

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

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

Form C-141  
Revised October 10, 2003

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

RECEIVED

JUL 14 2014

## Release Notification and Corrective Action

## OPERATOR

☒ Initial Report ☐ Final Report

Name of Company	Chesapeake Operating, Inc.	Contact	Bradley Blevins
Address	PO Box 190, Hobbs, NM 88241	Telephone No.	(575) 391-1462
Facility Name	Tyke Federal #1	Facility Type	Well location
Surface Owner	BLM	Mineral Owner	
		API No. 30-025-31041	

## LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
L	17	18S	32E	1650	South	660	West	Lea County, NM

Latitude N 32.74477° Longitude W 103.79520°

## NATURE OF RELEASE

Type of Release	Oil and produced water	Volume of Release	12 bbls oil and 2 bbls produced water	Volume Recovered	8 bbls oil
Source of Release	Hole in the circulating line	Date and Hour of Occurrence	02/20/2014 @ 10:00 am	Date and Hour of Discovery	
Was Immediate Notice Given?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom?	Geoffrey Leking- NMOCD, James Amos- BLM		
By Whom?	Cliff Brunson, BBC International	Date and Hour	02/21/2014 @ 3:18 pm		
Was a Watercourse Reached?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse.			

If a Watercourse was Impacted, Describe Fully.\*

Describe Cause of Problem and Remedial Action Taken.\*

A hole in the circulating line caused 12 bbls of oil and 2 bbls of produced water to leak onto the ground. A vacuum truck recovered 8 bbls of oil and the circulating line was repaired or replaced.

Describe Area Affected and Cleanup Action Taken.\*

The area affected was approximately 110' x 35' in the northwest corner of the location inside the firewall traveling south outside of the firewall and fence area. Remediation will be completed in accordance with a remediation plan approved by NMOCD and the BLM.

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.

## OIL CONSERVATION DIVISION

Signature: Bradley Blevins

Printed Name: Bradley Blevins

Title: EHS Specialist

E-mail Address: Bradley.blevins@chk.com

Date: 2/27/14

Phone: (575) 391-1462

Approved by Environmental SpecialistApproval Date: 2-14-14Expiration Date: 9-18-14

Conditions of Approval:

Site inspection required.Attached ☐7-14-3170

\* Attach Additional Sheets If Necessary

Delinate 8 and 10 as  
per NMOCD guides

ag-id 4323  
1701419538933

JUL 14 2014

# Closure Report

HOBBS OCD

JUL 14 2014

Site Description		RECEIVED
Site Name:	Tyke Federal #1	
Company:	Chevron Operating Inc.	
Legal Description:	U/L L, Section 17, T18S, R32E	
County:	Lea County, NM	
GPS Coordinates:	N 32.74477° W 103.79520°	

Release Data	
Date of Release:	02/20/2014
Type of Release:	Oil and produced water
Source of Release:	Hole in the circulating line
Volume of Release:	12 bbls oil and 2 bbls produced water
Volume Recovered:	8 bbls oil and 0 bbls produced water

Remediation Specifications	
Remediation Parameters:	Excavate to a depth of 2 feet in the entire leak area. Install a clay liner in the area around SP1. Backfill the entire site with clean soil.
Remediation Activities:	06/11/2014 to 07/01/2014

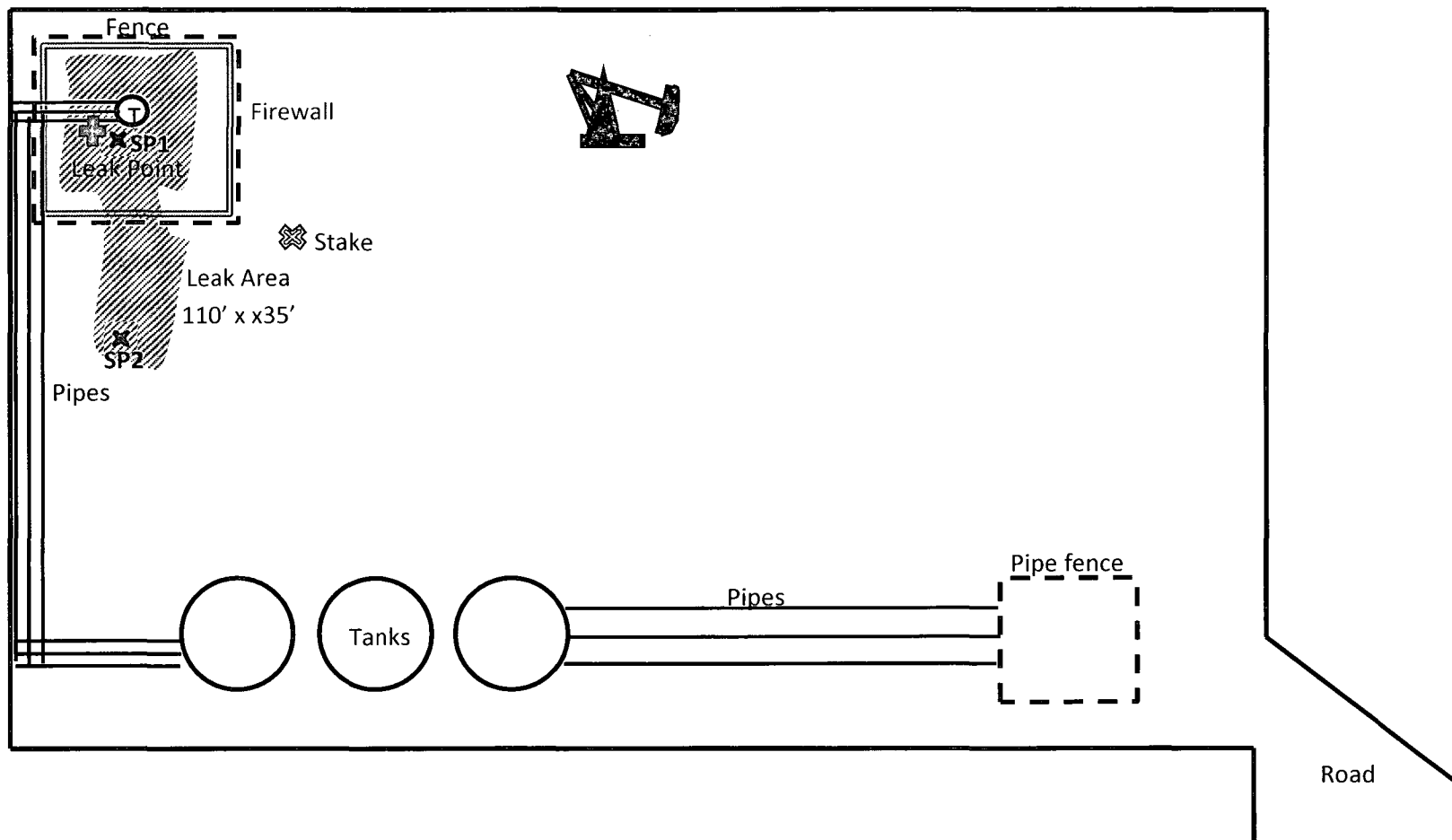
Plan Sent to OCD:	04/25/2014	Meeting between G. Leking & C. Brunson
OCD Approval of Plan:	04/25/2014	Meeting between G. Leking & C. Brunson
Plan Sent to BLM:	04/28/2014	Email from Cliff Brunson to Mike Burton
BLM Approval of Plan:	04/30/2014	Email from Mike Burton to Cliff Brunson

Supporting Documentation	
Initial C-141	Signed 02/27/2014
Final C-141	Signed 07/07/2014
Site Diagram	February 2014
Groundwater Plot	100'
TOPO Maps	February 2014
Lab Summary	03/25/2014
Lab Analysis	03/25/2014
Correspondence	Request and approval of remediation plan via email

Request for Closure	
Based on the completion of the remediation plan as agreed upon, BBC International requests closure approval from NMOCD.	
Cliff Brunson, President of BBC International Inc.	07/09/2014



**Chevron**  
**Tyke Federal #1**



U/L L, Section 17, T18S, R32E

1650' FSL, 660' FWL

Lea County, NM

GPS at stake: N 32.74477° W 103.79520°

API# 30-025-31041

**BBC International, Inc.**

**Chevron**  
**Tyke Federal #1**

Date: 02/27/2014

DRWG by: K. Purvis

NOT TO SCALE

File: Chevron 2014

# Groundwater Plot

## Chevron Tyke Federal #1

County  
Lea

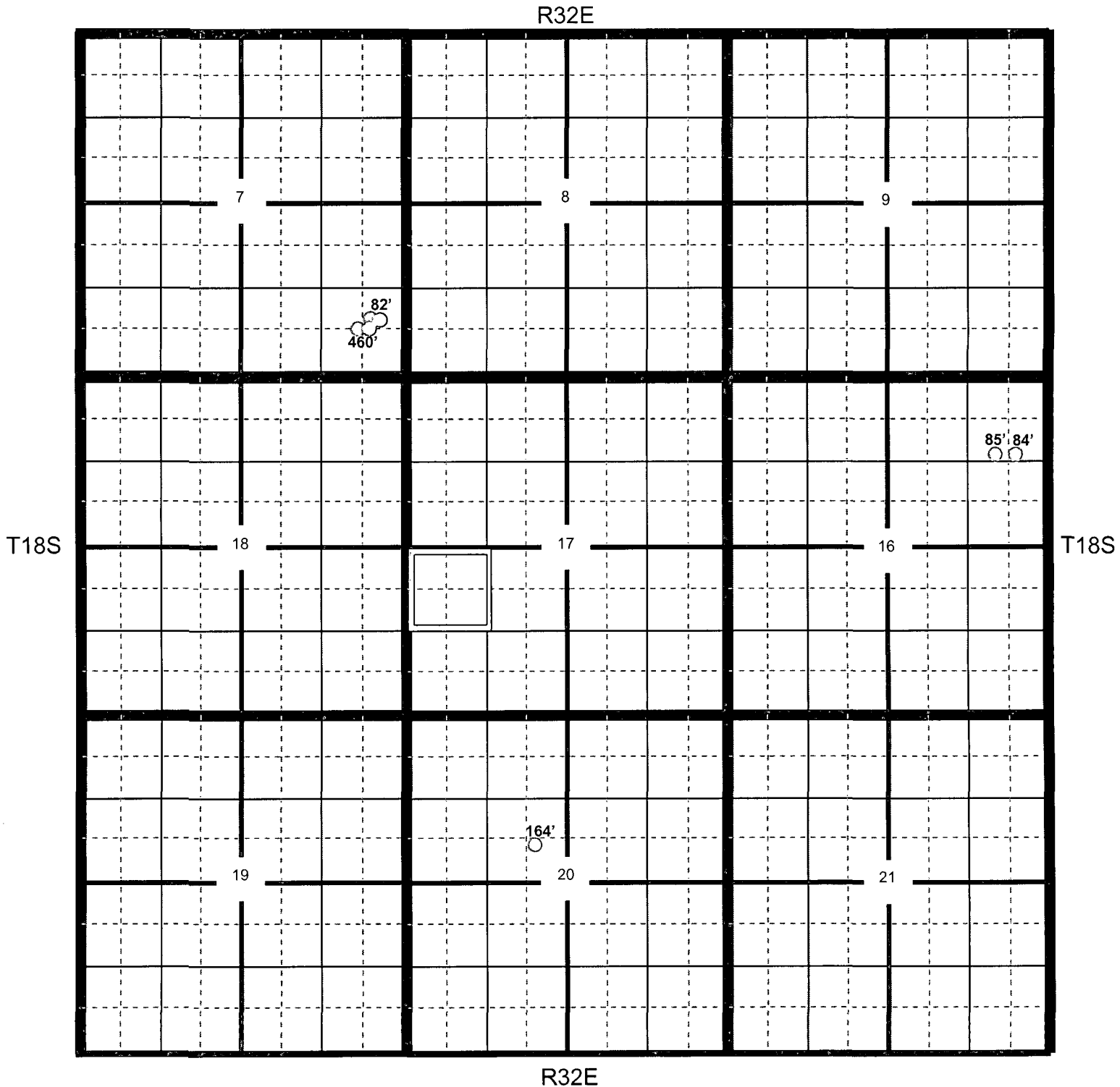
Unit Letter  
L

Section  
17

Township  
18S

Range  
32E

Trend Map 100'



Location

OCD

USGS

SEO

All Databases



Section Quarters

Chevron Tyke Federal #1

County      Unit Letter      Section      Township      Range  
Lea          L              17            18S          32E

Trend Map    100'

1

2

NW/NW NONE Unit Letter D	NE/NW Unit Letter C	NW/NE Unit Letter B	NE/NE Unit Letter A
SW/NW Unit Letter E	SE/NW Unit Letter F	SW/NE Unit Letter G	SE/NE Unit Letter H
NW/SW Unit Letter L	NE/SW Unit Letter K	NW/SE Unit Letter J	NE/SE Unit Letter I
SW/SW Unit Letter M	SE/SW Unit Letter N	SW/SE Unit Letter O	SE/SE Unit Letter P

3

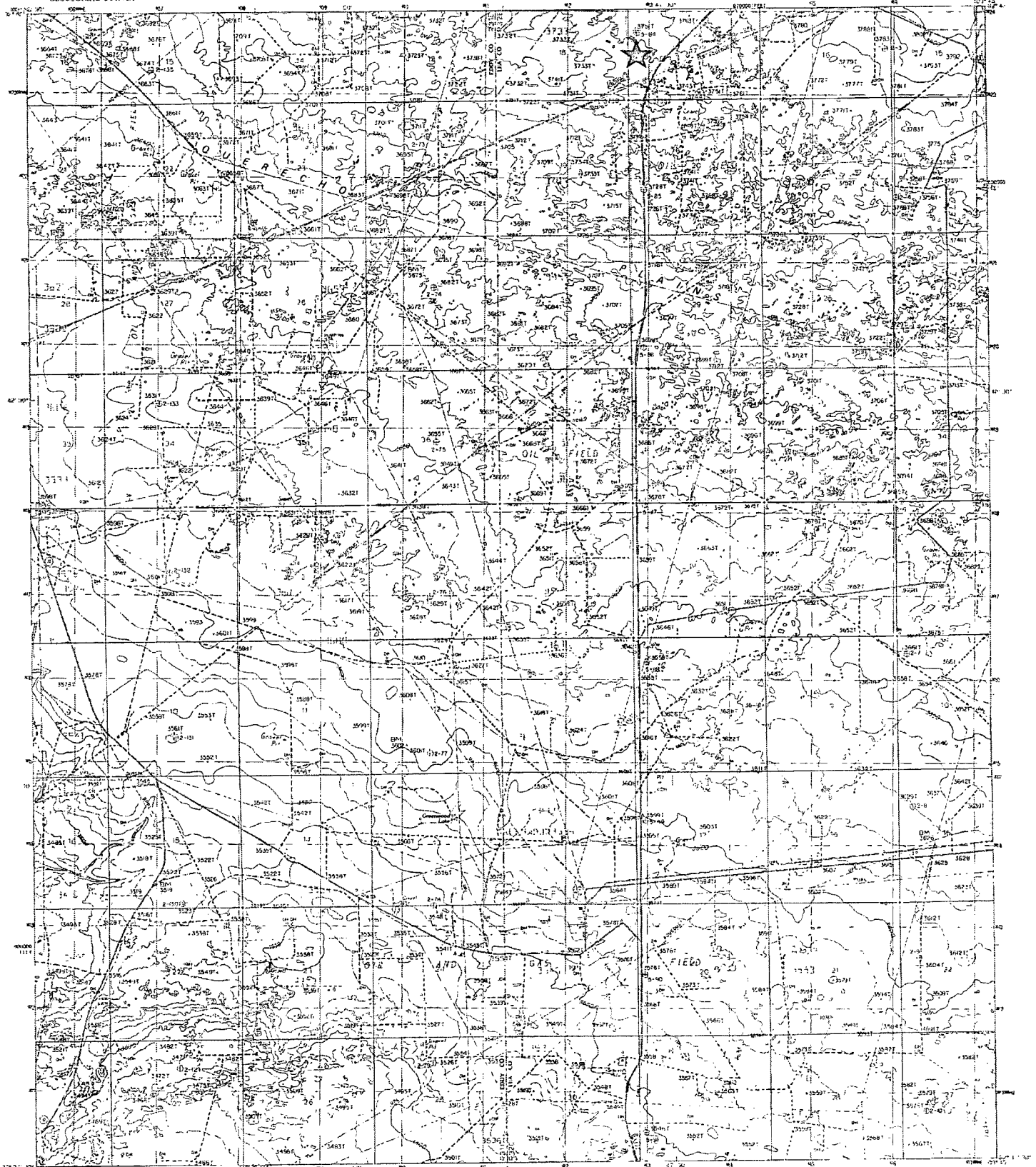
4

# Chevron

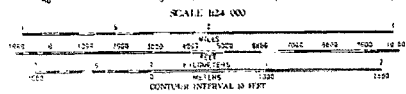
## Tyke Federal #1

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
GEOLOGICAL SURVEY

GREENWOOD LAKE QUADRANGLE  
NEW MEXICO  
7.5 MINUTE SERIES (TOPOGRAPHIC)

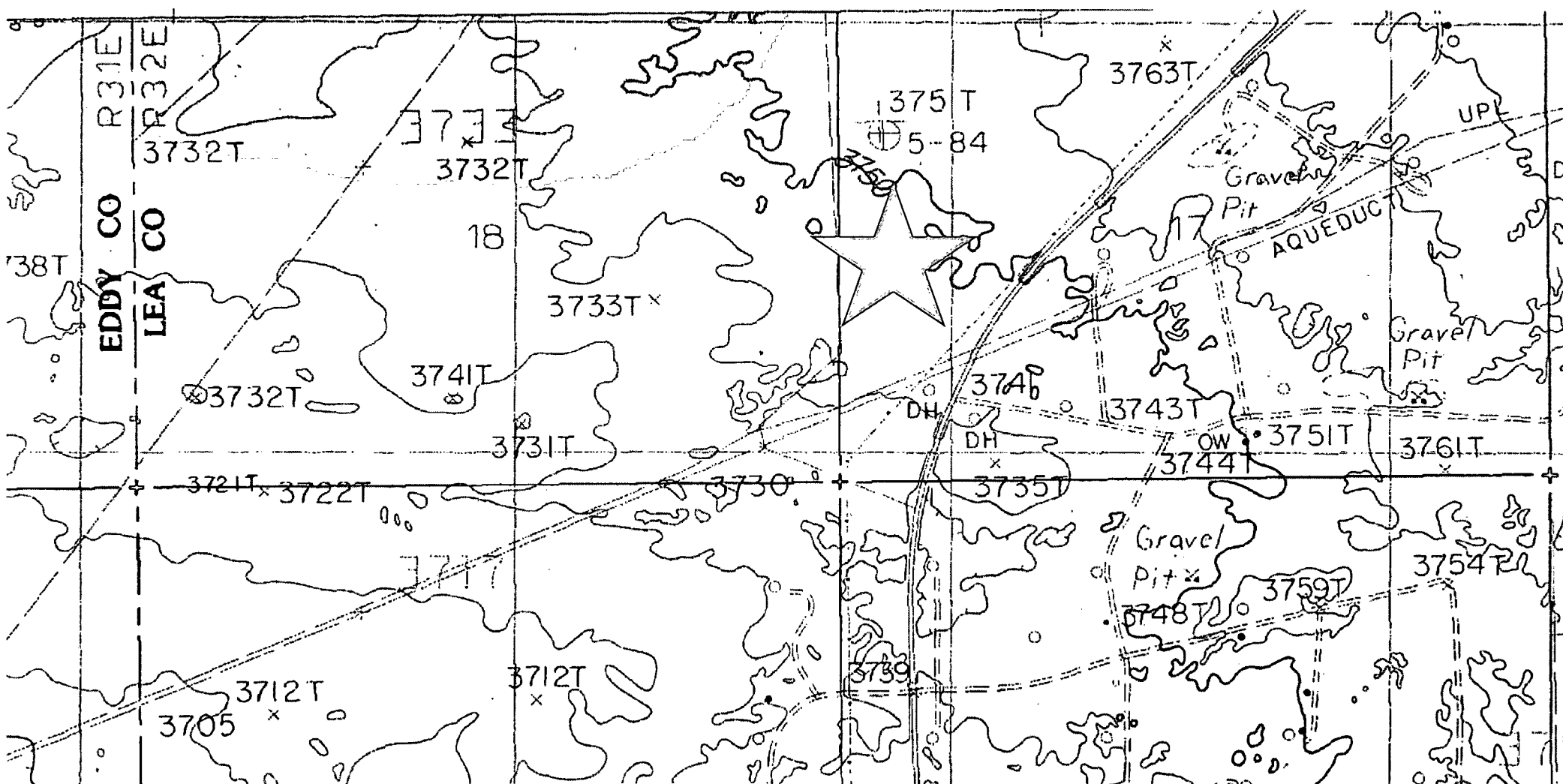


PROVISIONAL MAP  
Produced from original  
manuscript drawings. Infor-  
mation shown as of date of  
field check.



GREENWOOD LAKE, NEW MEXICO  
PROVISIONAL EDITION 1965  
G-1000-1000

# Tyke Federal #1



**Laboratory Analytical Results Summary  
Tyke Federal #1**

		Sample	SP1 @ 1'	SP1 @ 2'	SP1 @ 3'	SP1 @ 5'	SP1 @ 7'	SP1 @ 9'	SP1 @ 11'
Analyte	Method	Date	3/25/14	3/25/14	3/25/14	3/25/14	3/25/14	3/25/14	3/25/14
			mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
<b>Benzene</b>	BTEX 8021B		<2.00	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
<b>Toluene</b>	BTEX 8021B		70.2	<0.050	<0.050	<0.050	0.097	<0.050	<0.050
<b>Ethylbenzene</b>	BTEX 8021B		85.4	0.508	0.692	<0.050	0.617	<0.050	<0.050
<b>Total Xylenes</b>	BTEX 8021B		194	1.43	1.95	<0.150	1.65	<0.150	<0.150
<b>Total BTEX</b>	BTEX 8021B		319	1.94	2.64	<0.300	2.36	<0.300	<0.300
<b>Chloride</b>	SM4500Cl-B		80	80	112	1170	1520	1710	<16.0
<b>GRO</b>	TPH 8015M		2700	77.5	67.1	<10.0	40	<10.0	<10.0
<b>DRO</b>	TPH 8015M		7760	1080	884	139	622	135	<10.0

		Sample	SP2 @ 1'	SP2 @ 2'	SP2 @ 3'	SP2 @ 5'	SP2 @ 7'
Analyte	Method	Date	3/25/14	3/25/14	3/25/14	3/25/14	3/25/14
			mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
<b>Benzene</b>	BTEX 8021B		<1.00	<0.050	<0.050	<0.050	<0.050
<b>Toluene</b>	BTEX 8021B		9.57	<0.050	<0.050	<0.050	<0.050
<b>Ethylbenzene</b>	BTEX 8021B		24.6	0.347	<0.050	<0.050	<0.050
<b>Total Xylenes</b>	BTEX 8021B		70.2	0.908	<0.150	<0.150	<0.150
<b>Total BTEX</b>	BTEX 8021B		104	1.26	<0.300	<0.300	<0.300
<b>Chloride</b>	SM4500Cl-B		48	32	48	192	<16.0
<b>GRO</b>	TPH 8015M		1210	60.2	<10.0	<10.0	<10.0
<b>DRO</b>	TPH 8015M		4820	855	298	21.5	<10.0





PHONE (575) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

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April 01, 2014

Cliff Brunson

BBC International, Inc.

P.O. Box 805

Hobbs, NM 88241

RE: TYKE FEDERAL #1

Enclosed are the results of analyses for samples received by the laboratory on 03/26/14 8:15.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-13-5. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (\*). For a complete list of accredited analytes and matrices visit the TCEQ website at [www.tceq.texas.gov/field/qa/lab\\_accred\\_certif.html](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

Cardinal Laboratories is accredited through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Celey D. Keene

Lab Director/Quality Manager

**Analytical Results For:**

BBC International, Inc.  
Cliff Brunson  
P.O. Box 805  
Hobbs NM, 88241  
Fax To: (575) 397-0397

Received: 03/26/2014  
Reported: 04/01/2014  
Project Name: TYKE FEDERAL #1  
Project Number: NONE GIVEN  
Project Location: LEA COUNTY, NM

Sampling Date: 03/25/2014  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Jodi Henson

**Sample ID: SP 1 @ 1' (H400894-01)**

BTEX 8021B		mg/kg	Analyzed By: MS					S-04	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<2.00	2.00	04/01/2014	ND	2.48	124	2.00	12.9	
Toluene*	70.2	2.00	04/01/2014	ND	2.36	118	2.00	12.8	
Ethylbenzene*	85.4	2.00	04/01/2014	ND	2.32	116	2.00	13.3	
Total Xylenes*	194	6.00	04/01/2014	ND	6.70	112	6.00	12.8	
Total BTEX	319	12.0	04/01/2014	ND					

Surrogate: 4-Bromofluorobenzene (PID) 141 % 89.4-126

Chloride, SM4500Cl-B		mg/kg	Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	80.0	16.0	03/31/2014	ND	416	104	400	0.00	

TPH 8015M		mg/kg	Analyzed By: ms					S-06	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	2700	50.0	03/28/2014	ND	208	104	200	4.06	
DRO >C10-C28	7760	50.0	03/28/2014	ND	200	99.9	200	3.28	

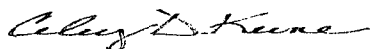
Surrogate: 1-Chlorooctane 179 % 65.2-140

Surrogate: 1-Chlorooctadecane 221 % 63.6-154

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

BBC International, Inc.  
Cliff Brunson  
P.O. Box 805  
Hobbs NM, 88241  
Fax To: (575) 397-0397

Received: 03/26/2014  
Reported: 04/01/2014  
Project Name: TYKE FEDERAL #1  
Project Number: NONE GIVEN  
Project Location: LEA COUNTY, NM

Sampling Date: 03/25/2014  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Jodi Henson

**Sample ID: SP 1 @ 2' (H400894-02)**

BTEX 8021B		mg/kg	Analyzed By: MS					S-04	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	04/01/2014	ND	2.48	124	2.00	12.9	
Toluene*	<0.050	0.050	04/01/2014	ND	2.36	118	2.00	12.8	
Ethylbenzene*	<b>0.508</b>	0.050	04/01/2014	ND	2.32	116	2.00	13.3	
<b>Total Xylenes*</b>	<b>1.43</b>	0.150	04/01/2014	ND	6.70	112	6.00	12.8	
<b>Total BTEX</b>	<b>1.94</b>	0.300	04/01/2014	ND					

Surrogate: 4-Bromofluorobenzene (PIC) 148 % 89.4-126

Chloride, SM4500Cl-B		mg/kg	Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>Chloride</b>	<b>80.0</b>	16.0	03/31/2014	ND	416	104	400	0.00	

TPH 8015M		mg/kg	Analyzed By: ms						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>GRO C6-C10</b>	<b>77.5</b>	10.0	03/28/2014	ND	208	104	200	4.06	
<b>DRO &gt;C10-C28</b>	<b>1080</b>	10.0	03/28/2014	ND	200	99.9	200	3.28	

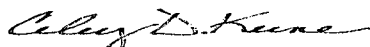
Surrogate: 1-Chlorooctane 118 % 65.2-140

Surrogate: 1-Chlorooctadecane 114 % 63.6-154

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

### Analytical Results For:

BBC International, Inc.  
Cliff Brunson  
P.O. Box 805  
Hobbs NM, 88241  
Fax To: (575) 397-0397

Received: 03/26/2014  
Reported: 04/01/2014  
Project Name: TYKE FEDERAL #1  
Project Number: NONE GIVEN  
Project Location: LEA COUNTY, NM

Sampling Date: 03/25/2014  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Jodi Henson

### Sample ID: SP 1 @ 3' (H400894-03)

BTEX 8021B		mg/kg	Analyzed By: MS					S-04	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	04/01/2014	ND	2.48	124	2.00	12.9	
Toluene*	<0.050	0.050	04/01/2014	ND	2.36	118	2.00	12.8	
Ethylbenzene*	<b>0.692</b>	0.050	04/01/2014	ND	2.32	116	2.00	13.3	
Total Xylenes*	<b>1.95</b>	0.150	04/01/2014	ND	6.70	112	6.00	12.8	
Total BTEX	<b>2.64</b>	0.300	04/01/2014	ND					

Surrogate: 4-Bromofluorobenzene (PIE) 159 % 89.4-126

Chloride, SM4500Cl-B		mg/kg	Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<b>112</b>	16.0	03/31/2014	ND	416	104	400	0.00	

TPH 8015M		mg/kg	Analyzed By: ms						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<b>67.1</b>	10.0	03/28/2014	ND	208	104	200	4.06	
DRO >C10-C28	<b>884</b>	10.0	03/28/2014	ND	200	99.9	200	3.28	

Surrogate: 1-Chlorooctane 125 % 65.2-140

Surrogate: 1-Chlorooctadecane 123 % 63.6-154

Cardinal Laboratories

\*=Accredited Analyte

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Cliff Brunson  
P.O. Box 805  
Hobbs NM, 88241  
Fax To: (575) 397-0397

Received: 03/26/2014  
Reported: 04/01/2014  
Project Name: TYKE FEDERAL #1  
Project Number: NONE GIVEN  
Project Location: LEA COUNTY, NM

Sampling Date: 03/25/2014  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Jodi Henson

**Sample ID: SP 1 @ 5' (H400894-04)**

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	04/01/2014	ND	2.48	124	2.00	12.9	
Toluene*	<0.050	0.050	04/01/2014	ND	2.36	118	2.00	12.8	
Ethylbenzene*	<0.050	0.050	04/01/2014	ND	2.32	116	2.00	13.3	
Total Xylenes*	<0.150	0.150	04/01/2014	ND	6.70	112	6.00	12.8	
Total BTEX	<0.300	0.300	04/01/2014	ND					

Surrogate: 4-Bromofluorobenzene (PID) 115 % 89.4-126

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1170	16.0	03/31/2014	ND	416	104	400	0.00	

TPH 8015M		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	03/28/2014	ND	208	104	200	4.06	
DRO >C10-C28	139	10.0	03/28/2014	ND	200	99.9	200	3.28	

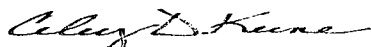
Surrogate: 1-Chlorooctane 99.5 % 65.2-140

Surrogate: 1-Chlorooctadecane 112 % 63.6-154

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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Cliff Brunson  
P.O. Box 805  
Hobbs NM, 88241  
Fax To: (575) 397-0397

Received: 03/26/2014  
Reported: 04/01/2014  
Project Name: TYKE FEDERAL #1  
Project Number: NONE GIVEN  
Project Location: LEA COUNTY, NM

Sampling Date: 03/25/2014  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Jodi Henson

**Sample ID: SP 1 @ 7' (H400894-05)**

BTEX 8021B		mg/kg	Analyzed By: MS					S-04	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	04/01/2014	ND	2.48	124	2.00	12.9	
Toluene*	0.097	0.050	04/01/2014	ND	2.36	118	2.00	12.8	
Ethylbenzene*	0.617	0.050	04/01/2014	ND	2.32	116	2.00	13.3	
Total Xylenes*	1.65	0.150	04/01/2014	ND	6.70	112	6.00	12.8	
Total BTEX	2.36	0.300	04/01/2014	ND					

Surrogate: 4-Bromofluorobenzene (PIE) 139 % 89.4-126

Chloride, SM4500Cl-B		mg/kg	Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1520	16.0	03/31/2014	ND	416	104	400	0.00	

TPH 8015M		mg/kg	Analyzed By: ms						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	40.0	10.0	03/28/2014	ND	208	104	200	4.06	
DRO >C10-C28	622	10.0	03/28/2014	ND	200	99.9	200	3.28	


Surrogate: 1-Chlorooctane 106 % 65.2-140

Surrogate: 1-Chlorooctadecane 109 % 63.6-154

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

BBC International, Inc.  
Cliff Brunson  
P.O. Box 805  
Hobbs NM, 88241  
Fax To: (575) 397-0397

Received:	03/26/2014	Sampling Date:	03/25/2014
Reported:	04/01/2014	Sampling Type:	Soil
Project Name:	TYKE FEDERAL #1	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	LEA COUNTY, NM		

**Sample ID: SP 1 @ 9' (H400894-06)**

BTEX 8021B			mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	04/01/2014	ND	2.48	124	2.00	12.9		
Toluene*	<0.050	0.050	04/01/2014	ND	2.36	118	2.00	12.8		
Ethylbenzene*	<0.050	0.050	04/01/2014	ND	2.32	116	2.00	13.3		
Total Xylenes*	<0.150	0.150	04/01/2014	ND	6.70	112	6.00	12.8		
Total BTEX	<0.300	0.300	04/01/2014	ND						

Surrogate: 4-Bromofluorobenzene (PIE) 112 % 89.4-126

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1710	16.0	03/31/2014	ND	416	104	400	0.00	

TPH 8015M		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	03/28/2014	ND	208	104	200	4.06	
DRO >C10-C28	135	10.0	03/28/2014	ND	200	99.9	200	3.28	

Surrogate: 1-Chlorooctane 95.2 % 65.2-140

Surrogate: 1-Chlorooctadecane 106 % 63.6-154

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

BBC International, Inc.  
Cliff Brunson  
P.O. Box 805  
Hobbs NM, 88241  
Fax To: (575) 397-0397

Received:	03/26/2014	Sampling Date:	03/25/2014
Reported:	04/01/2014	Sampling Type:	Soil
Project Name:	TYKE FEDERAL #1	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	LEA COUNTY, NM		

**Sample ID: SP 1 @ 11' (H400894-07)**

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	04/01/2014	ND	2.48	124	2.00	12.9	
Toluene*	<0.050	0.050	04/01/2014	ND	2.36	118	2.00	12.8	
Ethylbenzene*	<0.050	0.050	04/01/2014	ND	2.32	116	2.00	13.3	
Total Xylenes*	<0.150	0.150	04/01/2014	ND	6.70	112	6.00	12.8	
Total BTEX	<0.300	0.300	04/01/2014	ND					

Surrogate: 4-Bromofluorobenzene (PIE) 112 % 89.4-126

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	<16.0	16.0	03/31/2014	ND	416	104	400	0.00		

TPH 8015M		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	03/28/2014	ND	208	104	200	4.06	
DRO >C10-C28	<10.0	10.0	03/28/2014	ND	200	99.9	200	3.28	

Surrogate: 1-Chlorooctane 93.0 % 65.2-140

Surrogate: 1-Chlorooctadecane 99.1 % 63.6-154

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Celey D. Keene, Lab Director/Quality Manager



**Analytical Results For:**

 BBC International, Inc.  
 Cliff Brunson  
 P.O. Box 805  
 Hobbs NM, 88241  
 Fax To: (575) 397-0397

 Received: 03/26/2014  
 Reported: 04/01/2014  
 Project Name: TYKE FEDERAL #1  
 Project Number: NONE GIVEN  
 Project Location: LEA COUNTY, NM

 Sampling Date: 03/25/2014  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: SP 2 @ 1' (H400894-08)**

BTX 8021B		mg/kg		Analyzed By: MS				S-04	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<1.00	1.00	04/01/2014	ND	2.48	124	2.00	12.9	
Toluene*	9.57	1.00	04/01/2014	ND	2.36	118	2.00	12.8	
Ethylbenzene*	24.6	1.00	04/01/2014	ND	2.32	116	2.00	13.3	
Total Xylenes*	70.2	3.00	04/01/2014	ND	6.70	112	6.00	12.8	
Total BTX	104	6.00	04/01/2014	ND					

Surrogate: 4-Bromofluorobenzene (PIL) 146 % 89.4-126

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	48.0	16.0	03/31/2014	ND	416	104	400	0.00	

TPH 8015M		mg/kg		Analyzed By: ms				S-06	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	1210	50.0	03/28/2014	ND	208	104	200	4.06	
DRO >C10-C28	4820	50.0	03/28/2014	ND	200	99.9	200	3.28	


Surrogate: 1-Chlorooctane 158 % 65.2-140

Surrogate: 1-Chlorooctadecane 157 % 63.6-154

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

BBC International, Inc.  
Cliff Brunson  
P.O. Box 805  
Hobbs NM, 88241  
Fax To: (575) 397-0397

Received: 03/26/2014  
Reported: 04/01/2014  
Project Name: TYKE FEDERAL #1  
Project Number: NONE GIVEN  
Project Location: LEA COUNTY, NM

Sampling Date: 03/25/2014  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Jodi Henson

**Sample ID: SP 2 @ 2' (H400894-09)**

BTX 8021B		mg/kg		Analyzed By: MS				S-04	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	04/01/2014	ND	2.48	124	2.00	12.9	
Toluene*	<0.050	0.050	04/01/2014	ND	2.36	118	2.00	12.8	
Ethylbenzene*	<b>0.347</b>	0.050	04/01/2014	ND	2.32	116	2.00	13.3	
<b>Total Xylenes*</b>	<b>0.908</b>	0.150	04/01/2014	ND	6.70	112	6.00	12.8	
<b>Total BTX</b>	<b>1.26</b>	0.300	04/01/2014	ND					

Surrogate: 4-Bromofluorobenzene (PIL) 176 % 89.4-126

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>Chloride</b>	<b>32.0</b>	16.0	03/31/2014	ND	416	104	400	0.00	

TPH 8015M		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>GRO C6-C10</b>	<b>60.2</b>	10.0	03/28/2014	ND	208	104	200	4.06	
<b>DRO &gt;C10-C28</b>	<b>855</b>	10.0	03/28/2014	ND	200	99.9	200	3.28	

Surrogate: 1-Chlorooctane 116 % 65.2-140

Surrogate: 1-Chlorooctadecane 112 % 63.6-154

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

BBC International, Inc.  
Cliff Brunson  
P.O. Box 805  
Hobbs NM, 88241  
Fax To: (575) 397-0397

Received: 03/26/2014  
Reported: 04/01/2014  
Project Name: TYKE FEDERAL #1  
Project Number: NONE GIVEN  
Project Location: LEA COUNTY, NM

Sampling Date: 03/25/2014  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Jodi Henson

**Sample ID: SP 2 @ 3' (H400894-10)**

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	04/01/2014	ND	2.48	124	2.00	12.9	
Toluene*	<0.050	0.050	04/01/2014	ND	2.36	118	2.00	12.8	
Ethylbenzene*	<0.050	0.050	04/01/2014	ND	2.32	116	2.00	13.3	
Total Xylenes*	<0.150	0.150	04/01/2014	ND	6.70	112	6.00	12.8	
Total BTEX	<0.300	0.300	04/01/2014	ND					

Surrogate: 4-Bromofluorobenzene (PIE) 122 % 89.4-126

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	48.0	16.0	03/31/2014	ND	416	104	400	0.00		

TPH 8015M		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	03/28/2014	ND	208	104	200	4.06	
DRO >C10-C28	298	10.0	03/28/2014	ND	200	99.9	200	3.28	

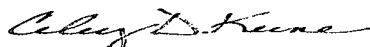
Surrogate: 1-Chlorooctane 101 % 65.2-140

Surrogate: 1-Chlorooctadecane 107 % 63.6-154

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

BBC International, Inc.  
Cliff Brunson  
P.O. Box 805  
Hobbs NM, 88241  
Fax To: (575) 397-0397

Received: 03/26/2014  
Reported: 04/01/2014  
Project Name: TYKE FEDERAL #1  
Project Number: NONE GIVEN  
Project Location: LEA COUNTY, NM

Sampling Date: 03/25/2014  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Jodi Henson

**Sample ID: SP 2 @ 5' (H400894-11)**

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	04/01/2014	ND	2.48	124	2.00	12.9	
Toluene*	<0.050	0.050	04/01/2014	ND	2.36	118	2.00	12.8	
Ethylbenzene*	<0.050	0.050	04/01/2014	ND	2.32	116	2.00	13.3	
Total Xylenes*	<0.150	0.150	04/01/2014	ND	6.70	112	6.00	12.8	
Total BTEX	<0.300	0.300	04/01/2014	ND					

Surrogate: 4-Bromofluorobenzene (PIE) 114 % 89.4-126

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	192	16.0	03/28/2014	ND	416	104	400	0.00		

TPH 8015M		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	03/28/2014	ND	208	104	200	4.06	
DRO >C10-C28	21.5	10.0	03/28/2014	ND	200	99.9	200	3.28	

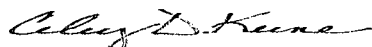
Surrogate: 1-Chlorooctane 86.3 % 65.2-140

Surrogate: 1-Chlorooctadecane 93.2 % 63.6-154

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

BBC International, Inc.  
Cliff Brunson  
P.O. Box 805  
Hobbs NM, 88241  
Fax To: (575) 397-0397

Received:	03/26/2014	Sampling Date:	03/25/2014
Reported:	04/01/2014	Sampling Type:	Soil
Project Name:	TYKE FEDERAL #1	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	LEA COUNTY, NM		

**Sample ID: SP 2 @ 7' (H400894-12)**

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	04/01/2014	ND	2.48	124	2.00	12.9	
Toluene*	<0.050	0.050	04/01/2014	ND	2.36	118	2.00	12.8	
Ethylbenzene*	<0.050	0.050	04/01/2014	ND	2.32	116	2.00	13.3	
Total Xylenes*	<0.150	0.150	04/01/2014	ND	6.70	112	6.00	12.8	
Total BTEX	<0.300	0.300	04/01/2014	ND					

Surrogate: 4-Bromofluorobenzene (PIE) 110 % 89.4-126

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	<16.0	16.0	03/28/2014	ND	416	104	400	0.00		

TPH 8015M		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	03/28/2014	ND	208	104	200	4.06	
DRO >C10-C28	<10.0	10.0	03/28/2014	ND	200	99.9	200	3.28	

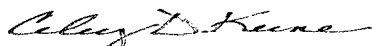
Surrogate: 1-Chlorooctane 92.4 % 65.2-140

Surrogate: 1-Chlorooctadecane 95.6 % 63.6-154

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Celey D. Keene, Lab Director/Quality Manager

### Notes and Definitions

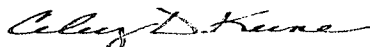
S-06	The recovery of this surrogate is outside control limits due to sample dilution required from high analyte concentration and/or matrix interference's.
S-04	The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C Samples reported on an as received basis (wet) unless otherwise noted on report

---

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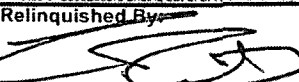


---

Celest D. Keene, Lab Director/Quality Manager

**101 East Marland, Hobbs, NM 88240**  
**(505) 393-2326 FAX (505) 393-2476**

## CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

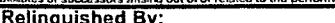

Company Name: BBC International, Inc.				BILL TO				ANALYSIS REQUEST																									
Project Manager: Cliff Brunson				P.O. #:																													
Address: P.O. Box 805				Company:																													
City: Hobbs		State: NM		Zip: 88241		Attn:																											
Phone #: 575-397-6388		Fax #: 575-397-0397		Address:																													
Project #:		Project Owner:		City:																													
Project Name: Tyke Federal #1				State:		Zip:																											
Project Location: Lea County, NM				Phone #:																													
Sampler Name: Gary Ray				Fax #:																													
FOR LAB USE ONLY				MATRIX				PRESERV.		SAMPLING																							
Lab I.D.		Sample I.D.		(G)RAB OR (C)OMP.		# CONTAINERS		GROUNDWATER		WASTEWATER														SOIL		SLUDGE		OTHER:		ACID/BASE:		ICE / COOL	
H400894				G		1						✓								✓				3/25/14		11:00 AM		✓		✓		✓	
1		SP1 @ 1'		G		1						✓								✓				3/25/14		11:20 AM		✓		✓		✓	
2		SP1 @ 2'		G		1						✓								✓				3/25/14		11:40 AM		✓		✓		✓	
3		SP1 @ 3'		G		1						✓								✓				3/25/14		12:25 PM		✓		✓		✓	
4		SP1 @ 5'		G		1						✓								✓				3/25/14		12:47 PM		✓		✓		✓	
5		SP1 @ 7'		G		1						✓								✓				3/25/14		1:20 PM		✓		✓		✓	
6		SP1 @ 9'		G		1						✓								✓				3/25/14		1:45 PM		✓		✓		✓	
7		SP1 @ 11'		G		1						✓								✓				3/25/14		2:15 PM		✓		✓		✓	
8		SP2 @ 1'		G		1						✓								✓				3/25/14		2:30 PM		✓		✓		✓	
9		SP2 @ 2'		G		1						✓								✓				3/25/14		2:45 PM		✓		✓		✓	
10		SP2 @ 3'		G		1						✓								✓				3/25/14		2:45 PM		✓		✓		✓	
<p>PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising whether based in contract or tort, shall be limited to the amount paid by the client for the analyses. All claims including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within 30 days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise.</p>																																	
Relinquished By: 				Date: 3-26-14 Time: 8:15				Received By: Jodi Henson				Phone Result: <input type="checkbox"/> Yes <input type="checkbox"/> No				Add'l Phone #:				Fax Result: <input type="checkbox"/> Yes <input type="checkbox"/> No				Add'l Fax #:									
Relinquished By:				Date:				Received By:				REMARKS:																					
				Time:																													
Delivered By: (Circle One) Sampler - UPS - Bus - Other:														Sample Condition Cool Intact <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No				CHECKED BY: (Initials) GH															
2.6°C																																	

† Cardinal cannot accept verbal changes. Please fax written changes to 505-393-2476

#54



20f.

Relinquished By: 		Date: 7-26-19	Received By: Jodi Benson	Phone Result: <input type="checkbox"/> Yes <input type="checkbox"/> No	Add'l Phone #:
Time: 8:15				Fax Result: <input type="checkbox"/> Yes <input type="checkbox"/> No	Add'l Fax #:
Relinquished By:		Date:	Received By:	REMARKS:	
		Time:			
Delivered By: (Circle One)		Sample Condition		CHECKED BY: (Initials)	
Sampler - UPS - Bus - Other:		Cool Intact <input checked="" type="checkbox"/> Yes <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> No			

† Cardinal cannot accept verbal changes. Please fax written changes to 505-393-2476

#54



## Kathy Purvis

---

**From:** Cliff P. Brunson <cbrunson@bbcinternational.com>  
**Sent:** Saturday, April 26, 2014 4:00 PM  
**To:** Geoffrey Leking  
**Cc:** Bradley Blevins; Ken Swinney; Jennifer Gilkey; Kathy Purvis  
**Subject:** Chevron-Tyke Federal #1-Remediation Plan  
**Attachments:** Remediation Packet, Tyke Fed #1.pdf

Geoff,

This e-mail is to confirm our conversation on April 25, 2014 about the remediation plan for the above referenced site. I have attached the materials that we used in our discussion. As discussed, Chevron will excavate to a depth of 2 feet in the leak area around SP1 and then install a clay liner and in the area around SP2, the excavation will be 2 feet as is depicted on the attached site diagram. The site will then be backfilled with clean soil.

If you would please e-mail your concurrence with this remediation plan, it would be greatly appreciated.

Thanks, Cliff

Cliff P. Brunson, CEI, CRS  
President  
BBC International, Inc.  
World-Wide Environmental Specialists  
Mailing Address:  
P. O. Box 805  
Hobbs, NM 88241-0805 USA  
Shipping Address:  
1324 W. Marland St.  
Hobbs, NM 88240 USA  
Phone: (575) 397-6388  
Fax: (575) 397-0397  
E-Mail: [cbrunson@bbcinternational.com](mailto:cbrunson@bbcinternational.com)

\*\*\*\*\*

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\*\*\*\*\*

## Kathy Purvis

---

**From:** Cliff P. Brunson <cbrunson@bbcinternational.com>  
**Sent:** Wednesday, April 30, 2014 9:05 AM  
**To:** Ken Swinney; Jennifer Gilkey; Kathy Purvis; Bradley Blevins  
**Subject:** Fwd: Chevron-Tyke Federal #1-Remediation Plan

BLM approval.

Sent from my iPhone

Begin forwarded message:

**From:** "Burton, Michael" <[mburton@blm.gov](mailto:mburton@blm.gov)>  
**Date:** April 30, 2014 at 9:26:41 AM CDT  
**To:** "Cliff P. Brunson" <[cbrunson@bbcinternational.com](mailto:cbrunson@bbcinternational.com)>  
**Subject:** Re: Chevron-Tyke Federal #1-Remediation Plan

Cliff,

This plan is approved. The BLM event number for this spill will be NU14086MB.

Thanks

***Mike Burton***  
***BLM-CFO***  
***Environmental Protection Specialist***  
***575-234-2226 office***  
***575-361-3574 cell***  
***[mburton@blm.gov](mailto:mburton@blm.gov)***

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On Mon, Apr 28, 2014 at 5:27 PM, Cliff P. Brunson <[cbrunson@bbcinternational.com](mailto:cbrunson@bbcinternational.com)> wrote:  
Mike and Jim,

This e-mail is to request the BLM's approval for the following remediation plan for the above referenced site. I have attached the materials that pertain to the site and the plan. This plan has already been approved by Geoff Leking of the NMOCD. Chevron will excavate to a depth of 2 feet in the entire spill area as shown on the attached site diagram. Then in the area around SP1, a clay liner will be installed. The entire site will then be backfilled with clean soil.

If you would please e-mail your concurrence with this remediation plan, it would be greatly appreciated. If you have any questions, please let us know.

Thanks, Cliff

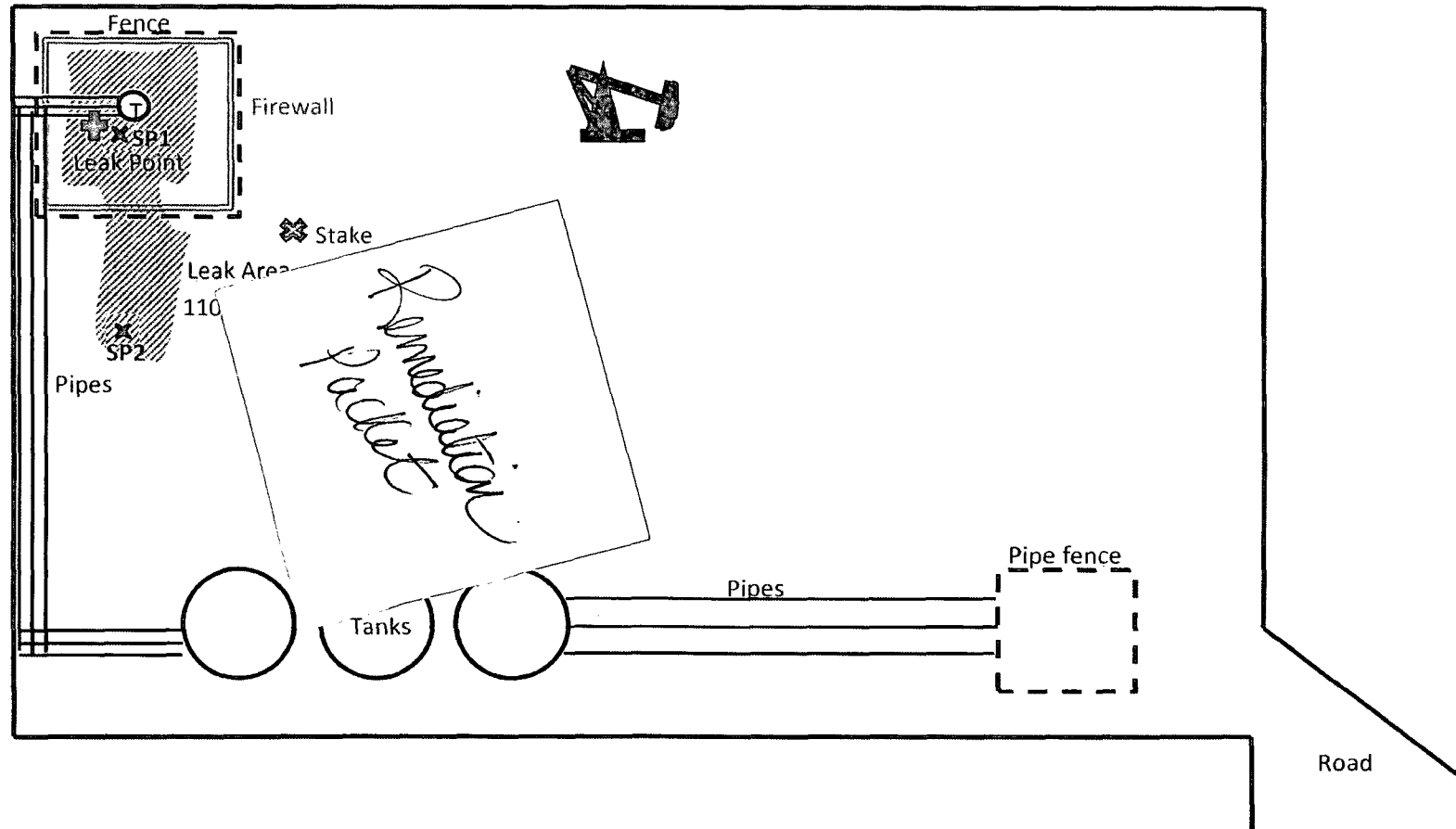
Cliff P. Brunson, CEI, CRS  
President  
BBC International, Inc.  
World-Wide Environmental Specialists  
Mailing Address:  
P. O. Box 805  
Hobbs, NM 88241-0805 USA  
Shipping Address:  
1324 W. Marland St.  
Hobbs, NM 88240 USA  
Phone: (575) 397-6388  
Fax: (575) 397-0397  
E-Mail: [cbrunson@bbcinternational.com](mailto:cbrunson@bbcinternational.com)

\*\*\*\*\*

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\*\*\*\*\*

Chevron  
Tyke Federal #1



U/L L, Section 17, T18S, R32E  
1650' FSL, 660' FWL  
Lea County, NM  
GPS at stake: N 32.74477° W 103.79520°  
API# 30-025-31041

BBC International, Inc.	
Chevron	
Tyke Federal #1	
Date: 02/27/2014	DRWG by: K. Purvis
NOT TO SCALE	File: Chevron 2014



# Groundwater Plot

## Chevron Tyke Federal #1

County  
Lea

Unit Letter  
L

Section  
17

Township  
18S

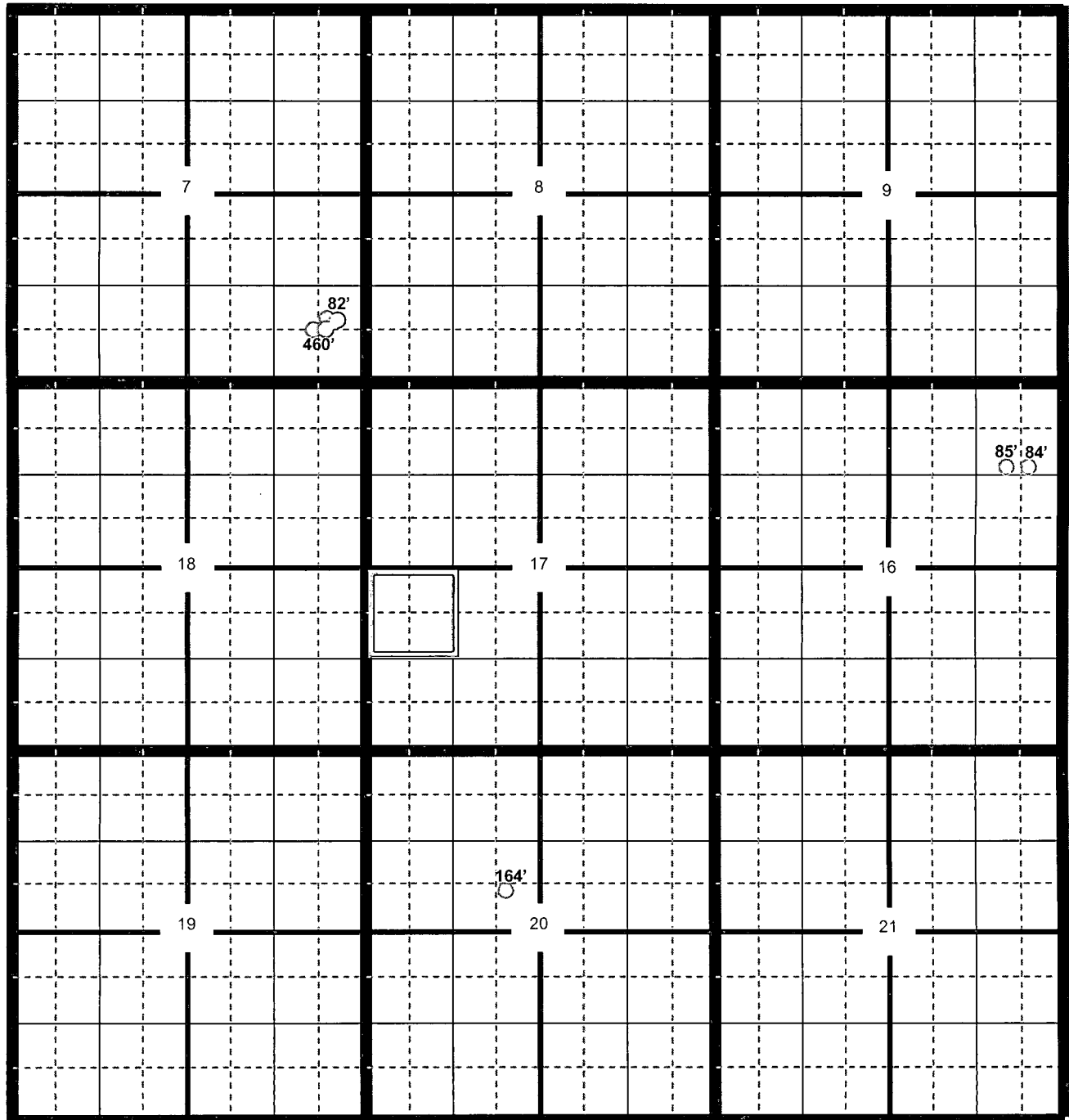
Range  
32E

Trend Map 100'

R32E

T18S

T18S



R32E

⊛ Location

○ OCD

○ USGS

○ SEO

● All Databases



Section Quarters

Chevron Tyke Federal #1

County      Unit Letter      Section      Township      Range  
Lea          L              17            18S          32E

Trend Map    100'

1

2

NW/NW NONE	NE/NW	NW/NE	NE/NE
Unit Letter D	Unit Letter C	Unit Letter B	Unit Letter A
SW/NW	SE/NW	SW/NE	SE/NE
Unit Letter E	Unit Letter F	Unit Letter G	Unit Letter H
NW/SW	NE/SW	NW/SE	NE/SE
Unit Letter L	Unit Letter K	Unit Letter J	Unit Letter I
SW/SW	SE/SW	SW/SE	SE/SE
Unit Letter M	Unit Letter N	Unit Letter O	Unit Letter P

3

4

**Laboratory Analytical Results Summary  
Tyke Federal #1**

		Sample	SP1 @ 1'	SP1 @ 2'	SP1 @ 3'	SP1 @ 5'	SP1 @ 7'	SP1 @ 9'	SP1 @ 11'
Analyte	Method	Date	3/25/14	3/25/14	3/25/14	3/25/14	3/25/14	3/25/14	3/25/14
			mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Benzene	BTEX 8021B		<2.00	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Toluene	BTEX 8021B		70.2	<0.050	<0.050	<0.050	0.097	<0.050	<0.050
Ethylbenzene	BTEX 8021B		85.4	0.508	0.692	<0.050	0.617	<0.050	<0.050
Total Xylenes	BTEX 8021B		194	1.43	1.95	<0.150	1.65	<0.150	<0.150
Total BTEX	BTEX 8021B		319	1.94	2.64	<0.300	2.36	<0.300	<0.300
Chloride	SM4500Cl-B		80	80	112	1170	1520	1710	<16.0
GRO	TPH 8015M		2700	77.5	67.1	<10.0	40	<10.0	<10.0
DRO	TPH 8015M		7760	1080	884	139	622	135	<10.0

		Sample	SP2 @ 1'	SP2 @ 2'	SP2 @ 3'	SP2 @ 5'	SP2 @ 7'
Analyte	Method	Date	3/25/14	3/25/14	3/25/14	3/25/14	3/25/14
			mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Benzene	BTEX 8021B		<1.00	<0.050	<0.050	<0.050	<0.050
Toluene	BTEX 8021B		9.57	<0.050	<0.050	<0.050	<0.050
Ethylbenzene	BTEX 8021B		24.6	0.347	<0.050	<0.050	<0.050
Total Xylenes	BTEX 8021B		70.2	0.908	<0.150	<0.150	<0.150
Total BTEX	BTEX 8021B		104	1.26	<0.300	<0.300	<0.300
Chloride	SM4500Cl-B		48	32	48	192	<16.0
GRO	TPH 8015M		1210	60.2	<10.0	<10.0	<10.0
DRO	TPH 8015M		4820	855	298	21.5	<10.0



PHONE (575) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

---

April 01, 2014

Cliff Brunson

BBC International, Inc.

P.O. Box 805

Hobbs, NM 88241

RE: TYKE FEDERAL #1

Enclosed are the results of analyses for samples received by the laboratory on 03/26/14 8:15.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-13-5. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (\*). For a complete list of accredited analytes and matrices visit the TCEQ website at [www.tceq.texas.gov/field/qa/lab\\_accred\\_certif.html](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

Cardinal Laboratories is accredited through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Celey D. Keene

Lab Director/Quality Manager



**Analytical Results For:**

BBC International, Inc.  
Cliff Brunson  
P.O. Box 805  
Hobbs NM, 88241  
Fax To: (575) 397-0397

Received: 03/26/2014  
Reported: 04/01/2014  
Project Name: TYKE FEDERAL #1  
Project Number: NONE GIVEN  
Project Location: LEA COUNTY, NM

Sampling Date: 03/25/2014  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Jodi Henson

**Sample ID: SP 1 @ 1' (H400894-01)**

BTEX 8021B		mg/kg		Analyzed By: MS				S-04	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<2.00	2.00	04/01/2014	ND	2.48	124	2.00	12.9	
Toluene*	70.2	2.00	04/01/2014	ND	2.36	118	2.00	12.8	
Ethylbenzene*	85.4	2.00	04/01/2014	ND	2.32	116	2.00	13.3	
Total Xylenes*	194	6.00	04/01/2014	ND	6.70	112	6.00	12.8	
Total BTEX	319	12.0	04/01/2014	ND					

Surrogate: 4-Bromofluorobenzene (PIL) 141 % 89.4-126

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	80.0	16.0	03/31/2014	ND	416	104	400	0.00	

TPH 8015M		mg/kg		Analyzed By: ms				S-06	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	2700	50.0	03/28/2014	ND	208	104	200	4.06	
DRO >C10-C28	7760	50.0	03/28/2014	ND	200	99.9	200	3.28	

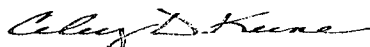
Surrogate: 1-Chlorooctane 179 % 65.2-140

Surrogate: 1-Chlorooctadecane 221 % 63.6-154

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

BBC International, Inc.  
Cliff Brunson  
P.O. Box 805  
Hobbs NM, 88241  
Fax To: (575) 397-0397

Received: 03/26/2014  
Reported: 04/01/2014  
Project Name: TYKE FEDERAL #1  
Project Number: NONE GIVEN  
Project Location: LEA COUNTY, NM

Sampling Date: 03/25/2014  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Jodi Henson

**Sample ID: SP 1 @ 2' (H400894-02)**

BTEX 8021B		mg/kg		Analyzed By: MS				S-04	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	04/01/2014	ND	2.48	124	2.00	12.9	
Toluene*	<0.050	0.050	04/01/2014	ND	2.36	118	2.00	12.8	
Ethylbenzene*	0.508	0.050	04/01/2014	ND	2.32	116	2.00	13.3	
Total Xylenes*	1.43	0.150	04/01/2014	ND	6.70	112	6.00	12.8	
Total BTEX	1.94	0.300	04/01/2014	ND					

Surrogate: 4-Bromofluorobenzene (PIL) 148 % 89.4-126

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
<b>Chloride</b>	<b>80.0</b>	16.0	03/31/2014	ND	416	104	400	0.00		

TPH 8015M		mg/kg		Analyzed By: ms						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
<b>GRO C6-C10</b>	<b>77.5</b>	10.0	03/28/2014	ND	208	104	200	4.06		
<b>DRO &gt;C10-C28</b>	<b>1080</b>	10.0	03/28/2014	ND	200	99.9	200	3.28		


Surrogate: 1-Chlorooctane 118 % 65.2-140

Surrogate: 1-Chlorooctadecane 114 % 63.6-154

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

BBC International, Inc.  
Cliff Brunson  
P.O. Box 805  
Hobbs NM, 88241  
Fax To: (575) 397-0397

Received: 03/26/2014  
Reported: 04/01/2014  
Project Name: TYKE FEDERAL #1  
Project Number: NONE GIVEN  
Project Location: LEA COUNTY, NM

Sampling Date: 03/25/2014  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Jodi Henson

**Sample ID: SP 1 @ 3' (H400894-03)**

BTEX 8021B		mg/kg		Analyzed By: MS					S-04	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	04/01/2014	ND	2.48	124	2.00	12.9		
Toluene*	<0.050	0.050	04/01/2014	ND	2.36	118	2.00	12.8		
Ethylbenzene*	0.692	0.050	04/01/2014	ND	2.32	116	2.00	13.3		
Total Xylenes*	1.95	0.150	04/01/2014	ND	6.70	112	6.00	12.8		
Total BTEX	2.64	0.300	04/01/2014	ND						

Surrogate: 4-Bromofluorobenzene (PIL) 159 % 89.4-126

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
<b>Chloride</b>	<b>112</b>	16.0	03/31/2014	ND	416	104	400	0.00		

TPH 8015M		mg/kg		Analyzed By: ms						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
<b>GRO C6-C10</b>	<b>67.1</b>	10.0	03/28/2014	ND	208	104	200	4.06		
<b>DRO &gt;C10-C28</b>	<b>884</b>	10.0	03/28/2014	ND	200	99.9	200	3.28		

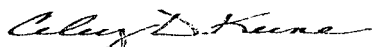
Surrogate: 1-Chlorooctane 125 % 65.2-140

Surrogate: 1-Chlorooctadecane 123 % 63.6-154

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

BBC International, Inc.  
Cliff Brunson  
P.O. Box 805  
Hobbs NM, 88241  
Fax To: (575) 397-0397

Received: 03/26/2014  
Reported: 04/01/2014  
Project Name: TYKE FEDERAL #1  
Project Number: NONE GIVEN  
Project Location: LEA COUNTY, NM

Sampling Date: 03/25/2014  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Jodi Henson

**Sample ID: SP 1 @ 5' (H400894-04)**

BTX 8021B			mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	04/01/2014	ND	2.48	124	2.00	12.9		
Toluene*	<0.050	0.050	04/01/2014	ND	2.36	118	2.00	12.8		
Ethylbenzene*	<0.050	0.050	04/01/2014	ND	2.32	116	2.00	13.3		
Total Xylenes*	<0.150	0.150	04/01/2014	ND	6.70	112	6.00	12.8		
Total BTX	<0.300	0.300	04/01/2014	ND						

Surrogate: 4-Bromofluorobenzene (PIC) 115 % 89.4-126

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1170	16.0	03/31/2014	ND	416	104	400	0.00	

TPH 8015M		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	03/28/2014	ND	208	104	200	4.06	
DRO >C10-C28	139	10.0	03/28/2014	ND	200	99.9	200	3.28	

Surrogate: 1-Chlorooctane 99.5 % 63.2-140

Surrogate: 1-Chlorooctadecane 112 % 63.6-154

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

BBC International, Inc.  
Cliff Brunson  
P.O. Box 805  
Hobbs NM, 88241  
Fax To: (575) 397-0397

Received: 03/26/2014  
Reported: 04/01/2014  
Project Name: TYKE FEDERAL #1  
Project Number: NONE GIVEN  
Project Location: LEA COUNTY, NM

Sampling Date: 03/25/2014  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Jodi Henson

**Sample ID: SP 1 @ 7' (H400894-05)**

BTEX 8021B	mg/kg		Analyzed By: MS					S-04	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	04/01/2014	ND	2.48	124	2.00	12.9	
Toluene*	0.097	0.050	04/01/2014	ND	2.36	118	2.00	12.8	
Ethylbenzene*	0.617	0.050	04/01/2014	ND	2.32	116	2.00	13.3	
Total Xylenes*	1.65	0.150	04/01/2014	ND	6.70	112	6.00	12.8	
Total BTEX	2.36	0.300	04/01/2014	ND					

Surrogate: 4-Bromofluorobenzene (PIL) 139 % 89.4-126

Chloride, SM4500Cl-B	mg/kg		Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1520	16.0	03/31/2014	ND	416	104	400	0.00	
TPH 8015M	mg/kg		Analyzed By: ms						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	40.0	10.0	03/28/2014	ND	208	104	200	4.06	
DRO >C10-C28	622	10.0	03/28/2014	ND	200	99.9	200	3.28	

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	40.0	10.0	03/28/2014	ND	208	104	200	4.06	
DRO >C10-C28	622	10.0	03/28/2014	ND	200	99.9	200	3.28	

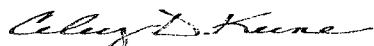
Surrogate: 1-Chlorooctane 106 % 65.2-140

Surrogate: 1-Chlorooctadecane 109 % 63.6-154

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Celey D. Keene, Lab Director/Quality Manager

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BBC International, Inc.  
Cliff Brunson  
P.O. Box 805  
Hobbs NM, 88241  
Fax To: (575) 397-0397

Received: 03/26/2014  
Reported: 04/01/2014  
Project Name: TYKE FEDERAL #1  
Project Number: NONE GIVEN  
Project Location: LEA COUNTY, NM

Sampling Date: 03/25/2014  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Jodi Henson

**Sample ID: SP 1 @ 9' (H400894-06)**

BTEx 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	04/01/2014	ND	2.48	124	2.00	12.9	
Toluene*	<0.050	0.050	04/01/2014	ND	2.36	118	2.00	12.8	
Ethylbenzene*	<0.050	0.050	04/01/2014	ND	2.32	116	2.00	13.3	
Total Xylenes*	<0.150	0.150	04/01/2014	ND	6.70	112	6.00	12.8	
Total BTEx	<0.300	0.300	04/01/2014	ND					

Surrogate: 4-Bromofluorobenzene (PIC) 112 % 89.4-126

Chloride, SM4500Cl-B	mg/kg		Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1710	16.0	03/31/2014	ND	416	104	400	0.00	

TPH 8015M		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	03/28/2014	ND	208	104	200	4.06	
DRO >C10-C28	135	10.0	03/28/2014	ND	200	99.9	200	3.28	


Surrogate: 1-Chlorooctane 95.2 % 65.2-140

Surrogate: 1-Chlorooctadecane 106 % 63.6-154

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Fax To: (575) 397-0397

Received: 03/26/2014  
Reported: 04/01/2014  
Project Name: TYKE FEDERAL #1  
Project Number: NONE GIVEN  
Project Location: LEA COUNTY, NM

Sampling Date: 03/25/2014  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Jodi Henson

**Sample ID: SP 1 @ 11' (H400894-07)**

BTEx 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	04/01/2014	ND	2.48	124	2.00	12.9		
Toluene*	<0.050	0.050	04/01/2014	ND	2.36	118	2.00	12.8		
Ethylbenzene*	<0.050	0.050	04/01/2014	ND	2.32	116	2.00	13.3		
Total Xylenes*	<0.150	0.150	04/01/2014	ND	6.70	112	6.00	12.8		
Total BTEX	<0.300	0.300	04/01/2014	ND						

Surrogate: 4-Bromofluorobenzene (PIE) 112 % 89.4-126

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	<16.0	16.0	03/31/2014	ND	416	104	400	0.00		

TPH 8015M		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	03/28/2014	ND	208	104	200	4.06	
DRO >C10-C28	<10.0	10.0	03/28/2014	ND	200	99.9	200	3.28	

Surrogate: 1-Chlorooctane 93.0 % 65.2-140

Surrogate: 1-Chlorooctadecane 99.1 % 63.6-154

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P.O. Box 805  
Hobbs NM, 88241  
Fax To: (575) 397-0397

Received: 03/26/2014  
Reported: 04/01/2014  
Project Name: TYKE FEDERAL #1  
Project Number: NONE GIVEN  
Project Location: LEA COUNTY, NM

Sampling Date: 03/25/2014  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Jodi Henson

**Sample ID: SP 2 @ 1' (H400894-08)**

BTEX 8021B		mg/kg		Analyzed By: MS				S-04	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<1.00	1.00	04/01/2014	ND	2.48	124	2.00	12.9	
Toluene*	9.57	1.00	04/01/2014	ND	2.36	118	2.00	12.8	
Ethylbenzene*	24.6	1.00	04/01/2014	ND	2.32	116	2.00	13.3	
Total Xylenes*	70.2	3.00	04/01/2014	ND	6.70	112	6.00	12.8	
Total BTEX	104	6.00	04/01/2014	ND					

Surrogate: 4-Bromofluorobenzene (PIE) 146 % 89.4-126

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	48.0	16.0	03/31/2014	ND	416	104	400	0.00	

TPH 8015M		mg/kg		Analyzed By: ms				S-06	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	1210	50.0	03/28/2014	ND	208	104	200	4.06	
DRO >C10-C28	4820	50.0	03/28/2014	ND	200	99.9	200	3.28	


Surrogate: 1-Chlorooctane 158 % 63.2-140

Surrogate: 1-Chlorooctadecane 157 % 63.6-154

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Hobbs NM, 88241  
Fax To: (575) 397-0397

Received: 03/26/2014  
Reported: 04/01/2014  
Project Name: TYKE FEDERAL #1  
Project Number: NONE GIVEN  
Project Location: LEA COUNTY, NM

Sampling Date: 03/25/2014  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Jodi Henson

**Sample ID: SP 2 @ 2' (H400894-09)**

BTEX 8021B		mg/kg		Analyzed By: MS				S-04	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	04/01/2014	ND	2.48	124	2.00	12.9	
Toluene*	<0.050	0.050	04/01/2014	ND	2.36	118	2.00	12.8	
Ethylbenzene*	<b>0.347</b>	0.050	04/01/2014	ND	2.32	116	2.00	13.3	
<b>Total Xylenes*</b>	<b>0.908</b>	0.150	04/01/2014	ND	6.70	112	6.00	12.8	
<b>Total BTEX</b>	<b>1.26</b>	0.300	04/01/2014	ND					

Surrogate: 4-Bromofluorobenzene (PIE) 176 % 89.4-126

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>Chloride</b>	<b>32.0</b>	16.0	03/31/2014	ND	416	104	400	0.00	

TPH 8015M		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>GRO C6-C10</b>	<b>60.2</b>	10.0	03/28/2014	ND	208	104	200	4.06	
<b>DRO &gt;C10-C28</b>	<b>855</b>	10.0	03/28/2014	ND	200	99.9	200	3.28	

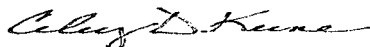
Surrogate: 1-Chlorooctane 116 % 65.2-140

Surrogate: 1-Chlorooctadecane 112 % 63.6-154

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

BBC International, Inc.  
Cliff Brunson  
P.O. Box 805  
Hobbs NM, 88241  
Fax To: (575) 397-0397

Received: 03/26/2014  
Reported: 04/01/2014  
Project Name: TYKE FEDERAL #1  
Project Number: NONE GIVEN  
Project Location: LEA COUNTY, NM

Sampling Date: 03/25/2014  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Jodi Henson

**Sample ID: SP 2 @ 3' (H400894-10)**

BTEx 8021B			Analyzed By: MS							
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	04/01/2014	ND	2.48	124	2.00	12.9		
Toluene*	<0.050	0.050	04/01/2014	ND	2.36	118	2.00	12.8		
Ethylbenzene*	<0.050	0.050	04/01/2014	ND	2.32	116	2.00	13.3		
Total Xylenes*	<0.150	0.150	04/01/2014	ND	6.70	112	6.00	12.8		
Total BTEx	<0.300	0.300	04/01/2014	ND						

Surrogate: 4-Bromofluorobenzene (PIE) 122 % 89.4-126

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	48.0	16.0	03/31/2014	ND	416	104	400	0.00		

TPH 8015M		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	03/28/2014	ND	208	104	200	4.06	
DRO >C10-C28	298	10.0	03/28/2014	ND	200	99.9	200	3.28	

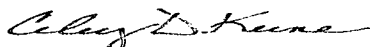
Surrogate: 1-Chlorooctane 101 % 65.2-140

Surrogate: 1-Chlorooctadecane 107 % 63.6-154

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Cliff Brunson  
P.O. Box 805  
Hobbs NM, 88241  
Fax To: (575) 397-0397

Received: 03/26/2014  
Reported: 04/01/2014  
Project Name: TYKE FEDERAL #1  
Project Number: NONE GIVEN  
Project Location: LEA COUNTY, NM

Sampling Date: 03/25/2014  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Jodi Henson

**Sample ID: SP 2 @ 5' (H400894-11)**

BTEx 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	04/01/2014	ND	2.48	124	2.00	12.9		
Toluene*	<0.050	0.050	04/01/2014	ND	2.36	118	2.00	12.8		
Ethylbenzene*	<0.050	0.050	04/01/2014	ND	2.32	116	2.00	13.3		
Total Xylenes*	<0.150	0.150	04/01/2014	ND	6.70	112	6.00	12.8		
Total BTEx	<0.300	0.300	04/01/2014	ND						

Surrogate: 4-Bromofluorobenzene (PIC) 114 % 89.4-126

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	192	16.0	03/28/2014	ND	416	104	400	0.00	

TPH 8015M		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	03/28/2014	ND	208	104	200	4.06	
DRO >C10-C28	21.5	10.0	03/28/2014	ND	200	99.9	200	3.28	

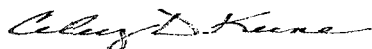
Surrogate: 1-Chlorooctane 86.3 % 65.2-140

Surrogate: 1-Chlorooctadecane 93.2 % 63.6-154

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Fax To: (575) 397-0397

Received: 03/26/2014  
Reported: 04/01/2014  
Project Name: TYKE FEDERAL #1  
Project Number: NONE GIVEN  
Project Location: LEA COUNTY, NM

Sampling Date: 03/25/2014  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Jodi Henson

**Sample ID: SP 2 @ 7' (H400894-12)**

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	04/01/2014	ND	2.48	124	2.00	12.9	
Toluene*	<0.050	0.050	04/01/2014	ND	2.36	118	2.00	12.8	
Ethylbenzene*	<0.050	0.050	04/01/2014	ND	2.32	116	2.00	13.3	
Total Xylenes*	<0.150	0.150	04/01/2014	ND	6.70	112	6.00	12.8	
Total BTEX	<0.300	0.300	04/01/2014	ND					

Surrogate: 4-Bromofluorobenzene (PIE) 110 % 89.4-126

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	<16.0	16.0	03/28/2014	ND	416	104	400	0.00		

TPH 8015M		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	03/28/2014	ND	208	104	200	4.06	
DRO >C10-C28	<10.0	10.0	03/28/2014	ND	200	99.9	200	3.28	

Surrogate: 1-Chlorooctane 92.4 % 65.2-140

Surrogate: 1-Chlorooctadecane 95.6 % 63.6-154

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### Notes and Definitions


- S-06      The recovery of this surrogate is outside control limits due to sample dilution required from high analyte concentration and/or matrix interference's.
- S-04      The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.
- ND        Analyte NOT DETECTED at or above the reporting limit
- RPD      Relative Percent Difference
- \*\*        Samples not received at proper temperature of 6°C or below.
- \*\*\*      Insufficient time to reach temperature.
- Chloride by SM4500Cl-B does not require samples be received at or below 6°C  
Samples reported on an as received basis (wet) unless otherwise noted on report

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**CARDINAL LABORATORIES**

101 East Marland, Hobbs, NM 88240

(505) 393-2326 FAX (505) 393-2476

**CHAIN-OF-CUSTODY AND ANALYSIS REQUEST**

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Company Name: BBC International, Inc.				<b>BILL TO</b>				<b>ANALYSIS REQUEST</b>																									
Project Manager: Cliff Brunson				P.O. #:																													
Address: P.O. Box 805				Company:																													
City: Hobbs State: NM Zip: 88241				Attn:																													
Phone #: 575-397-6388 Fax #: 575-397-0397				Address:																													
Project #: Project Owner:				City:																													
Project Name: Tyke Federal #1				State: Zip:																													
Project Location: Lea County, NM				Phone #:																													
Sampler Name: Gary Ray				Fax #:																													
FOR LAB USE ONLY				MATRIX		PRESERV.		SAMPLING																									
Lab I.D.	Sample I.D.	GRAB OR (C)OMP.	# CONTAINERS	GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	ACID/BASE:	ICE / COOL	OTHER :	DATE	TIME																			
H400894																																	
1	SP1 @ 1'	6	1			✓				✓			3/25/14	11:00 AM	✓	✓	✓																
2	SP1 @ 2'	6	1			✓				✓			3/25/14	11:20 AM	✓	✓	✓																
3	SP1 @ 3'	6	1			✓				✓			3/25/14	11:40 AM	✓	✓	✓																
4	SP1 @ 5'	6	1			✓				✓			3/25/14	12:25 PM	✓	✓	✓																
5	SP1 @ 7'	6	1			✓				✓			3/25/14	12:47 PM	✓	✓	✓																
6	SP1 @ 9'	6	1			✓				✓			3/25/14	1:20 PM	✓	✓	✓																
7	SP1 @ 11'	6	1			✓				✓			3/25/14	1:45 PM	✓	✓	✓																
8	SP2 @ 1'	6	1			✓				✓			3/25/14	2:15 PM	✓	✓	✓																
9	SP2 @ 2'	6	1			✓				✓			3/25/14	2:30 PM	✓	✓	✓																
10	SP2 @ 3'	6	1			✓				✓			3/25/14	2:45 PM	✓	✓	✓																

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Relinquished By:	Date: 3-26-14 Time: 2:15	Received By:	Phone Result: <input type="checkbox"/> Yes <input type="checkbox"/> No	Add'l Phone #:
Relinquished By:	Date:	Received By:	Fax Result: <input type="checkbox"/> Yes <input type="checkbox"/> No	Add'l Fax #:
			REMARKS:	
Delivered By: (Circle One) Sampler - UPS - Bus - Other:		Sample Condition Cool <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Intact <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	CHECKED BY:	

† Cardinal cannot accept verbal changes. Please fax written changes to 505-393-2476




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## CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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Relinquished By: 		Date: 7-26-19		Received By: 		Phone Result: <input type="checkbox"/> Yes <input type="checkbox"/> No Add'l Phone #:	
Relinquished By:		Time: 8:15		Received By:		Fax Result: <input type="checkbox"/> Yes <input type="checkbox"/> No Add'l Fax #:	
		Date:				REMARKS:	
		Time:					
Delivered By: (Circle One)				Sample Condition		CHECKED BY:	
Sampler - UPS - Bus - Other:				Cool Intact		(Initials)	
2.6°				<input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> No			

† Cardinal cannot accept verbal changes. Please fax written changes to 505-393-2476

#54

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

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

Form C-141  
Revised October 10, 2003

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

### Release Notification and Corrective Action

#### OPERATOR

☒ Initial Report ☐ Final Report

Name of Company	Chesapeake Operating, Inc.	Contact	Bradley Blevins
Address	PO Box 190, Hobbs, NM 88241	Telephone No.	(575) 391-1462
Facility Name	Tyke Federal #1	Facility Type	Well location
Surface Owner	BLM	Mineral Owner	
		API No.	30-025-31041

#### LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
L	17	18S	32E	1650	South	660	West	Lea County, NM

Latitude N 32.74477° Longitude W 103.79520°

#### NATURE OF RELEASE

Type of Release	Oil and produced water	Volume of Release	12 bbls oil and 2 bbls produced water	Volume Recovered	8 bbls oil
Source of Release	Hole in the circulating line	Date and Hour of Occurrence	02/20/2014 @ 10:00 am	Date and Hour of Discovery	
Was Immediate Notice Given?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom?	Geoffrey Leking- NMOCD, James Amos- BLM		
By Whom?	Cliff Brunson, BBC International	Date and Hour	02/21/2014 @ 3:18 pm		
Was a Watercourse Reached?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse.			

If a Watercourse was Impacted, Describe Fully.\*

Describe Cause of Problem and Remedial Action Taken.\*

A hole in the circulating line caused 12 bbls of oil and 2 bbls of produced water to leak onto the ground. A vacuum truck recovered 8 bbls of oil and the circulating line was repaired or replaced.

Describe Area Affected and Cleanup Action Taken.\*

The area affected was approximately 110' x 35' in the northwest corner of the location inside the firewall traveling south outside of the firewall and fence area. Remediation will be completed in accordance with a remediation plan approved by NMOCD and the BLM.

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.

#### OIL CONSERVATION DIVISION

Signature: Bradley Blevins

Printed Name: Bradley Blevins

Title: EHS Specialist

E-mail Address: Bradley.blevins@chk.com

Date: 2/27/14

Phone: (575) 391-1462

Approved by District Supervisor:

Approval Date:

Expiration Date:

Conditions of Approval:

Attached ☐

\* Attach Additional Sheets If Necessary