

# Closure Report

## Site Description

Site Name:	Sundance 9 Federal #3 CTB
Company:	Oxy Permian Ltd.
Legal Description:	U/L D, Section 9, T24S, R31E
County:	Eddy County, NM
GPS Coordinates:	N 32.23692° W 103.78886°

## Release Data

Date of Release:	08/03/2016
Type of Release:	Produced water
Source of Release:	Corrosion of a nipple on the water transfer line
Volume of Release:	238 bbls produced water
Volume Recovered:	120 bbls

## Remediation Specifications

Remediation Parameters:	Leak areas near SP4, SP5, SP6, SP7, & SP8 were excavated to a depth of 3 ft or as practicable. The areas near SP1 & SP2 were excavated to a depth of 4 feet with a liner in the excavation. The leak area near SP3 was excavated to a depth of 6 in and the entire site was backfilled with clean soil.	
Remediation Activities:	12/13/2017 to 12/21/2017	
Plan Sent to OCD:	09/14/2017	Email from Cliff Brunson to Mike Bratcher
OCD Approval of Plan:	09/21/2017	Email from Mike Bratcher to Cliff Brunson
Plan Sent to BLM:	09/14/2017	Email from Cliff Brunson to Shelly Tucker
BLM Approval of Plan:	10/03/2017	Email from Shelly Tucker to Cliff Brunson

## Supporting Documentation

Initial C-141	Signed 08/03/2016
Final C-141	Upon completion
Site Diagram	August 2016
Groundwater Plot	300'
TOPO Maps	August 2016
Lab Summary	08/11/2016-08/16/2016
Lab Analysis	08/11/2016-08/16/2016
Correspondence	Request and approval of remediation plan via email

## Request for Closure

Based on the completion of the remediation plan, Oxy requests closure approval from NMOCD.

Wade Dittrich, Oxy Permian Ltd.

01/10/2018

District I  
1625 N. French Dr., Hobbs, NM 88240  
District II  
811 S. First St., 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 in  
accordance with 19.15.29 NMAC.

## Release Notification and Corrective Action

### OPERATOR

☒ Initial Report ☐ Final Report

Name of Company	Oxy Permian Ltd.	Contact	Casey Summers
Address	6 Desta Drive, Midland, TX 79705	Telephone No.	(575) 513-8289
Facility Name	Sundance 9 Federal #3 CTB	Facility Type	Battery
Surface Owner	BLM	Mineral Owner	API No. 30-015-27232

### LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
D	9	24S	31E					Eddy

Latitude N 32.23692° Longitude W 103.78886°

### NATURE OF RELEASE

Type of Release	Produced water	Volume of Release	238 bbls	Volume Recovered	120 bbls
Source of Release	Corrosion of a nipple on the water transfer line	Date and Hour of Occurrence	08/03/2016	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?	Mike Bratcher, Heather Patterson- NMOCD; Shelly Tucker- BLM		
By Whom?	Kathy Purvis @ BBC International Inc.	Date and Hour	08/03/2016 @ 12:37 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.\*

Corrosion of a nipple on the water transfer line caused a 238 bbls leak of produced water. A vacuum truck recovered 120 bbls and the nipple was replaced.

Describe Area Affected and Cleanup Action Taken.\*

The affected area is approximately 100' x 50' with most of the leak staying on location. Remediation will be completed in accordance with an approved remediation plan from 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:

Printed Name: Casey Summers

Title: NM Environmental Advisor

E-mail Address: [Casey\\_Summers@oxy.com](mailto:Casey_Summers@oxy.com)

Date: 8-11-16 Phone: (575) 513-8289

Approved by Environmental Specialist:

Approval Date:

Expiration Date:

Conditions of Approval:

Attached ☐

\* Attach Additional Sheets If Necessary

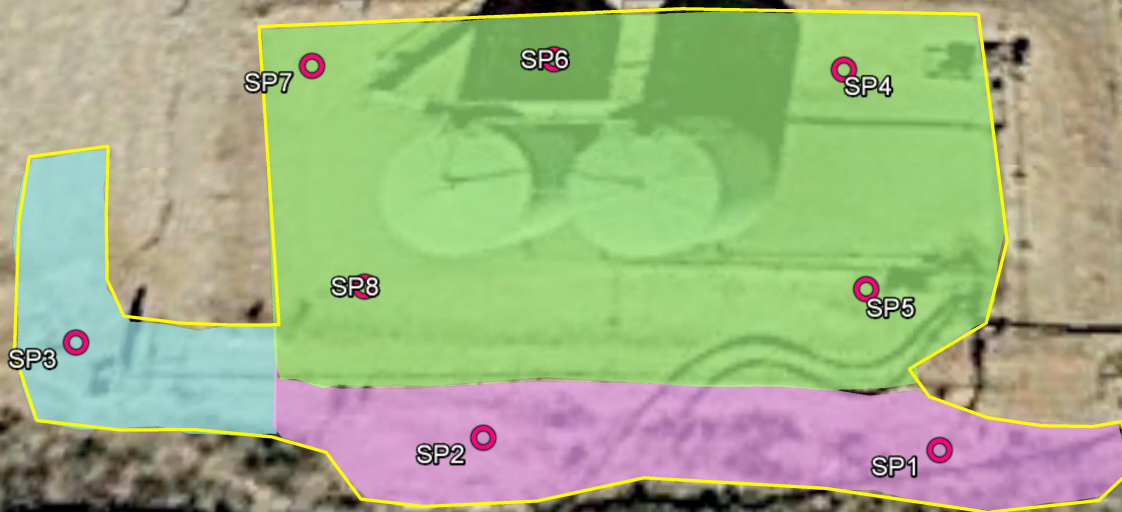


# Oxy, Sundance 9 Federal #3 CTB

Leak date: 08/03/2016  
Eddy County, NM  
API# 30-015-27232  
2RP-3827

## Legend

- 3 ft Excavation or as practicable
- 3 ft Excavation with liner
- 6 in. Excavation
- Leak area (Yellow outline)
- Sample points, hand auger



Google Earth

© 2017 Google



60 ft

Oxy, Sundance 9 Federal #3 CTB

Sample points, hand auger

SP1, N 32.23688 W-103.78886

SP2, N 32.23689 W-103.78900

SP3, N 32.23691 W-103.78913

SP4, N 32.23700 W-103.78889

SP5, N 32.23693 W-103.78888

SP6, N 32.23700 W-103.78899

SP7, N 32.23700 W-103.78907

SP8, N 32.23693 W-103.78904



**Oxy, Sundance 9 Federal #3 CTB**  
**U/L D, Section 9, T24S, R31E**  
**Groundwater: 300'**





# New Mexico Office of the State Engineer

## Water Column/Average Depth to Water

(A CLW##### in the POD suffix indicates the POD has been replaced & no longer serves a water right file.)

(R=POD has been replaced,  
O=orphaned,  
C=the file is closed)

(quarters are 1=NW 2=NE 3=SW 4=SE)

(quarters are smallest to largest)

(NAD83 UTM in meters)

(In feet)

POD Number	Code	POD Sub-basin	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Distance	DepthWell	DepthWater	Water Column
<a href="#">C_02783</a>		CUB	ED	3	3	1	04	24S	31E	613911	3568461	<input type="text"/>	1096	708	
<a href="#">C_02783 POD2</a>		C	ED	3	3	1	04	24S	31E	613911	3568461	<input type="text"/>	1096	672	
<a href="#">C_02784</a>		C	ED	4	2	4	04	24S	31E	613911	3568461	<input type="text"/>	1096	584	
<a href="#">C_02661</a>			ED	3	3	1	04	24S	31E	613969	3568485*	<input type="text"/>	1111	708	
<a href="#">C_02785</a>			ED	3	3	1	04	24S	31E	613969	3568485*	<input type="text"/>	1111	692	

Average Depth to Water: --

Minimum Depth: --

Maximum Depth: --

**Record Count:** 5

### UTMNAD83 Radius Search (in meters):

**Easting (X):** 614082

**Northing (Y):** 3567379

**Radius:** 1700

\*UTM location was derived from PLSS - see Help

The data is furnished by the NMOSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, usability, or suitability for any particular purpose of the data.

7/18/17 9:40 AM

WATER COLUMN/ AVERAGE DEPTH TO WATER

Public Land Survey System (PLSS)

Q64:Q16: NWQ4: NWSec: 09Tws: 24SRng: 31E

State Plane Coordinate System - NAD27

X:ftY:ftZone:

State Plane Coordinate System - NAD83

X:ftY:ftZone:

Degrees/Minutes/Seconds

Longitude (X):Degrees: °Minutes: 'Seconds: "

Latitude (Y):Degrees: °Minutes: 'Seconds: "

UTM - NAD27

Easting (X):mtrs Northing (Y):mtrs Zone:

SUBMIT

All Conversion Results are displayed as NAD 1983 UTM Zone 13

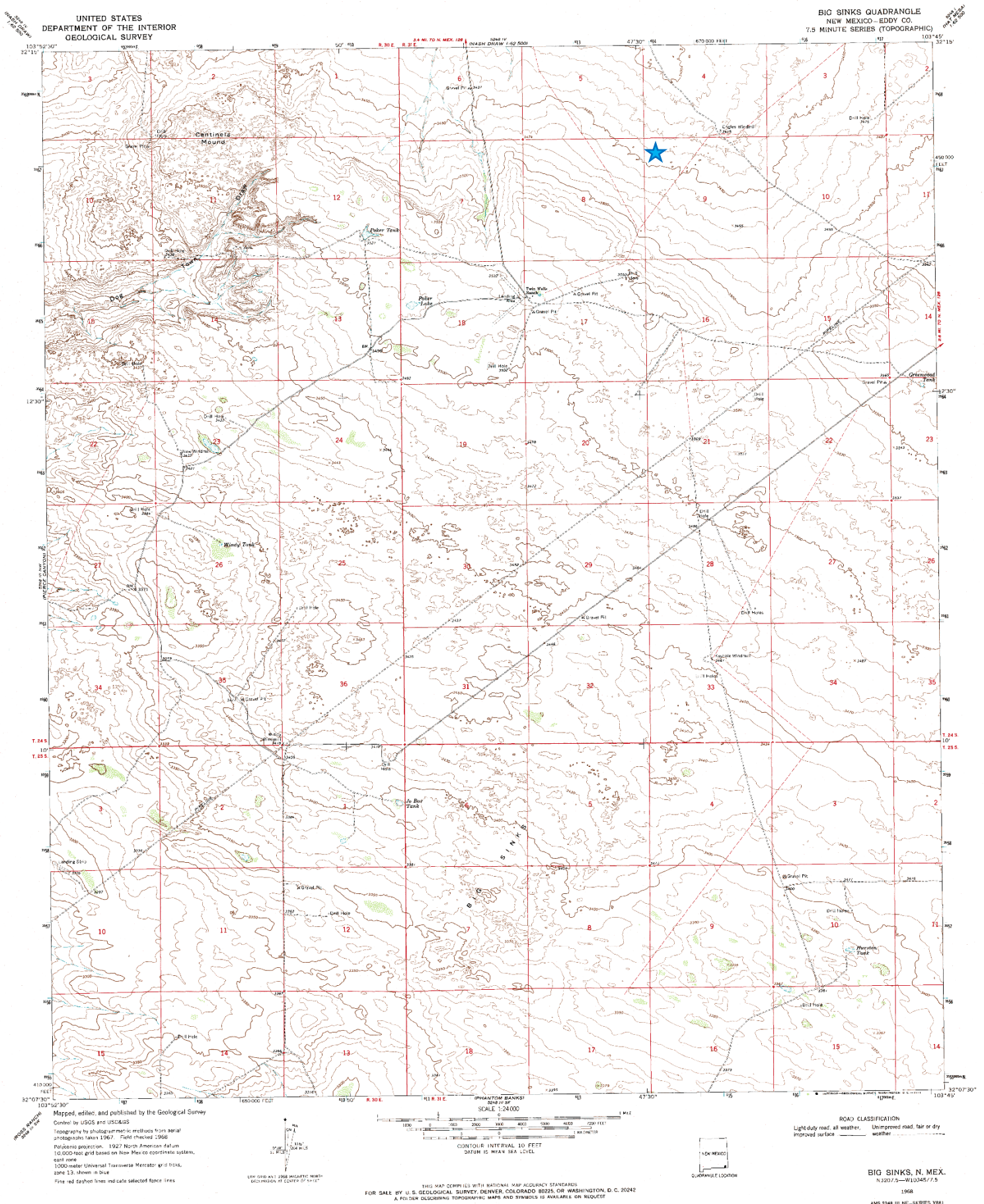
Easting (X):614082.0mtrsNorthing (Y):3567379.0mtrs

~~ Please keep screen open to copy UTM values for Reports. ~~



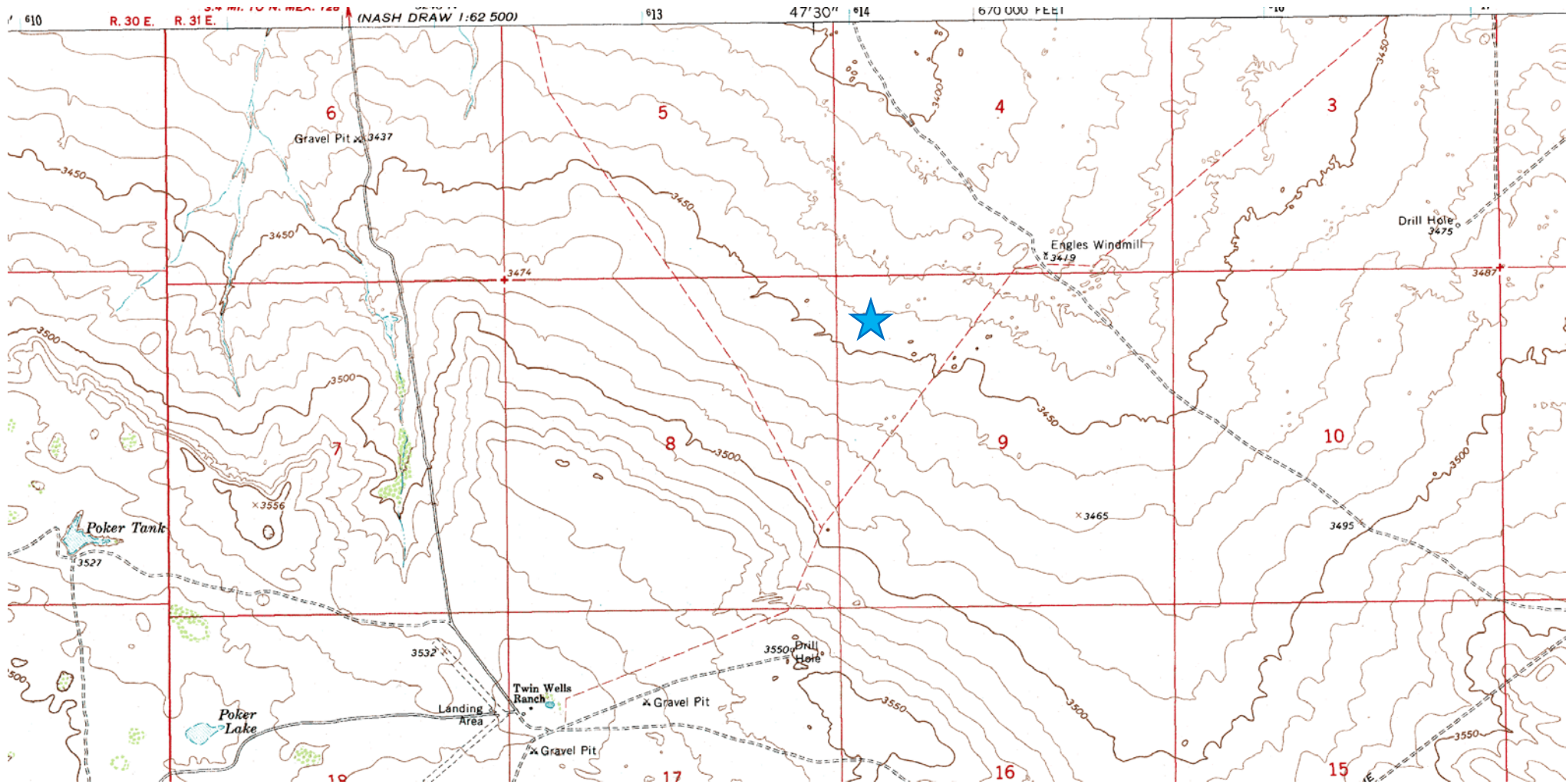
# Oxy

## Sundance 9 Federal #3 CTB



Oxy

## Sundance 9 Federal #3 CTB



**Laboratory Analytical Results Summary  
Sundance 9 Federal #3**

		Sample	SP1 @ 1'	SP1 @ 3'	SP1 @ 5'	SP1 @ 7'	SP1 @ 9'
Analyte	Method	Date	8/11/16	8/11/16	8/11/16	8/11/16	8/11/16
			mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Chloride	SM4500Cl-B		16000	25200	880	1390	1230

		Sample	SP2 @ 1'	SP2 @ 3'	SP2 @ 5'	SP2 @ 7'	SP2 @ 9'
Analyte	Method	Date	8/11/16	8/11/16	8/11/16	8/11/16	8/11/16
			mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Benzene	BTEX 8021B		<0.050	n/a	n/a	n/a	n/a
Toluene	BTEX 8021B		<0.050	n/a	n/a	n/a	n/a
Ethylbenzene	BTEX 8021B		<0.050	n/a	n/a	n/a	n/a
Total Xylenes	BTEX 8021B		<0.150	n/a	n/a	n/a	n/a
Total BTEX	BTEX 8021B		<0.300	n/a	n/a	n/a	n/a
Chloride	SM4500Cl-B		15600	27600	960	1100	1310
GRO	TPH 8015M		<10.0	n/a	n/a	n/a	n/a
DRO	TPH 8015M		<10.0	n/a	n/a	n/a	n/a

		Sample	SP3 @ 1'	SP3 @ 2'
Analyte	Method	Date	8/11/16	8/15/16
			mg/Kg	mg/Kg
Chloride	SM4500Cl-B		160	<16.0

		Sample	SP4 @ 1'	SP4 @ 3'	SP4 @ 4'
Analyte	Method	Date	8/15/16	8/15/16	8/15/16
			mg/Kg	mg/Kg	mg/Kg
Chloride	SM4500Cl-B		13600	576	160

		Sample	SP5 @ 1'	SP5 @ 3'	SP5 @ 4'
Analyte	Method	Date	8/15/16	8/15/16	8/15/16
			mg/Kg	mg/Kg	mg/Kg
Chloride	SM4500Cl-B		5600	752	160

		Sample	SP6 @ 1'	SP6 @ 3'	SP6 @ 4'
Analyte	Method	Date	8/15/16	8/15/16	8/15/16
			mg/Kg	mg/Kg	mg/Kg
Benzene	BTEX 8021B		<0.050	n/a	n/a
Toluene	BTEX 8021B		<0.050	n/a	n/a
Ethylbenzene	BTEX 8021B		<0.050	n/a	n/a
Total Xylenes	BTEX 8021B		<0.150	n/a	n/a
Total BTEX	BTEX 8021B		<0.300	n/a	n/a
Chloride	SM4500Cl-B		4960	752	144
GRO	TPH 8015M		<10.0	n/a	n/a
DRO	TPH 8015M		<10.0	n/a	n/a

		Sample	SP7 @ 1'	SP7 @ 3'	SP7 @ 4'
Analyte	Method	Date	8/16/16	8/16/16	8/16/16
			mg/Kg	mg/Kg	mg/Kg
Chloride	SM4500Cl-B		4720	416	160

		Sample	SP8 @ 1'	SP8 @ 3'	SP8 @ 4'
Analyte	Method	Date	8/16/16	8/15/16	8/15/16
			mg/Kg	mg/Kg	mg/Kg
Chloride	SM4500Cl-B		5520	1360	144





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

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August 22, 2016

Cliff Brunson

BBC International, Inc.

P.O. Box 805

Hobbs, NM 88241

RE: SUNDANCE 9 FED #3

Enclosed are the results of analyses for samples received by the laboratory on 08/17/16 13:17.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-16-8. 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,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive, flowing style.

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: 08/17/2016  
Reported: 08/22/2016  
Project Name: SUNDANCE 9 FED #3  
Project Number: NONE GIVEN  
Project Location: NOT GIVEN

Sampling Date: 08/11/2016  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Celey D. Keene

**Sample ID: SP 1 @ 1' (H601842-01)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	16000	16.0	08/19/2016	ND	432	108	400	3.77	

**Sample ID: SP 1 @ 3' (H601842-02)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	25200	16.0	08/19/2016	ND	432	108	400	3.77	

**Sample ID: SP 1 @ 5' (H601842-03)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	880	16.0	08/19/2016	ND	432	108	400	3.77	

**Sample ID: SP 1 @ 7' (H601842-04)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1390	16.0	08/19/2016	ND	432	108	400	3.77	

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: 08/17/2016  
Reported: 08/22/2016  
Project Name: SUNDANCE 9 FED #3  
Project Number: NONE GIVEN  
Project Location: NOT GIVEN

Sampling Date: 08/11/2016  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Celey D. Keene

**Sample ID: SP 1 @ 9' (H601842-05)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1230	16.0	08/19/2016	ND	432	108	400	3.77	

**Sample ID: SP 2 @ 1' (H601842-06)**

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	08/18/2016	ND	2.30	115	2.00	1.39	
Toluene*	<0.050	0.050	08/18/2016	ND	2.35	117	2.00	1.25	
Ethylbenzene*	<0.050	0.050	08/18/2016	ND	2.25	113	2.00	1.81	
Total Xylenes*	<0.150	0.150	08/18/2016	ND	6.81	113	6.00	1.86	
Total BTEx	<0.300	0.300	08/18/2016	ND					

Surrogate: 4-Bromofluorobenzene (PID) 107 % 73.6-140

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	15600	16.0	08/19/2016	ND	432	108	400	3.77	

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	08/17/2016	ND	189	94.3	200	7.74	
DRO >C10-C28	<10.0	10.0	08/17/2016	ND	198	98.9	200	7.06	

Surrogate: 1-Chlorooctane 92.8 % 35-147

Surrogate: 1-Chlorooctadecane 105 % 28-171

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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

Received: 08/17/2016  
Reported: 08/22/2016  
Project Name: SUNDANCE 9 FED #3  
Project Number: NONE GIVEN  
Project Location: NOT GIVEN

Sampling Date: 08/11/2016  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Celey D. Keene

**Sample ID: SP 2 @ 3' (H601842-07)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	27600	16.0	08/19/2016	ND	432	108	400	3.77	

**Sample ID: SP 2 @ 5' (H601842-08)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	960	16.0	08/19/2016	ND	432	108	400	0.00	

**Sample ID: SP 2 @ 7' (H601842-09)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1100	16.0	08/19/2016	ND	432	108	400	3.77	

**Sample ID: SP 2 @ 9' (H601842-10)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1310	16.0	08/19/2016	ND	432	108	400	0.00	

**Sample ID: SP 3 @ 1' (H601842-11)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	160	16.0	08/19/2016	ND	432	108	400	0.00	

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Celey D. Keene, Lab Director/Quality Manager

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Reported: 08/22/2016  
Project Name: SUNDANCE 9 FED #3  
Project Number: NONE GIVEN  
Project Location: NOT GIVEN

Sampling Date: 08/15/2016  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Celey D. Keene

**Sample ID: SP 3 @ 2' (H601842-12)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	<16.0	16.0	08/19/2016	ND	432	108	400	0.00		

**Sample ID: SP 4 @ 1' (H601842-13)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	13600	16.0	08/19/2016	ND	432	108	400	0.00	

**Sample ID: SP 4 @ 3' (H601842-14)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	576	16.0	08/19/2016	ND	432	108	400	0.00	

**Sample ID: SP 4 @ 4' (H601842-15)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	160	16.0	08/19/2016	ND	432	108	400	0.00	

**Sample ID: SP 5 @ 1' (H601842-16)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	5600	16.0	08/19/2016	ND	432	108	400	0.00	

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

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Reported: 08/22/2016  
Project Name: SUNDANCE 9 FED #3  
Project Number: NONE GIVEN  
Project Location: NOT GIVEN

Sampling Date: 08/15/2016  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Celey D. Keene

**Sample ID: SP 5 @ 3' (H601842-17)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	752	16.0	08/19/2016	ND	432	108	400	0.00		

**Sample ID: SP 5 @ 4' (H601842-18)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	160	16.0	08/19/2016	ND	432	108	400	0.00	

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: 08/17/2016  
Reported: 08/22/2016  
Project Name: SUNDANCE 9 FED #3  
Project Number: NONE GIVEN  
Project Location: NOT GIVEN

Sampling Date: 08/15/2016  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Celey D. Keene

**Sample ID: SP 6 @ 1' (H601842-19)**

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	08/18/2016	ND	2.30	115	2.00	1.39	
Toluene*	<0.050	0.050	08/18/2016	ND	2.35	117	2.00	1.25	
Ethylbenzene*	<0.050	0.050	08/18/2016	ND	2.25	113	2.00	1.81	
Total Xylenes*	<0.150	0.150	08/18/2016	ND	6.81	113	6.00	1.86	
Total BTEx	<0.300	0.300	08/18/2016	ND					

Surrogate: 4-Bromofluorobenzene (PID) 106 % 73.6-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	4960	16.0	08/19/2016	ND	432	108	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	08/17/2016	ND	189	94.3	200	7.74	
DRO >C10-C28	<10.0	10.0	08/17/2016	ND	198	98.9	200	7.06	

Surrogate: 1-Chlorooctane 95.7 % 35-147

Surrogate: 1-Chlorooctadecane 108 % 28-171

**Sample ID: SP 6 @ 3' (H601842-20)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	752	16.0	08/19/2016	ND	432	108	400	0.00	

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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: 08/17/2016  
Reported: 08/22/2016  
Project Name: SUNDANCE 9 FED #3  
Project Number: NONE GIVEN  
Project Location: NOT GIVEN

Sampling Date: 08/15/2016  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Celey D. Keene

**Sample ID: SP 6 @ 4' (H601842-21)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	144	16.0	08/19/2016	ND	432	108	400	0.00	

**Sample ID: SP 7 @ 1' (H601842-22)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	4720	16.0	08/19/2016	ND	432	108	400	0.00	

**Sample ID: SP 7 @ 3' (H601842-23)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	416	16.0	08/19/2016	ND	432	108	400	0.00	

**Sample ID: SP 7 @ 4' (H601842-24)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	160	16.0	08/19/2016	ND	432	108	400	0.00	

**Sample ID: SP 8 @ 1' (H601842-25)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	5520	16.0	08/19/2016	ND	432	108	400	0.00	

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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: 08/17/2016  
Reported: 08/22/2016  
Project Name: SUNDANCE 9 FED #3  
Project Number: NONE GIVEN  
Project Location: NOT GIVEN

Sampling Date: 08/16/2016  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Celey D. Keene

**Sample ID: SP 8 @ 3' (H601842-26)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1360	16.0	08/19/2016	ND	432	108	400	0.00	

**Sample ID: SP 8 @ 4' (H601842-27)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	144	16.0	08/19/2016	ND	432	108	400	0.00	

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Celey D. Keene, Lab Director/Quality Manager

**Notes and Definitions**

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

483

### BILL TO

### ANALYSIS REQUEST

Company Name: BBC International, Inc.  
Project Manager: Cliff Brunson

Address: P.O. Box 805  
City: Hobbs  
State: NM Zip: 88241

Phone #: 575-397-6388  
Fax #: 575-397-0397

Project #: Sundance 9 FEB #3  
Project Owner: Oxy

Project Location:  
Sample Name: Paper Heptanone

Lab I.D. Sample I.D.

HB01842

SP101'

2345

SP201'

35'

45'

55'

65'

75'

85'

95'

105'

115'

125'

135'

145'

155'

165'

175'

185'

(G)RAB OR (C)OMP.  
# CONTAINERS  
GROUNDWATER  
WASTEWATER  
SOIL  
OIL  
SLUDGE  
OTHER :  
ACID/BASE:  
ICE / COOL  
OTHER :

MATRIX  
PRESERV  
SAMPLING

DATE  
TIME

CHLORIDE  
TPH  
BTEX

DATE  
TIME

CHLORIDE  
TPH  
BTEX

DATE  
TIME

CHLORIDE  
TPH  
BTEX

DATE  
TIME

Relinquished By: Paper Heptanone

Date: 8-17-16  
Time: 1:17p

Received By: Cliff Brunson

Relinquished By: Paper Heptanone

Date: 8-17-16  
Time: 1:17p

Received By: Cliff Brunson

Delivered By: (Circle One)  
Sampler - UPS - Bus - Other: 4.90c

Sample Condition  
Cod: ☐ Yes ☐ No  
Intact: ☐ Yes ☐ No

CHECKED BY: (Initials)  
car H-15

Phone Result: ☐ Yes ☐ No  
Fax Result: ☐ Yes ☐ No

REMARKS:

ADD'l Phone #:   
ADD'l Fax #:

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





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

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

243

<b>Company Name:</b> BBC International, Inc.	<b>BILL TO</b>	<b>ANALYSIS REQUEST</b>
--	----------------	-------------------------

<b>Project Manager:</b> Cliff Brunson	<b>P.O. #:</b>
---------------------------------------	----------------

<b>Address:</b> P.O. Box 805	<b>Company:</b> <i>dry</i>
------------------------------	----------------------------

<b>City:</b> Hobbs	<b>Attn:</b>
--------------------	--------------

<b>State:</b> NM <b>Zip:</b> 88241	<b>Address:</b>
------------------------------------	-----------------

<b>Phone #:</b> 575-397-6388 <b>Fax #:</b> 575-397-0397	<b>City:</b>
---	--------------

<b>Project #:</b>	<b>State:</b>
-------------------	---------------

<b>Project Name:</b> <i>Scandance 9 FEB #3</i>	<b>Zip:</b>
--	-------------

<b>Project Location:</b>	<b>Phone #:</b>
--------------------------	-----------------

<b>Sampler Name:</b> <i>Page Henderson</i>	<b>Fax #:</b>
--	---------------

<b>FOR LAB USE ONLY</b>	<b>PRESERV</b>	<b>SAMPLING</b>
-------------------------	----------------	-----------------

<b>Lab I.D.</b>	<b>Sample I.D.</b>	<b>MATRIX</b>	<b>DATE</b>	<b>TIME</b>	<b>ANALYSIS REQUEST</b>
-----------------	--------------------	---------------	-------------	-------------	-------------------------

<i>11021842</i>	<i>SP 30 1'</i>	<input checked="" type="checkbox"/> (G)RAB OR (C)OMP.	<i>8-11-16</i>	<i>245</i>	<i>CHLORIDE</i>
-----------------	-----------------	---	----------------	------------	-----------------

<i>12</i>	<i>SP 40 2'</i>	<input checked="" type="checkbox"/> # CONTAINERS	<i>8-15-16</i>	<i>840</i>	<i>TPH</i>
-----------	-----------------	--	----------------	------------	------------

<i>13</i>	<i>SP 40 3'</i>	<input checked="" type="checkbox"/> GROUNDWATER	<i>8-15-16</i>	<i>915</i>	<i>BTEX</i>
-----------	-----------------	---	----------------	------------	-------------

<i>14</i>	<i>SP 40 3'</i>	<input checked="" type="checkbox"/> WASTEWATER	<i>8-15-16</i>	<i>1052</i>	
-----------	-----------------	--	----------------	-------------	--

<i>15</i>	<i>SP 40 4'</i>	<input checked="" type="checkbox"/> SOIL	<i>8-15-16</i>	<i>1100</i>	
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<i>16</i>	<i>SP 5 3'</i>	<input checked="" type="checkbox"/> OIL	<i>8-15-16</i>	<i>1125</i>	
-----------	----------------	---	----------------	-------------	--

<i>17</i>	<i>SP 5 3'</i>	<input checked="" type="checkbox"/> SLUDGE	<i>8-15-16</i>	<i>1200</i>	
-----------	----------------	--	----------------	-------------	--

<i>18</i>	<i>SP 40 1'</i>	<input checked="" type="checkbox"/> OTHER :	<i>8-15-16</i>	<i>1442</i>	
-----------	-----------------	---	----------------	-------------	--

<i>19</i>	<i>SP 40 1'</i>	<input checked="" type="checkbox"/> ACID/BASE:	<i>8-15-16</i>	<i>209</i>	
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<i>20</i>	<i>SP 40 1'</i>	<input checked="" type="checkbox"/> ICE / COOL	<i>8-15-16</i>	<i>209</i>	
-----------	-----------------	--	----------------	------------	--

<i>21</i>	<i>SP 40 1'</i>	<input checked="" type="checkbox"/> OTHER :	<i>8-15-16</i>	<i>209</i>	
-----------	-----------------	---	----------------	------------	--

<b>Relinquished By:</b> <i>Page Henderson</i>	<b>Date:</b> <i>8-17-16</i>	<b>Time:</b> <i>1:17p</i>	<b>Received By:</b> <i>Chris Jones</i>	<b>Date:</b> <i>8-17-16</i>	<b>Time:</b> <i>1:17p</i>
---	-----------------------------	---------------------------	--	-----------------------------	---------------------------

<b>Delivered By:</b> <i>Chris Jones</i>	<b>Date:</b> <i>8-17-16</i>	<b>Time:</b> <i>1:17p</i>	<b>Received By:</b> <i>Chris Jones</i>	<b>Date:</b> <i>8-17-16</i>	<b>Time:</b> <i>1:17p</i>
---	-----------------------------	---------------------------	--	-----------------------------	---------------------------

<b>Sampler - UPS - Bus - Other:</b> <i>-492</i>	<b>Sample Condition</b>	<b>CHECKED BY:</b> <i>Chris Jones</i>	<b>Phone Result:</b> <input type="checkbox"/> Yes <input type="checkbox"/> No	<b>Add'l Phone #:</b>
---	-------------------------	---------------------------------------	---	-----------------------

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# ARDINAL LABORATORIES

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

## CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

3423

Company Name: BBC International, Inc.		P.O. #:		BILL TO										ANALYSIS REQUEST																									
Project Manager: Cliff Brunson		Company:																																					
Address: P.O. Box 805		Attn:																																					
City: Hobbs		State: NM		Zip: 88241																																			
Phone #: 575-397-6388		Fax #: 575-397-0397		Address:																																			
Project #:		Project Owner:		City:																																			
Project Name:		State:		Zip:																																			
Project Location:		Phone #:		Fax #:																																			
Sampler Name:		FOR LAB USE ONLY		PRESERV.		SAMPLING																																	
Lab I.D.		Sample I.D.		(G)RAB OR (C)OMP.		# CONTAINERS		GROUNDWATER		WASTEWATER		SOIL		OIL		SLUDGE		OTHER :		ACID/BASE:		ICE / COOL		OTHER :		DATE		TIME											
HWD1842		SP604'		G 1		1		✓																		8-15-16		725		CHLORIDE									
22		SP701'		G 1		1		✓																		8-16-16		950		TPH									
23		3'		G 1		1		✓																		8-16-16		1030		BTEX									
24		4'		G 1		1		✓																		8-16-16		1047											
25		SP801'		G 1		1		✓																		8-16-16		1130											
26		3'		G 1		1		✓																		8-16-16		110											
27		4'		G 1		1		✓																		8-16-16		130											

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Relinquished By: *Roger Hernandez* Date: 8-17-16 Received By: *Roger Hernandez*

Relinquished By: *Roger Hernandez* Date: 8-17-16 Received By: *Roger Hernandez*

Delivered By: (Circle One) *UPS* - UPS - Bus - Other: *-498*

Sample Condition: ☒ Cool ☐ Intact ☐ Yes ☐ No

CHECKED BY: *CA #15*

REMARKS:

**From:** Bratcher, Mike, EMNRD  
**To:** [Cliff Brunson](#); [Shelly Tucker](#)  
**Cc:** [Wade Dittrich](#); [Jennifer\\_Smith@oxy.com](mailto:Jennifer_Smith@oxy.com); [Weaver, Crystal, EMNRD](#); [Ken Swinney](#); [Jennifer Gilkey](#); [Kathy Purvis](#)  
**Subject:** RE: OXY Sundance 9 Federal #3 CTB (2RP-3827) - Delineation Workplan  
**Date:** Thursday, September 21, 2017 9:29:14 AM

---

RE: OXY USA \* Sundance 9 Fed 3 (CTB) \* 2RP-3827 \* DOR: 8/3/16

Cliff,

Your proposal for remediation of the above referenced release is approved. Federal sites will require like approval from BLM. Please advise once remedial activities have been scheduled.

Mike Bratcher  
NMOCD District 2  
811 South First Street  
Artesia, NM 88210  
575-748-1283 Ext 108

OCD approval does not relieve the operator of liability should their operations fail to adequately investigate and remediate contamination that may pose a threat to ground water, surface water, human health or the environment. In addition, OCD approval does not relieve the operator of responsibility for compliance with any other federal, state, local laws and/or regulations.

---

**From:** Cliff Brunson [mailto:[cbrunson@bbcinternational.com](mailto:cbrunson@bbcinternational.com)]  
**Sent:** Thursday, September 14, 2017 6:53 PM  
**To:** Bratcher, Mike, EMNRD <[mike.bratcher@state.nm.us](mailto:mike.bratcher@state.nm.us)>; Shelly Tucker <[stucker@blm.gov](mailto:stucker@blm.gov)>  
**Cc:** Wade Dittrich <[Wade\\_Dittrich@oxy.com](mailto:Wade_Dittrich@oxy.com)>; [Jennifer\\_Smith@oxy.com](mailto:Jennifer_Smith@oxy.com); Weaver, Crystal, EMNRD <[Crystal.Weaver@state.nm.us](mailto:Crystal.Weaver@state.nm.us)>; Ken Swinney <[kswinney@bbcinternational.com](mailto:kswinney@bbcinternational.com)>; Jennifer Gilkey <[jgilkey@bbcinternational.com](mailto:jgilkey@bbcinternational.com)>; Kathy Purvis <[kathy@bbcinternational.com](mailto:kathy@bbcinternational.com)>  
**Subject:** OXY Sundance 9 Federal #3 CTB (2RP-3827) - Delineation Workplan

Mike and Shelly,

Please find the attached Delineation Workplan and remediation proposal for the OXY Sundance 9 Federal #3 CTB (2RP-3827). OXY is requesting that you review this plan and is looking forward to both the OCD's and BLM's approval. Mike, this plan is one we discussed recently.

If you have any questions, please let me 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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\*\*\*\*\*



**From:** Tucker, Shelly  
**To:** [Bratcher, Mike, EMNRD](#)  
**Cc:** [Cliff Brunson](#); [Wade Dittrich](#); [Jennifer.Smith@oxy.com](#); [Weaver, Crystal, EMNRD](#); [Ken Swinney](#); [Jennifer Gilkey](#); [Kathy Purvis](#)  
**Subject:** Re: OXY Sundance 9 Federal #3 CTB (2RP-3827) - Delineation Workplan  
**Date:** Tuesday, October 3, 2017 4:23:45 PM

---

## BLM concurs with NMOCD approval.

If you have any questions or concerns, please do not hesitate to contact me.

Sincerely,

*Shelly J Tucker*

Environmental Protection Specialist  
O&G Spill/Release Coordinator

Bureau of Land Management  
620 E. Greene St  
Carlsbad, NM 88220

575.234.5905 - Direct  
575.361.0084 - Cellular  
575.234.6235 - Emergency Spill Number

[stucker@blm.gov](mailto:stucker@blm.gov)

The **BLM acceptance/approval does not** relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that may pose a threat to groundwater, surface water, human health or the environment or if the location fails to reclaim properly. In such an event that the location does not revegetate, or future issues with contaminants are encountered, the operator will be asked to address the issues until the contaminant issues are fully mitigated and the location is successfully reclaimed. In addition, BLM approval does not relieve the operator of responsibility for compliance with any other federal, state or local laws/regulations.

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On Thu, Sep 21, 2017 at 9:29 AM, Bratcher, Mike, EMNRD <[mike.bratcher@state.nm.us](mailto:mike.bratcher@state.nm.us)> wrote:

RE: OXY USA \* Sundance 9 Fed 3 (CTB) \* 2RP-3827 \* DOR: 8/3/16

Cliff,

Your proposal for remediation of the above referenced release is approved. Federal sites will require like approval from BLM. Please advise once remedial activities have been scheduled.

Mike Bratcher

NMOCD District 2

[811 South First Street](#)

[Artesia, NM 88210](#)

[575](#)-748-1283 Ext 108

OCD approval does not relieve the operator of liability should their operations fail to adequately investigate and remediate contamination that may pose a threat to ground water, surface water, human health or the environment. In addition, OCD approval does not relieve the operator of responsibility for compliance with any other federal, state, local laws and/or regulations.

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**From:** Cliff Brunson [mailto:[cbrunson@bbcinternational.com](mailto:cbrunson@bbcinternational.com)]

**Sent:** Thursday, September 14, 2017 6:53 PM

**To:** Bratcher, Mike, EMNRD <[mike.bratcher@state.nm.us](mailto:mike.bratcher@state.nm.us)>; Shelly Tucker <[stucker@blm.gov](mailto:stucker@blm.gov)>

**Cc:** Wade Dittrich <[Wade\\_Dittrich@oxy.com](mailto:Wade_Dittrich@oxy.com)>; Jennifer\_Smith@oxy.com; Weaver, Crystal, EMNRD <[Crystal.Weaver@state.nm.us](mailto:Crystal.Weaver@state.nm.us)>; Ken Swinney <[kswinney@bbcinternational.com](mailto:kswinney@bbcinternational.com)>; Jennifer Gilkey <[jgilkey@bbcinternational.com](mailto:jgilkey@bbcinternational.com)>; Kathy Purvis <[kathy@bbcinternational.com](mailto:kathy@bbcinternational.com)>

**Subject:** OXY Sundance 9 Federal #3 CTB (2RP-3827) - Delineation Workplan

Mike and Shelly,

Please find the attached Delineation Workplan and remediation proposal for the OXY Sundance 9 Federal #3 CTB (2RP-3827). OXY is requesting that you review this plan and is looking forward to both the OCD's and BLM's approval. Mike, this plan is one we discussed recently.

If you have any questions, please let me know.

Thanks, Cliff

Cliff P. Brunson, CEI, CRS

President

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