



DELINEATION WORKPLAN

OXY – McKITTRICK HILLS FEDERAL #1 N SWD (Leak Date: 3/16/17)

RP # 2RP-4157
API # 30-015-22782

This delineation workplan and remediation proposal addresses the release associated with RP # 2RP-4157.

The following information includes:

1. Scaled digital site map with spill area demarcated and leak point identified along with sample point locations and areas of remediation at appropriate depths.
2. GPS information for sample points and sample methodology
3. Depth to groundwater information (i.e., pdf of OSE search results and/or copy of Chevron groundwater trend map).
4. Laboratory analysis results summary table and original laboratory analysis reports
5. A copy of the initial C-141
6. Potentially other pertinent information as necessary for site specific purposes.

Based on the information included in this package and the NMOCD guidelines, the following remediation is proposed:

OXY will excavate the spill area as depicted on the following site diagram. The leak area near SP1, SP2, and SP3 (shaded in blue) will be excavated to a depth of 6 inches. The leak area near SP4 and SP5 (shaded in pink) will require zero remediation.

The entire site will then be backfilled with clean soil and revegetated (if warranted) to the standards of the appropriate regulatory agency or private surface owner.

All excavated materials will be disposed of at an NMOCD-approved disposal facility.

Oxy, McKittrick Hills Federal #1 N SWD

Leak date: 03/16/2017
Eddy County, NM
API# 30-015-22782
2RP-4157

Legend

- 6 in. Excavation
- Cardinal sample points, hand auger
- Leak Area
- No remediation activities needed
- Sample points, hand auger
- Leak Area



Oxy, McKittrick Hills Fed #1 N SWD

Sample points, hand auger

SP1, N 32.41468 W-104.45521

SP2, N 32.41469 W-104.45538

SP3, N 32.41477 W-104.45554

SP4, N 32.41464 W-104.45549

SP5, N 32.41457 W-104.45549

NORTH, N 32.41484 W-104.45553

SOUTH, N 32.41452 W-104.45545

EAST, N 32.41465 W-104.45515

WEST, N 32.41473 W-104.45561



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	
C_02428			ED	4	2	1	12	22S	24E	551426	3586017*	<input type="checkbox"/>	512	450	400	50

Average Depth to Water: **400 feet**

Minimum Depth: **400 feet**

Maximum Depth: **400 feet**

Record Count: 1

UTMNAD83 Radius Search (in meters):

Easting (X): 551326

Northing (Y): 3586520

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.

3/24/17 10:54 AM

WATER COLUMN/ AVERAGE DEPTH TO WATER

Public Land Survey System (PLSS)

Q64: Q16: Q4: Sec: Tws: Rng:

State Plane Coordinate System - NAD27

X: ft Y: ft Zone:

State Plane Coordinate System - NAD83

X: ft Y: ft Zone:

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): mtrs Northing (Y): mtrs

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

**Laboratory Analytical Results Summary
McKittrick Hills Fed #1 N SWD**

		Sample	SP1 @ SURFACE	SP1 @ 1'	SP1 @ 6'
Analyte	Method	Date	4/3/17	4/3/17	4/3/17
			mg/Kg	mg/Kg	mg/Kg
Benzene	BTEX 8021B		<0.050	<0.050	n/a
Toluene	BTEX 8021B		<0.050	<0.050	n/a
Ethylbenzene	BTEX 8021B		<0.050	<0.050	n/a
Total Xylenes	BTEX 8021B		<0.150	<0.150	n/a
Total BTEX	BTEX 8021B		<0.300	<0.300	n/a
Chloride	SM4500Cl-B		832	48	48
GRO	TPH 8015M		<100	<10.0	n/a
DRO	TPH 8015M		11900	28	n/a

		Sample	SP5 @ SURFACE	SP5 @ 1'	SP5 @ 6'
Analyte	Method	Date	4/3/17	4/3/17	4/3/17
			mg/Kg	mg/Kg	mg/Kg
Benzene	BTEX 8021B		<0.050	<0.050	n/a
Toluene	BTEX 8021B		<0.050	<0.050	n/a
Ethylbenzene	BTEX 8021B		<0.050	<0.050	n/a
Total Xylenes	BTEX 8021B		<0.150	<0.150	n/a
Total BTEX	BTEX 8021B		<0.300	<0.300	n/a
Chloride	SM4500Cl-B		80	64	32
GRO	TPH 8015M		<10.0	<10.0	n/a
DRO	TPH 8015M		<10.0	<10.0	n/a

		Sample	SP2 @ SURFACE	SP2 @ 1'	SP2 @ 6'
Analyte	Method	Date	4/3/17	4/3/17	4/3/17
			mg/Kg	mg/Kg	mg/Kg
Chloride	SM4500Cl-B		864	32	32

<i>Cardinal points</i>		Sample	NORTH @ SURFACE	EAST @ SURFACE	WEST @ SURFACE	SOUTH @ SURFACE
Analyte	Method	Date	4/3/17	4/3/17	4/3/17	4/3/17
			mg/Kg	mg/Kg	mg/Kg	mg/Kg
Chloride	SM4500Cl-B		16	64	64	48

		Sample	SP3 @ SURFACE	SP3 @ 1'	SP3 @ 6'
Analyte	Method	Date	4/3/17	4/3/17	4/3/17
			mg/Kg	mg/Kg	mg/Kg
Benzene	BTEX 8021B		<0.050	<0.050	n/a
Toluene	BTEX 8021B		<0.050	<0.050	n/a
Ethylbenzene	BTEX 8021B		<0.050	<0.050	n/a
Total Xylenes	BTEX 8021B		<0.150	<0.150	n/a
Total BTEX	BTEX 8021B		<0.300	<0.300	n/a
Chloride	SM4500Cl-B		784	32	64
GRO	TPH 8015M		<100	<10.0	n/a
DRO	TPH 8015M		15600	31.2	n/a

		Sample	SP4 @ SURFACE	SP4 @ 1'	SP4 @ 6'
Analyte	Method	Date	4/3/17	4/3/17	4/3/17
			mg/Kg	mg/Kg	mg/Kg
Chloride	SM4500Cl-B		80	64	80

April 12, 2017

Cliff Brunson

BBC International, Inc.

P.O. Box 805

Hobbs, NM 88241

RE: MCKITTRICK HILLS FED #1 N SWD

Enclosed are the results of analyses for samples received by the laboratory on 04/05/17 8:55.

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.

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:	04/05/2017	Sampling Date:	04/03/2017
Reported:	04/12/2017	Sampling Type:	Soil
Project Name:	MCKITTRICK HILLS FED #1 N SWD	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: SP 1 @ SURFACE (H700886-01)

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	04/07/2017	ND	2.20	110	2.00	0.945	
Toluene*	<0.050	0.050	04/07/2017	ND	2.01	100	2.00	0.959	
Ethylbenzene*	<0.050	0.050	04/07/2017	ND	2.01	100	2.00	1.01	
Total Xylenes*	<0.150	0.150	04/07/2017	ND	5.73	95.5	6.00	1.10	
Total BTEX	<0.300	0.300	04/07/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 96.3 % 72-148

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	832	16.0	04/06/2017	ND	432	108	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	<100	100	04/07/2017	ND	199	99.7	200	4.67		
DRO >C10-C28	11900	100	04/07/2017	ND	213	106	200	5.98		

Surrogate: 1-Chlorooctane 90.8 % 28.3-164
Surrogate: 1-Chlorooctadecane 408 % 34.7-157

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Celey D. Keene, Lab Director/Quality Manager

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

Received:	04/05/2017	Sampling Date:	04/03/2017
Reported:	04/12/2017	Sampling Type:	Soil
Project Name:	MCKITTRICK HILLS FED #1 N SWD	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: SP 1 @ 1' (H700886-02)

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	04/07/2017	ND	2.20	110	2.00	0.945	
Toluene*	<0.050	0.050	04/07/2017	ND	2.01	100	2.00	0.959	
Ethylbenzene*	<0.050	0.050	04/07/2017	ND	2.01	100	2.00	1.01	
Total Xylenes*	<0.150	0.150	04/07/2017	ND	5.73	95.5	6.00	1.10	
Total BTEX	<0.300	0.300	04/07/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 97.6 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	48.0	16.0	04/06/2017	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	04/06/2017	ND	199	99.7	200	4.67	
DRO >C10-C28	28.0	10.0	04/06/2017	ND	213	106	200	5.98	

Surrogate: 1-Chlorooctane 99.5 % 28.3-164

Surrogate: 1-Chlorooctadecane 102 % 34.7-157

Sample ID: SP 1 @ 6' (H700886-03)

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	48.0	16.0	04/06/2017	ND	432	108	400	0.00	

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Received:	04/05/2017	Sampling Date:	04/03/2017
Reported:	04/12/2017	Sampling Type:	Soil
Project Name:	MCKITTRICK HILLS FED #1 N SWD	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: SP 2 @ SURFACE (H700886-04)

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	864	16.0	04/06/2017	ND	432	108	400	0.00	

Sample ID: SP 2 @ 1' (H700886-05)

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	04/06/2017	ND	432	108	400	0.00	

Sample ID: SP 2 @ 6' (H700886-06)

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	04/06/2017	ND	432	108	400	0.00	

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Received:	04/05/2017	Sampling Date:	04/03/2017
Reported:	04/12/2017	Sampling Type:	Soil
Project Name:	MCKITTRICK HILLS FED #1 N SWD	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: SP 3 @ SURFACE (H700886-07)

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	04/07/2017	ND	2.20	110	2.00	0.945		
Toluene*	<0.050	0.050	04/07/2017	ND	2.01	100	2.00	0.959		
Ethylbenzene*	<0.050	0.050	04/07/2017	ND	2.01	100	2.00	1.01		
Total Xylenes*	<0.150	0.150	04/07/2017	ND	5.73	95.5	6.00	1.10		
Total BTEX	<0.300	0.300	04/07/2017	ND						

Surrogate: 4-Bromofluorobenzene (PID) 96.7 % 72-148

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	784	16.0	04/06/2017	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	<100	100	04/07/2017	ND	200	99.9	200	2.77			
DRO >C10-C28	15600	100	04/07/2017	ND	215	107	200	2.74	QM-07		

Surrogate: 1-Chlorooctane 98.5 % 28.3-164

Surrogate: 1-Chlorooctadecane 506 % 34.7-157

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Received:	04/05/2017	Sampling Date:	04/03/2017
Reported:	04/12/2017	Sampling Type:	Soil
Project Name:	MCKITTRICK HILLS FED #1 N SWD	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: SP 3 @ 1' (H700886-08)

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	04/07/2017	ND	2.20	110	2.00	0.945	
Toluene*	<0.050	0.050	04/07/2017	ND	2.01	100	2.00	0.959	
Ethylbenzene*	<0.050	0.050	04/07/2017	ND	2.01	100	2.00	1.01	
Total Xylenes*	<0.150	0.150	04/07/2017	ND	5.73	95.5	6.00	1.10	
Total BTEX	<0.300	0.300	04/07/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 96.9 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	04/06/2017	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	04/06/2017	ND	200	99.9	200	2.77	
DRO >C10-C28	31.2	10.0	04/06/2017	ND	215	107	200	2.74	

Surrogate: 1-Chlorooctane 95.8 % 28.3-164

Surrogate: 1-Chlorooctadecane 84.8 % 34.7-157

Sample ID: SP 3 @ 6' (H700886-09)

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	64.0	16.0	04/06/2017	ND	416	104	400	0.00	

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Received:	04/05/2017	Sampling Date:	04/03/2017
Reported:	04/12/2017	Sampling Type:	Soil
Project Name:	MCKITTRICK HILLS FED #1 N SWD	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: SP 4 @ SURFACE (H700886-10)

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	80.0	16.0	04/06/2017	ND	416	104	400	0.00	

Sample ID: SP 4 @ 1' (H700886-11)

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	64.0	16.0	04/06/2017	ND	416	104	400	0.00	

Sample ID: SP 4 @ 6' (H700886-12)

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	80.0	16.0	04/06/2017	ND	416	104	400	0.00	

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Received:	04/05/2017	Sampling Date:	04/03/2017
Reported:	04/12/2017	Sampling Type:	Soil
Project Name:	MCKITTRICK HILLS FED #1 N SWD	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: SP 5 @ SURFACE (H700886-13)

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	04/07/2017	ND	2.20	110	2.00	0.945		
Toluene*	<0.050	0.050	04/07/2017	ND	2.01	100	2.00	0.959		
Ethylbenzene*	<0.050	0.050	04/07/2017	ND	2.01	100	2.00	1.01		
Total Xylenes*	<0.150	0.150	04/07/2017	ND	5.73	95.5	6.00	1.10		
Total BTEX	<0.300	0.300	04/07/2017	ND						

Surrogate: 4-Bromofluorobenzene (PID) 98.1 % 72-148

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	80.0	16.0	04/06/2017	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	04/06/2017	ND	200	99.9	200	2.77		
DRO >C10-C28	<10.0	10.0	04/06/2017	ND	215	107	200	2.74		

Surrogate: 1-Chlorooctane 92.8 % 28.3-164

Surrogate: 1-Chlorooctadecane 90.0 % 34.7-157

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:	04/05/2017	Sampling Date:	04/03/2017
Reported:	04/12/2017	Sampling Type:	Soil
Project Name:	MCKITTRICK HILLS FED #1 N SWD	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: SP 5 @ 1' (H700886-14)

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	04/07/2017	ND	2.20	110	2.00	0.945	
Toluene*	<0.050	0.050	04/07/2017	ND	2.01	100	2.00	0.959	
Ethylbenzene*	<0.050	0.050	04/07/2017	ND	2.01	100	2.00	1.01	
Total Xylenes*	<0.150	0.150	04/07/2017	ND	5.73	95.5	6.00	1.10	
Total BTEX	<0.300	0.300	04/07/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 97.7 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	64.0	16.0	04/06/2017	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	04/06/2017	ND	200	99.9	200	2.77	
DRO >C10-C28	<10.0	10.0	04/06/2017	ND	215	107	200	2.74	

Surrogate: 1-Chlorooctane 93.7 % 28.3-164

Surrogate: 1-Chlorooctadecane 95.4 % 34.7-157

Sample ID: SP 5 @ 6' (H700886-15)

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	04/06/2017	ND	416	104	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:	04/05/2017	Sampling Date:	04/03/2017
Reported:	04/12/2017	Sampling Type:	Soil
Project Name:	MCKITTRICK HILLS FED #1 N SWD	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: NORTH @ SURFACE (H700886-16)

Chloride, SM4500CI-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	04/06/2017	ND	416	104	400	0.00	

Sample ID: EAST @ SURFACE (H700886-17)

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	64.0	16.0	04/06/2017	ND	416	104	400	0.00	

Sample ID: WEST @ SURFACE (H700886-18)

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	64.0	16.0	04/06/2017	ND	416	104	400	0.00	

Sample ID: SOUTH @ SURFACE (H700886-19)

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	48.0	16.0	04/06/2017	ND	416	104	400	0.00	

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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.
- QM-07 The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
- 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





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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

10/22

BILL TO

ANALYSIS REQUEST

Company Name: BBC International, Inc.		P.O. #:
Project Manager: Cliff Brunson		Company: Oxy
Address: P.O. Box 805		Attn: Chris Summers
City: Hobbs	State: NM Zip: 88241	Address:
Phone #: 575-397-6388	Fax #: 575-397-0397	City:
Project #:	Project Owner: Oxy	State:
Project Name: McKittrick Hills Fed #1 N SWD		Zip:
Project Location: Eddy County, NM		Phone #:
Sampler Name: Jeff Ornelas		Fax #:

Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX						PRESERV.		DATE	TIME	CI	TPH	BTEX
				GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	ACID/BASE:	ICE / COOL					
H-900884	SP1 @ SURFACE	G	1			✓						4/3/17	9:19 AM	✓	✓	✓
	SP1 @ 1'	G	1			✓						4/3/17	9:33 AM	✓	✓	✓
	SP1 @ 6'	G	1			✓						4/3/17	10:15 AM	✓	✓	✓
	SP2 @ SURFACE	G	1			✓						4/3/17	11:00 AM	✓	✓	✓
	SP2 @ 1'	G	1			✓						4/3/17	11:11 AM	✓	✓	✓
	SP2 @ 6'	G	1			✓						4/3/17	11:30 AM	✓	✓	✓
	SP3 @ SURFACE	G	1			✓						4/3/17	11:50 AM	✓	✓	✓
	SP3 @ 1'	G	1			✓						4/3/17	12:01 PM	✓	✓	✓
	SP3 @ 6'	G	1			✓						4/3/17	1:11 PM	✓	✓	✓
	SP4 @ SURFACE	G	1			✓						4/3/17	1:20 PM	✓	✓	✓

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Retinquished By: Jeff Ornelas	Date: 4/3/17	Received By: Sumner	Sample Condition: Cool <input checked="" type="checkbox"/> Intact <input checked="" type="checkbox"/>	CHECKED BY: TO. #15
Retinquished By: Jeff Ornelas	Date: 4-5-17	Received By: Sumner	Cool <input checked="" type="checkbox"/> Intact <input checked="" type="checkbox"/>	CHECKED BY: TO. #15
Retinquished By: Jeff Ornelas	Date: 4-5-17	Received By: Sumner	Cool <input checked="" type="checkbox"/> Intact <input checked="" type="checkbox"/>	CHECKED BY: TO. #15
Retinquished By: Jeff Ornelas	Date: 4-5-17	Received By: Sumner	Cool <input checked="" type="checkbox"/> Intact <input checked="" type="checkbox"/>	CHECKED BY: TO. #15

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



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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

BILL TO

ANALYSIS REQUEST

Company Name: BBC International, Inc. P.O. #: _____
 Project Manager: Cliff Brunson Company: OKY
 Address: P.O. Box 805 State: NM Zip: 88241 Attn: Casey Summers
 City: Hobbs Address: _____
 Phone #: 575-397-6388 Fax #: 575-397-0397
 Project #: _____ Project Owner: Oxy City: _____
 Project Name: McKittrick Hills Fed #1 N SWD State: _____ Zip: _____
 Project Location: Eddy County, NM Phone #: _____ Fax #: _____
 Sampler Name: Jeff Ornelas

Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX						DATE	TIME	REMARKS
				GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :			
11	SP4 @ 1'		1						4/3/17	1:30 PM	✓	C1
12	SP4 @ 6'		1						4/3/17	1:40 PM	✓	TPLH
13	SP5 @ SURFACE		1						4/3/17	1:50 PM	✓	BTEX
14	SP5 @ 1'		1						4/3/17	2:15 PM	✓	
15	SP5 @ 6'		1						4/3/17	2:39 PM	✓	
14	NORTH @ SURFACE		1						4/3/17	2:45 PM	✓	
14	EAST @ SURFACE		1						4/3/17	2:50 PM	✓	
18	WEST @ SURFACE		1						4/3/17	2:57 PM	✓	
19	SOUTH @ SURFACE		1						4/3/17	3:15 PM	✓	

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Relinquished By: _____ Date: 4/3/17
 Relinquished By: _____ Date: 4-5-17
 Received By: _____ Date: 8-5-17
 Sample Condition: Cool Intact
 Yes No Yes No
 CHECKED BY: _____ (Initials)
 Delivered By: (Circle One) UPS - Bus - Other: -10.7c
 Phone Result: Yes No Add'l Phone #: _____
 Fax Result: Yes No Add'l Fax #: _____
 REMARKS: _____

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

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	PO Box 4294; Houston, TX 77210	Telephone No.	(575) 513-8289
Facility Name:	McKittrick Hills/MH Federal COM SWD #001	Facility Type	SWD
Surface Owner	BLM	Mineral Owner	
		API No.	30-015-22782

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
N	1	22S	24E					Eddy County, NM

Latitude N 32.41462° Longitude W 104.45518°

NATURE OF RELEASE

Type of Release	Produced water	Volume of Release	150 bbls	Volume Recovered	130 bbls
Source of Release	SWD pump failed to start which caused the tanks to run over	Date and Hour of Occurrence	03/16/2017	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, Crystal Weaver-NMOCD; Shelly Tucker-BLM		
By Whom?	Jennifer Gilkey @ BBC International	Date and Hour	03/17/2017 @ 2:21 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.*
The SWD pump failed to start causing the tanks to spill over and release 150 bbls of produced water. A vacuum truck was dispatched and recovered 130 bbls of produced water and the pump was repaired.

Describe Area Affected and Cleanup Action Taken.*
The affected area is approximately 30' x 100' on location. Remediation will be completed in accordance with a remediation plan approved by both 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.

Signature:	<u>OIL CONSERVATION DIVISION</u>		
Printed Name: Casey Summers	Approved by Environmental Specialist:		
Title: NM Environmental Advisor	Approval Date:	Expiration Date:	
E-mail Address: Casey.Summers@oxy.com	Conditions of Approval:		Attached <input type="checkbox"/>
Date: 4-6-17	Phone: (575) 513-8289		

* Attach Additional Sheets If Necessary