 %</i>		<i>80-120</i>	<i>1313036</i>	<i>28-Mar-13</i>	<i>29-Mar-13</i>	<i>EPA 8021B</i>	
<i>Surrogate: 1,4-Difluorobenzene</i>		<i>98.1 %</i>		<i>80-120</i>	<i>1313036</i>	<i>28-Mar-13</i>	<i>29-Mar-13</i>	<i>EPA 8021B</i>	
<i>Surrogate: Fluorobenzene</i>		<i>96.6 %</i>		<i>80-120</i>	<i>1313036</i>	<i>28-Mar-13</i>	<i>29-Mar-13</i>	<i>EPA 8021B</i>	

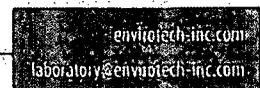
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ConocoPhillips PO Box 2200 Bartlesville OK, 74005	Project Name: Howell K #4C Confirmation Sampling Project Number: 92115-2406 Project Manager: Tiffany McIntosh	Reported: 29-Mar-13 17:46
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Volatile Organics by EPA 8021 - Quality Control
Envirotech Analytical Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 1313036 - Purge and Trap EPA 5030A

Blank (1313036-BLK1)		Prepared: 28-Mar-13 Analyzed: 29-Mar-13								
Benzene	ND	50.1	ug/L							
Toluene	ND	50.1	"							
Ethylbenzene	ND	50.1	"							
p,m-Xylene	ND	50.1	"							
o-Xylene	ND	50.1	"							
Total BTEX	ND	50.1	"							
Surrogate: Bromochlorobenzene	49.7		"	50.0		99.4	80-120			
Surrogate: 1,4-Difluorobenzene	51.1		"	50.0		102	80-120			
Surrogate: Fluorobenzene	49.7		"	50.0		99.3	80-120			

Duplicate (1313036-DUP1)		Source: P303101-01		Prepared: 28-Mar-13 Analyzed: 29-Mar-13						
Benzene	ND	50.0	ug/L		ND					30
Toluene	74.2	50.0	"		95.0			24.6		30
Ethylbenzene	ND	50.0	"		ND					30
p,m-Xylene	493	50.0	"		605			20.2		30
o-Xylene	130	50.0	"		172			28.4		30
Surrogate: Bromochlorobenzene	48.6		"	50.0		97.1	80-120			
Surrogate: 1,4-Difluorobenzene	48.6		"	50.0		97.2	80-120			
Surrogate: Fluorobenzene	48.6		"	50.0		97.2	80-120			

Matrix Spike (1313036-MS1)		Source: P303101-01		Prepared: 28-Mar-13 Analyzed: 29-Mar-13						
Benzene	50.0		ug/L	50.0	0.26	99.4	39-150			
Toluene	50.1		"	50.0	1.90	96.5	46-148			
Ethylbenzene	49.3		"	50.0	0.99	96.6	32-160			
p,m-Xylene	104		"	100	12.1	91.7	46-148			
o-Xylene	50.4		"	50.0	3.45	93.8	46-148			
Surrogate: Bromochlorobenzene	47.5		"	50.0		95.1	80-120			
Surrogate: 1,4-Difluorobenzene	48.2		"	50.0		96.5	80-120			
Surrogate: Fluorobenzene	48.5		"	50.0		97.0	80-120			

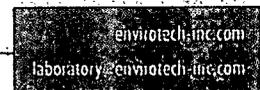
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ConocoPhillips PO Box 2200 Bartlesville OK, 74005	Project Name: Howell K #4C Confirmation Sampling Project Number: 92115-2406 Project Manager: Tiffany McIntosh	Reported: 29-Mar-13 17:46
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Notes and Definitions

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

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RUSH

CHAIN OF CUSTODY RECORD

15345

Page 6 of 6

Client: COPC (hBr)	Project Name / Location: Howell K #4C confirmation sampling	ANALYSIS / PARAMETERS	
Email results to: T. McIntosh	Sampler Name: T. McIntosh	TPH (Method 8015)	BTEX (Method 8021)
Client Phone No.:	Client No.:		
		Cation / Anion	RCI
		TCLP with H/P	CO Table 910-1
		TPH (418.1)	CHLORIDE
			Sample Cool
			Sample Intact

Sample No. / Identification	Sample Date	Sample Time	Lab No.	No./Volume of Containers	Preservative			TPH (Method 8015)	BTEX (Method 8021)	VOC (Method 8260)	RCRA 8 Metals	Cation / Anion	RCI	TCLP with H/P	CO Table 910-1	TPH (418.1)	CHLORIDE	Sample Cool	Sample Intact
					HgCl ₂	HCl	COPC												
south and west walls	3/28/13	1145	P303101-01	1-4oz jar			X	X										Y	Y

Relinquished by: (Signature) <i>Tiffany McIntosh</i>	Date 3/28/13	Time 1345	Received by: (Signature) <i>Dene Oza...</i>	Date 1345	Time 3/28/13
Relinquished by: (Signature)			Received by: (Signature)		

Sample Matrix
 Soil Solid Sludge Aqueous Other

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



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