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## DELINEATION WORKPLAN

### OXY – RED TANK 28 FEDERAL #1 CTB (Leak Date: 6/20/17)

**RP # 1RP-4741**  
**API # 30-025-31661**

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This delineation workplan and remediation proposal addresses the release associated with RP # 1RP-4741.

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 entire leak area will be excavated to a depth of 3.5 feet.***

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.

**APPROVED**

***By Olivia Yu at 9:59 am, Dec 08, 2017***

**NMOCD approves of the  
delineation and proposed  
remediation for 1RP-4741.**



# Oxy, Red Tank 28 Federal #1 CTB


Leak date: 06/20/2017


Lea County, NM


API# 30-025-31661


1RP-4741

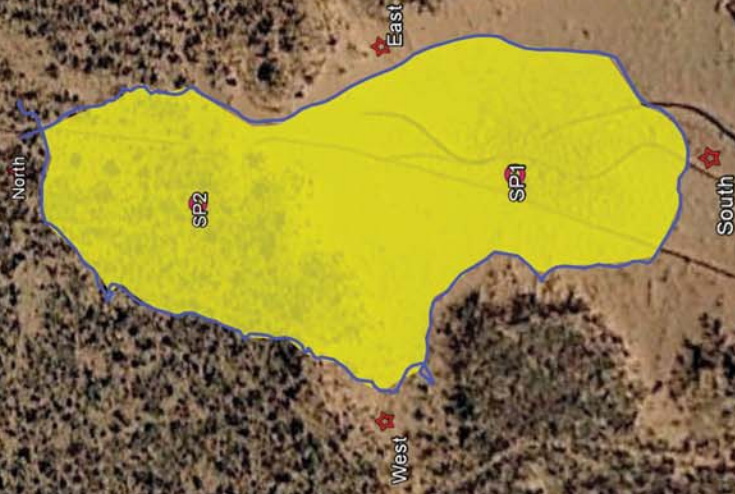
## Legend

 3.5 ft Excavation across entire leak area

 Cardinal sample points

 Leak Area

 Sample points





Oxy, Red Tank 28 Federal #1 CTB

Sample points,

SP1, N 32.36377 W-103.67222

SP2, N 32.36401 W-103.67225

NORTH, N 32.36417 W-103.67224

SOUTH, N 32.36365 W-103.67220

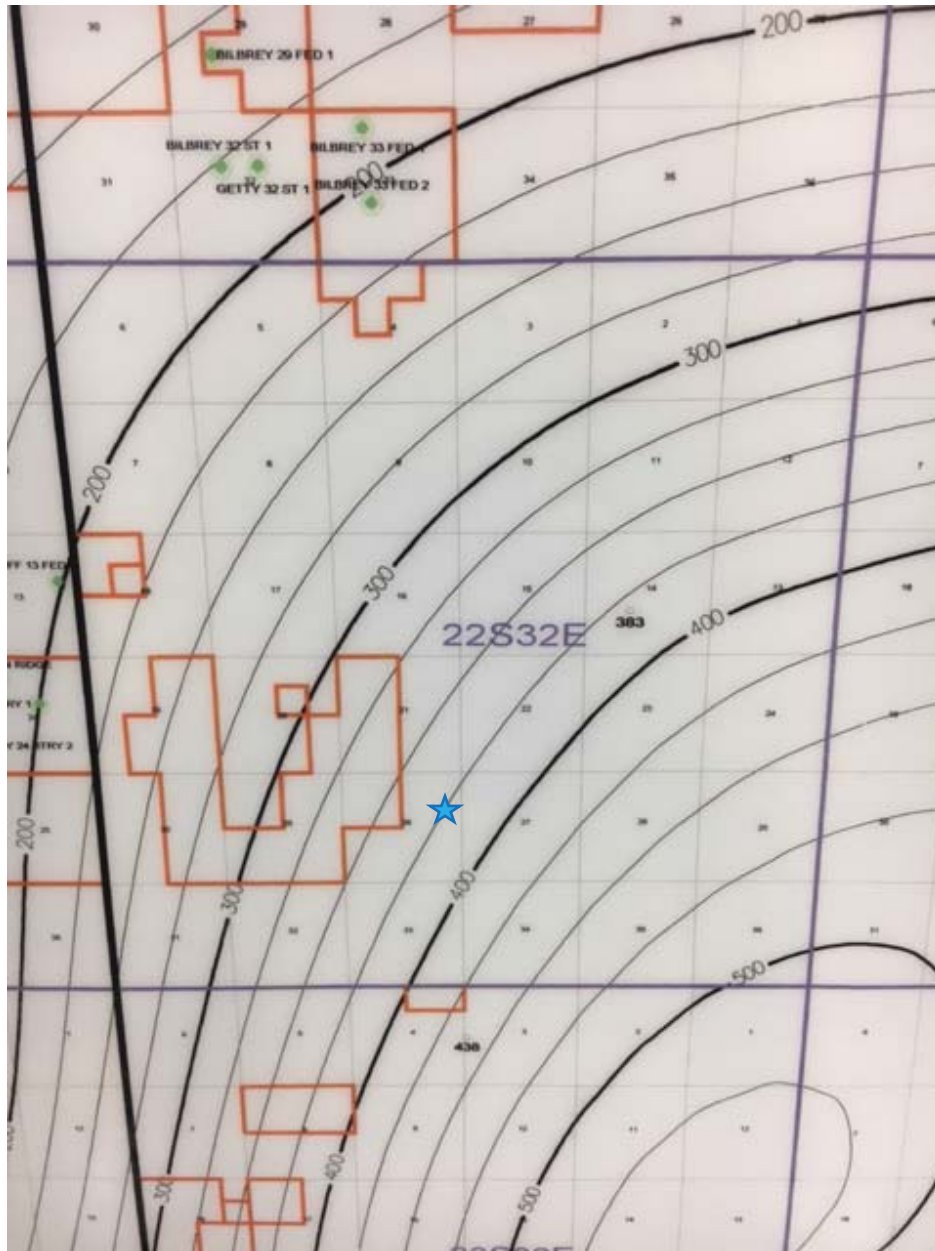
EAST, N 32.36386 W-103.67214

WEST, N 32.36386 W-103.67239

**Oxy, Red Tank 28 Federal #1 CTB**

**U/L H, Section 28, T22S, R32E**

**Groundwater: 375'**





# *New Mexico Office of the State Engineer*

## **Water Column/Average Depth to Water**

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

(quarters are smallest to largest) (NAD83 UTM in meters)

No records found.

### **UTMNAD83 Radius Search (in meters):**

**Easting (X):** 624827

**Northing (Y):** 3581607

**Radius:** 1700

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.

6/26/17 10:57 AM

WATER COLUMN/ AVERAGE  
DEPTH TO WATER

Public Land Survey System (PLSS)

☐

Q64:

Q16:

SE

Q4:

NE

Sec:

28

Tws:

22S

Rng:

32E

State Plane Coordinate System - NAD27

☐

X:

0

ft

Y:

0

ft

Zone:

State Plane Coordinate System - NAD83

☐

X:

0

ft

Y:

0

ft

Zone:

Degrees/Minutes/Seconds

☐

Longitude (X):

Degrees:

0

°

Minutes:

0

'

Seconds:

0

"

Latitude (Y):

Degrees:

0

°

Minutes:

0

'

Seconds:

0

"

UTM - NAD27

☐

Easting (X):

0

mtrs

Northing (Y):

0

mtrs

Zone:

SUBMIT

All Conversion Results are displayed as NAD 1983 UTM Zone 13

Easting (X):

624827.0

mtrs

Northing (Y):

3581607.0

mtrs

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

Laboratory Analytical Results Summary  
Red Tank 28 Federal #1 CTB

Analyte	Method	Sample		SP1 @ 1'	SP1 @ 3'	SP1 @ 5'	SP1 @ 7'	SP1 @ 8'
		Date		8/16/17 mg/Kg	8/16/17 mg/Kg	8/16/17 mg/Kg	8/16/17 mg/Kg	8/16/17 mg/Kg
Benzene	BTEX 8021B			<0.050	<0.050	<0.050	<0.050	<0.050
Toluene	BTEX 8021B			0.164	0.659	<0.050	<0.050	<0.050
Ethylbenzene	BTEX 8021B			<0.050	<0.050	<0.050	<0.050	<0.050
Total Xylenes	BTEX 8021B			1.53	3.43	<0.150	<0.150	<0.150
Total BTEX	BTEX 8021B			1.69	4.09	<0.300	<0.300	<0.300
Chloride	SM4500Cl-B			224	784	336	480	288
GRO	TPH 8015M			234	792	<10.0	<10.0	<10.0
DRO	TPH 8015M			6070	8590	<10.0	26.8	11
EXT DRO	TPH 8015M			1080	1400	<10.0	<10.0	<10.0

Analyte	Method	Sample		SP2 @ 1'	SP2 @ 3'	SP2 @ 5'	SP2 @ 7'	SP2 @ 8'	SP2 @ 9'
		Date		8/16/17 mg/Kg	8/16/17 mg/Kg	8/16/17 mg/Kg	8/16/17 mg/Kg	8/16/17 mg/Kg	8/16/17 mg/Kg
Benzene	BTEX 8021B			<0.050	<0.500	<0.050	<0.050	<0.050	<0.050
Toluene	BTEX 8021B			0.143	0.656	<0.050	<0.050	<0.050	<0.050
Ethylbenzene	BTEX 8021B			<0.050	<0.500	<0.050	<0.050	<0.050	<0.050
Total Xylenes	BTEX 8021B			1.15	<0.150	<0.150	<0.150	<0.150	<0.150
Total BTEX	BTEX 8021B			1.29	<0.300	<0.300	<0.300	<0.300	<0.300
Chloride	SM4500Cl-B			320	368	400	416	320	320
GRO	TPH 8015M			207	907	<10.0	<10.0	<10.0	<10.0
DRO	TPH 8015M			6250	10200	<10.0	19.1	<10.0	<10.0
EXT DRO	TPH 8015M			1140	1650	<10.0	<10.0	<10.0	<10.0

Analyte	Method	Sample		NORTH @ SURFACE
		Date		8/16/17 mg/Kg
Chloride	SM4500Cl-B			<16.0

Analyte	Method	Sample		EAST @ SURFACE
		Date		8/16/17 mg/Kg
Chloride	SM4500Cl-B			<16.0

Analyte	Method	Sample		WEST @ SURFACE
		Date		8/16/17 mg/Kg
Chloride	SM4500Cl-B			16

Analyte	Method	Sample		SOUTH @ SURFACE
		Date		8/16/17 mg/Kg
Chloride	SM4500Cl-B			16

August 24, 2017

Cliff Brunson

BBC International, Inc.

P.O. Box 805

Hobbs, NM 88241

RE: RED TANK 28 FED #1 CTB

Enclosed are the results of analyses for samples received by the laboratory on 08/17/17 13:05.

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,



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:	08/17/2017	Sampling Date:	08/16/2017
Reported:	08/24/2017	Sampling Type:	Soil
Project Name:	RED TANK 28 FED #1 CTB	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	LEA COUNTY		

**Sample ID: SP 1 @ 1 (H702189-01)**

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	08/23/2017	ND	1.96	98.0	2.00	1.28	
<b>Toluene*</b>	<b>0.164</b>	0.050	08/23/2017	ND	1.81	90.7	2.00	0.638	
Ethylbenzene*	<0.050	0.050	08/23/2017	ND	1.84	92.0	2.00	1.42	
<b>Total Xylenes*</b>	<b>1.53</b>	0.150	08/23/2017	ND	5.53	92.2	6.00	1.69	
<b>Total BTX</b>	<b>1.69</b>	0.300	08/23/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 109 % 72-148

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>Chloride</b>	<b>224</b>	16.0	08/19/2017	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	
<b>GRO C6-C10</b>	<b>234</b>	50.0	08/21/2017	ND	177	88.5	200	2.45		
<b>DRO &gt;C10-C28</b>	<b>6070</b>	50.0	08/21/2017	ND	176	87.8	200	4.19		
<b>EXT DRO &gt;C28-C36</b>	<b>1080</b>	50.0	08/21/2017	ND						

Surrogate: 1-Chlorooctane 132 % 28.3-164

Surrogate: 1-Chlorooctadecane 177 % 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:	08/17/2017	Sampling Date:	08/16/2017
Reported:	08/24/2017	Sampling Type:	Soil
Project Name:	RED TANK 28 FED #1 CTB	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	LEA COUNTY		

**Sample ID: SP 1 @ 3 (H702189-02)**

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	08/23/2017	ND	1.96	98.0	2.00	1.28	
<b>Toluene*</b>	<b>0.659</b>	0.050	08/23/2017	ND	1.81	90.7	2.00	0.638	
Ethylbenzene*	<0.050	0.050	08/23/2017	ND	1.84	92.0	2.00	1.42	
<b>Total Xylenes*</b>	<b>3.43</b>	0.150	08/23/2017	ND	5.53	92.2	6.00	1.69	
<b>Total BTX</b>	<b>4.09</b>	0.300	08/23/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 199 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>Chloride</b>	<b>784</b>	16.0	08/19/2017	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
<b>GRO C6-C10</b>	<b>792</b>	50.0	08/21/2017	ND	177	88.5	200	2.45	
<b>DRO &gt;C10-C28</b>	<b>8590</b>	50.0	08/21/2017	ND	176	87.8	200	4.19	
<b>EXT DRO &gt;C28-C36</b>	<b>1400</b>	50.0	08/21/2017	ND					

Surrogate: 1-Chlorooctane 177 % 28.3-164

Surrogate: 1-Chlorooctadecane 216 % 34.7-157

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\*=Accredited Analyte

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

Received:	08/17/2017	Sampling Date:	08/16/2017
Reported:	08/24/2017	Sampling Type:	Soil
Project Name:	RED TANK 28 FED #1 CTB	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	LEA COUNTY		

**Sample ID: SP 1 @ 5 (H702189-03)**

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	08/23/2017	ND	1.96	98.0	2.00	1.28	
Toluene*	<0.050	0.050	08/23/2017	ND	1.81	90.7	2.00	0.638	
Ethylbenzene*	<0.050	0.050	08/23/2017	ND	1.84	92.0	2.00	1.42	
Total Xylenes*	<0.150	0.150	08/23/2017	ND	5.53	92.2	6.00	1.69	
Total BTX	<0.300	0.300	08/23/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 104 % 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	336	16.0	08/19/2017	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	08/21/2017	ND	177	88.5	200	2.45	
DRO >C10-C28	<10.0	10.0	08/21/2017	ND	176	87.8	200	4.19	
EXT DRO >C28-C36	<10.0	10.0	08/21/2017	ND					

Surrogate: 1-Chlorooctane 89.5 % 28.3-164

Surrogate: 1-Chlorooctadecane 96.0 % 34.7-157

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\*=Accredited Analyte

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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:	08/17/2017	Sampling Date:	08/16/2017
Reported:	08/24/2017	Sampling Type:	Soil
Project Name:	RED TANK 28 FED #1 CTB	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	LEA COUNTY		

**Sample ID: SP 1 @ 7 (H702189-04)**

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	08/23/2017	ND	1.96	98.0	2.00	1.28		
Toluene*	<0.050	0.050	08/23/2017	ND	1.81	90.7	2.00	0.638		
Ethylbenzene*	<0.050	0.050	08/23/2017	ND	1.84	92.0	2.00	1.42		
Total Xylenes*	<0.150	0.150	08/23/2017	ND	5.53	92.2	6.00	1.69		
Total BTEx	<0.300	0.300	08/23/2017	ND						

Surrogate: 4-Bromofluorobenzene (PID) 104 % 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	480	16.0	08/19/2017	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	08/20/2017	ND	181	90.4	200	6.61	
DRO >C10-C28	26.8	10.0	08/20/2017	ND	184	91.9	200	7.97	
EXT DRO >C28-C36	<10.0	10.0	08/20/2017	ND					

Surrogate: 1-Chlorooctane 83.9 % 28.3-164

Surrogate: 1-Chlorooctadecane 95.5 % 34.7-157

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Celey D. Keene, Lab Director/Quality Manager



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

Received:	08/17/2017	Sampling Date:	08/16/2017
Reported:	08/24/2017	Sampling Type:	Soil
Project Name:	RED TANK 28 FED #1 CTB	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	LEA COUNTY		

**Sample ID: SP 1 @ 8 (H702189-05)**

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	08/22/2017	ND	2.02	101	2.00	1.51		
Toluene*	<0.050	0.050	08/22/2017	ND	1.85	92.5	2.00	1.80		
Ethylbenzene*	<0.050	0.050	08/22/2017	ND	1.92	95.8	2.00	2.27		
Total Xylenes*	<0.150	0.150	08/22/2017	ND	5.74	95.7	6.00	1.64		
Total BTEx	<0.300	0.300	08/22/2017	ND						

Surrogate: 4-Bromofluorobenzene (PID) 107 % 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	288	16.0	08/19/2017	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	08/20/2017	ND	181	90.4	200	6.61	
DRO >C10-C28	11.0	10.0	08/20/2017	ND	184	91.9	200	7.97	
EXT DRO >C28-C36	<10.0	10.0	08/20/2017	ND					

Surrogate: 1-Chlorooctane 82.3 % 28.3-164

Surrogate: 1-Chlorooctadecane 88.8 % 34.7-157

Cardinal Laboratories

\*=Accredited Analyte

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

Received:	08/17/2017	Sampling Date:	08/16/2017
Reported:	08/24/2017	Sampling Type:	Soil
Project Name:	RED TANK 28 FED #1 CTB	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	LEA COUNTY		

**Sample ID: SP 2 @ 1 (H702189-06)**

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	08/22/2017	ND	2.02	101	2.00	1.51	
Toluene*	0.143	0.050	08/22/2017	ND	1.85	92.5	2.00	1.80	
Ethylbenzene*	<0.050	0.050	08/22/2017	ND	1.92	95.8	2.00	2.27	
Total Xylenes*	1.15	0.150	08/22/2017	ND	5.74	95.7	6.00	1.64	
Total BTX	1.29	0.300	08/22/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 155 % 72-148

Chloride, SM4500CI-B			mg/kg					Analyzed By: AC			
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier		
<b>Chloride</b>	<b>320</b>	16.0	08/19/2017	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	207	50.0	08/20/2017	ND	181	90.4	200	6.61	
DRO >C10-C28	6250	50.0	08/20/2017	ND	184	91.9	200	7.97	
EXT DRO >C28-C36	1140	50.0	08/20/2017	ND					

Surrogate: 1-Chlorooctane 126 % 28.3-164

Surrogate: 1-Chlorooctadecane 184 % 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:	08/17/2017	Sampling Date:	08/16/2017
Reported:	08/24/2017	Sampling Type:	Soil
Project Name:	RED TANK 28 FED #1 CTB	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	LEA COUNTY		

**Sample ID: SP 2 @ 3 (H702189-07)**

BTEx 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.500	0.500	08/22/2017	ND	2.02	101	2.00	1.51		
Toluene*	0.656	0.500	08/22/2017	ND	1.85	92.5	2.00	1.80		
Ethylbenzene*	<0.500	0.500	08/22/2017	ND	1.92	95.8	2.00	2.27		
Total Xylenes*	6.01	1.50	08/22/2017	ND	5.74	95.7	6.00	1.64		
Total BTEx	6.66	3.00	08/22/2017	ND						

Surrogate: 4-Bromofluorobenzene (PID) 121 % 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	368	16.0	08/19/2017	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
<b>GRO C6-C10</b>	<b>907</b>	50.0	08/20/2017	ND	181	90.4	200	6.61	
<b>DRO &gt;C10-C28</b>	<b>10200</b>	50.0	08/20/2017	ND	184	91.9	200	7.97	
<b>EXT DRO &gt;C28-C36</b>	<b>1650</b>	50.0	08/20/2017	ND					

Surrogate: 1-Chlorooctane 189 % 28.3-164

Surrogate: 1-Chlorooctadecane 256 % 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:	08/17/2017	Sampling Date:	08/16/2017
Reported:	08/24/2017	Sampling Type:	Soil
Project Name:	RED TANK 28 FED #1 CTB	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	LEA COUNTY		

**Sample ID: SP 2 @ 5 (H702189-08)**

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	08/22/2017	ND	2.02	101	2.00	1.51	
Toluene*	<0.050	0.050	08/22/2017	ND	1.85	92.5	2.00	1.80	
Ethylbenzene*	<0.050	0.050	08/22/2017	ND	1.92	95.8	2.00	2.27	
Total Xylenes*	<0.150	0.150	08/22/2017	ND	5.74	95.7	6.00	1.64	
Total BTX	<0.300	0.300	08/22/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 105 % 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	400	16.0	08/19/2017	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	08/21/2017	ND	177	88.5	200	2.45	
DRO >C10-C28	<10.0	10.0	08/21/2017	ND	176	87.8	200	4.19	
EXT DRO >C28-C36	<10.0	10.0	08/21/2017	ND					

Surrogate: 1-Chlorooctane 81.0 % 28.3-164

Surrogate: 1-Chlorooctadecane 90.0 % 34.7-157

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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:	08/17/2017	Sampling Date:	08/16/2017
Reported:	08/24/2017	Sampling Type:	Soil
Project Name:	RED TANK 28 FED #1 CTB	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	LEA COUNTY		

**Sample ID: SP 2 @ 7 (H702189-09)**

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	08/22/2017	ND	2.02	101	2.00	1.51	
Toluene*	<0.050	0.050	08/22/2017	ND	1.85	92.5	2.00	1.80	
Ethylbenzene*	<0.050	0.050	08/22/2017	ND	1.92	95.8	2.00	2.27	
Total Xylenes*	<0.150	0.150	08/22/2017	ND	5.74	95.7	6.00	1.64	
Total BTX	<0.300	0.300	08/22/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 106 % 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	416	16.0	08/19/2017	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	08/21/2017	ND	177	88.5	200	2.45	
DRO >C10-C28	19.7	10.0	08/21/2017	ND	176	87.8	200	4.19	
EXT DRO >C28-C36	<10.0	10.0	08/21/2017	ND					

Surrogate: 1-Chlorooctane 84.2 % 28.3-164

Surrogate: 1-Chlorooctadecane 88.6 % 34.7-157

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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:	08/17/2017	Sampling Date:	08/16/2017
Reported:	08/24/2017	Sampling Type:	Soil
Project Name:	RED TANK 28 FED #1 CTB	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	LEA COUNTY		

**Sample ID: SP 2 @ 8 (H702189-10)**

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	08/22/2017	ND	2.02	101	2.00	1.51	
Toluene*	<0.050	0.050	08/22/2017	ND	1.85	92.5	2.00	1.80	
Ethylbenzene*	<0.050	0.050	08/22/2017	ND	1.92	95.8	2.00	2.27	
Total Xylenes*	<0.150	0.150	08/22/2017	ND	5.74	95.7	6.00	1.64	
Total BTX	<0.300	0.300	08/22/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 105 % 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	320	16.0	08/19/2017	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	08/21/2017	ND	177	88.5	200	2.45	
DRO >C10-C28	<10.0	10.0	08/21/2017	ND	176	87.8	200	4.19	
EXT DRO >C28-C36	<10.0	10.0	08/21/2017	ND					

Surrogate: 1-Chlorooctane 87.6 % 28.3-164

Surrogate: 1-Chlorooctadecane 92.5 % 34.7-157

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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:	08/17/2017	Sampling Date:	08/16/2017
Reported:	08/24/2017	Sampling Type:	Soil
Project Name:	RED TANK 28 FED #1 CTB	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	LEA COUNTY		

**Sample ID: SP 2 @ 9 (H702189-11)**

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	08/22/2017	ND	2.02	101	2.00	1.51	
Toluene*	<0.050	0.050	08/22/2017	ND	1.85	92.5	2.00	1.80	
Ethylbenzene*	<0.050	0.050	08/22/2017	ND	1.92	95.8	2.00	2.27	
Total Xylenes*	<0.150	0.150	08/22/2017	ND	5.74	95.7	6.00	1.64	
Total BTX	<0.300	0.300	08/22/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 105 % 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	320	16.0	08/19/2017	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	08/21/2017	ND	177	88.5	200	2.45	
DRO >C10-C28	<10.0	10.0	08/21/2017	ND	176	87.8	200	4.19	
EXT DRO >C28-C36	<10.0	10.0	08/21/2017	ND					

Surrogate: 1-Chlorooctane 83.1 % 28.3-164

Surrogate: 1-Chlorooctadecane 86.1 % 34.7-157

Cardinal Laboratories

\*=Accredited Analyte

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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

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\*=Accredited Analyte

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Celey 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. Project Manager: Cliff Brunson Address: P.O. Box 805 City: Hobbs Phone #: 575-397-6388 State: NM Zip: 88241 Fax #: 575-397-0397 Project Owner: Oxy Project Location: Red Tank 28 Fed #1 CTR Sample Name: Log Henderson FOR LAB USE ONLY:		<b>BILL TO</b>  P.O. #: _____ Company: Oxy Attn: Wade Pittrich Address: _____ City: _____ State: _____ Zip: _____ Fax #: _____		<b>ANALYSIS REQUEST</b>													
Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX	PRESERV	SAMPLING	DATE	TIME	CI	BTEX	TPHEXt						
H702189	SP1001	G-1	1	GROUNDWATER			8.16	10:12 AM	V	V	V						
	SP1003	G-1	1	WASTEWATER				11:05 AM	V	V	V						
	SP1005	G-1	1	SOIL				11:20 AM	V	V	V						
	SP1007	G-1	1	OIL				11:58 AM	V	V	V						
	SP1008	G-1	1	SLUDGE				12:08 PM	V	V	V						
	SP2001	G-1	1	OTHER:				1:20 PM	V	V	V						
	SP2003	G-1	1	ACID/BASE:				1:37 PM	V	V	V						
	SP2005	G-1	1	ICE / COOL				1:53 PM	V	V	V						
	SP2007	G-1	1	OTHER:				2:37 PM	V	V	V						
	SP2009	G-1	1					2:49 PM	V	V	V						

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Relinquished By: [Signature]	Date: 1/16/17	Time: 5:30 PM	Received By: [Signature]	Date: 8/17/17	Time: 1:05 PM	Sample Condition: Cool <input checked="" type="checkbox"/> Intact <input checked="" type="checkbox"/>	CHECKED BY: [Signature] (Initials)
Delivered By: (Circle One) #75 -8.15% #75 -8.4%							
Sampler - UPS - Bus - Other:							

REMARKS:	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 #: _____
----------	--



August 31, 2017

Cliff Brunson

BBC International, Inc.

P.O. Box 805

Hobbs, NM 88241

RE: RED TANK 28 FED #1 CTB

Enclosed are the results of analyses for samples received by the laboratory on 08/28/17 8:50.

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,



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:	08/28/2017	Sampling Date:	08/16/2017
Reported:	08/31/2017	Sampling Type:	Soil
Project Name:	RED TANK 28 FED #1 CTB	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	LEA COUNTY		

**Sample ID: NORTH @ SURFACE (H702266-01)**

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	08/30/2017	ND	432	108	400	3.64		

**Sample ID: EAST @ SURFACE (H702266-02)**

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	08/30/2017	ND	432	108	400	3.64		

**Sample ID: WEST @ SURFACE (H702266-03)**

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	08/30/2017	ND	432	108	400	3.64	

**Sample ID: SOUTH @ SURFACE (H702266-04)**

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	08/30/2017	ND	432	108	400	3.64	

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Notes and Definitions**

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

---

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\*=Accredited Analyte

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---

Celey D. Keene, Lab Director/Quality Manager





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 April 3, 2017

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	Contact CASEY L SUMMERS	
Address PO BOX 4294; HOUSTON, TX 77210	Telephone No. 575-513-8289	
Facility Name RED TANK 28 FED #1 CTB	Facility Type BATTERY	
Surface Owner Federal	Mineral Owner Federal	API No. 30-025-31661

### LOCATION OF RELEASE

Unit Letter <b>A</b>	Section <b>28</b>	Township <b>22S</b>	Range <b>32E</b>	Feet from the	North/South Line	Feet from the	East/West Line	County
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Latitude\_N 32.368930 Longitude\_W -103.672350 NAD83

### NATURE OF RELEASE

Type of Release OIL & PRODUCED WATER	Volume of Release 4 bbls OIL 10 bbls PRODUCED WATER	Volume Recovered 0 bbls
Source of Release 4 inch Poly main gas line leaked	Date and Hour of Occurrence 6/20/2017	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? OLIVIA YU-NMOCD; SHELLY TUCKER-BLM	
By Whom? WADE DITTRICH	Date and Hour 6/22/2017 @ 11:21 AM	
Was a Watercourse Reached? <input type="checkbox"/> Yes <input type="checkbox"/> No	If YES, Volume Impacting the Watercourse.	

**RECEIVED**

**By Olivia Yu at 7:47 am, Jun 30, 2017**


Describe Cause of Problem and Remedial Action Taken.\*

A 4 inch poly main gas line leaked and resulted in a 4 bbls oil and 10 bbls produced water spill. No free fluids have been recovered. The line has been repaired and placed back in operation.

Describe Area Affected and Cleanup Action Taken.\*

Measurements will be given when the GPS track is completed. Remediation will be completed in accordance with a remediation plan approved by the NMOCD and 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:	<b>OIL CONSERVATION DIVISION</b>	
Printed Name: JOHN W DITTRICH	Approved by Environmental Specialist: 	
Title: ENVIRONMENTAL COORDINATOR	Approval Date: <b>6/30/2017</b>	Expiration Date:
E-mail Address: wade_dittrich@oxy.com	Conditions of Approval: <b>see attached directive</b>	Attached <input checked="" type="checkbox"/>
Date: <b>6-27-17</b> Phone: 575-390-2828		

\* Attach Additional Sheets If Necessary

**1RP-4741**

**pOY1718132149**

**nOY1718132063**

Operator/Responsible Party,

The OCD has received the form C-141 you provided on 6/27/2017 regarding an unauthorized release. The information contained on that form has been entered into our incident database and remediation case number 1RP-4741 has been assigned. **Please refer to this case number in all future correspondence.**

It is the Division's obligation under both the Oil & Gas Act and Water Quality Act to provide for the protection of public health and the environment. Our regulations (19.15.29.11 NMAC) state the following,

*The responsible person shall complete division-approved corrective action for releases that endanger public health or the environment. The responsible person shall address releases in accordance with a remediation plan submitted to and approved by the division or with an abatement plan submitted in accordance with 19.15.30 NMAC. [emphasis added]*

Release characterization is the first phase of corrective action unless the release is ongoing or is of limited volume and all impacts can be immediately addressed. Proper and cost-effective remediation typically cannot occur without adequate characterization of the impacts of any release. Furthermore, the Division has the ability to impose reasonable conditions upon the efforts it oversees. **As such, the Division is requiring a workplan for the characterization of impacts associated with this release be submitted to the OCD District 1 office in Hobbs on or before 7/30/2017. If and when the release characterization workplan is approved, there will be an associated deadline for submittal of the resultant investigation report. Modest extensions of time to these deadlines may be granted, but only with acceptable justification.**

The goals of a characterization effort are: 1) determination of the lateral and vertical extents along with the magnitude of soil contamination. 2) determine if groundwater or surface waters have been impacted. 3) If groundwater or surface waters have been impacted, what are the extents and magnitude of that impact. 4) The characterization of any other adverse impacts that may have occurred (examples: impacts on vegetation, impacts on wildlife, air quality, loss of use of property, etc.). To meet these goals as quickly as possible, the following items must, at a minimum, be addressed in the release characterization workplan and subsequent reporting:

- Horizontal delineation of soil impacts in each of the four cardinal compass directions. Adsorbed soil contamination must be characterized for the following constituents using the associated laboratory methods: benzene, toluene, ethylbenzene, and total xylenes by either Method 8260 or 8021, total petroleum hydrocarbons by Method 8015 extended range (GRO+DRO+MRO; C<sub>6</sub> thru C<sub>36</sub>), and for chloride by Method 300. This is not an exclusive list of potential contaminants. Analyzed parameters should be modified based on the nature of the released substance(s). Soil sampling must be both within the impacted area and beyond.
- Vertical delineation of soil impacts. Adsorbed soil contamination must be characterized for the following constituents using the associated laboratory methods: benzene, toluene, ethylbenzene, and total xylenes by either Method 8260 or 8021, total petroleum hydrocarbons by Method 8015 extended range (GRO+DRO+MRO; C<sub>6</sub> thru C<sub>36</sub>), and for chloride by Method 300. As above, this is not an exclusive list of potential contaminants and can be modified. Vertical characterization samples should be taken at depth intervals no greater than five feet apart. Lithologic description of encountered soils must also be provided. At least ten vertical feet of soils with contaminant concentrations at or below these values must be demonstrated as existing above the water table.
- Nominal detection limits for field and laboratory analyses must be provided.
- Composite sampling is not generally allowed.
- Field screening and assessment techniques are acceptable (headspace, titration, EC [include algorithm for validation purposes], EM, etc.), but the sampling and assay procedures must be clearly defined. Copies of field notes are highly desirable. A statistically significant set of split samples must be submitted for confirmatory laboratory analysis, including the laterally farthest and vertically deepest sets of soil samples. Make sure there are at least two soil samples submitted

for laboratory analysis from each borehole or test pit (highest observed contamination and deepest depth investigated). Copies of the actual laboratory results must be provided including chain of custody documentation.

- Probable depth to shallowest protectable groundwater and lateral distance to nearest surface water. If there is an estimate of groundwater depth, the information used to arrive at that estimate must be provided. If there is a reasonable assumption that the depth to protectable water is 50 feet or less, the responsible party should anticipate the need for at least one groundwater monitoring well to be installed in the area of likely maximum contamination.

- If groundwater contamination is encountered, an additional investigation workplan may be required to determine the extents of that contamination. Groundwater and/or surface water samples, if any, must be analyzed by a competent laboratory for volatile organic hydrocarbons (typically Method 8260 full list), total dissolved solids, pH, major anions and cations including chloride and sulfate, dissolved iron, and dissolved manganese. The investigation workplan must provide the groundwater sampling method(s) and sample handling protocols. To the fullest extent possible, aqueous analyses must be undertaken using nominal method detection limits. As with the soil analyses, copies of the actual laboratory results must be provided including chain of custody documentation.

- Accurately scaled and well-drafted site maps must be provided providing the location of borings, test pits, monitoring wells, potentially impacted areas, and significant surface features including roads and site infrastructure that might limit either the release characterization or remedial efforts. Field sketches may be included in subsequent reporting, but should not be considered stand-alone documentation of the site's layout. Digital photographic documentation of the location and fieldwork is recommended, especially if unusual circumstances are encountered.

**Nothing herein should be interpreted to preclude emergency response actions or to imply immediate remediation by removal cannot proceed as warranted. Nonetheless, characterization of impacts and confirmation of the effectiveness of remedial efforts must still be provided to the OCD before any release incident will be closed.**

**Jim Griswold**

OCD Environmental Bureau Chief  
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